An Analysis of Output Based Budgeting (OBB) in the Victorian Government

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DECLARATION

I, Onanong Vatjanapukka, declare that the PhD thesis entitled "An Analysis of Output Based Budgeting (OBB) in the Victorian Government" is no more than 100,000 words in length, exclusive of tables, figures, appendices, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature..... Date:.....

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ABSTRACT

The aim of this study was to assess the usefulness of Output Based Budgeting (OBB) in the Victorian government in two ways using the decision-usefulness model and the budget process model as theoretical frameworks. First, this study aimed to examine the usefulness of information generated by OBB in the Victorian budget papers from the users perspective. Questionnaires were sent to public officials, within the nine Victorian government departments, who were users of the Victorian budget papers. There was a 45.0% response rate to the three mail-outs. The survey results revealed that most items in the budget papers were not very useful to users; performance information was generally not comparable, not highly relevant and not very reliable for users; and the total output cost information was generally unusable, not comparable and not highly relevant to users. The content analysis results of performance measures in the 2001/02 and 2002/03 Victorian budget papers, further supported the survey finding that performance measures in the budget papers lacked the *comparability* characteristic, in particular due to inconsistency in the presentation of performance measures over time.

Bivariate analysis of the survey data indicated a number of statistically significant relationships to support the proposition of the study that the *usefulness of items in budget papers*, was related to (a) the readership; (b) the comprehension difficulties; (c) the purposes for using the budget papers; and (d) the personal characteristics of users. Further, this study found that the *usefulness of output performance information* was associated with (a) the purposes for using the budget papers; (b) the qualitative characteristics of performance information; and (c) the personal characteristics of users. Finally, the bivariate analysis specified a relationship between the *usefulness of total output cost information* and: (a) the purposes for using the budget papers; and (b) a qualitative characteristic of total output cost information, *relevance*.

Second, this study aimed to investigate the consequences of using OBB in Victorian government departments. Whilst most of the mail survey data supported the propositions that OBB had an impact on decision making and that the use of OBB enhanced public accountability, the survey data only somewhat supported the notion that management accountability was strengthened by the introduction of OBB. Finally, this study found that OBB had a minor positive impact on organisational operations.

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LIST OF ABBREVIATIONS

AARF	Australian Accounting Research Foundation (Australia)
ACT	Australian Capital Territory
ADB	Asian Development Bank
AICPA	American Institute of Certified Public Accountants (USA)
ASAC	Accounting Standards Authority of Canada
ASB	Accounting Standards Board (UK)
Aus	Australia
BIP	Budget Information Paper
CEO	Chief Executive Officer
CPA	Certified Practising Accountant
DEET	Department of Education, Employment and Training
df	Degrees of Freedom
DHS	Department of Human Services
DIIRD	Department of Innovation, Industry and Regional Development
DNRE	Department of Natural Resources and Environment
DOI	Department of Infrastructure
DOJ	Department of Justice
DPC	Department of Premier and Cabinet
DSRD	Department of State and Regional Development
DTF	Department of Treasury and Finance
DTSCG	Department of Tourism, Sport and the Commonwealth Games
FASB	Financial Accounting Standards Board (USA)
FGRS	Federal Government Reporting Study
GASB	Governmental Accounting Standards Board (USA)
HRSCFPA	The House of Representatives Standing Committee on Finance and Public Administration
IASC	International Accounting Standards Committee
IBRD	The International Bank for Reconstruction and Development
ICAEW	Institute of Chartered Accountants in England and Wales (UK)
IFAC	International Federation of Accountants
KMO	Kaiser-Meyer-Olkin
MAB	Management Advisory Board

MAB-MIAC	Management Advisory Board and Management Improvement Advisory Committee
MRP	Management Reform Program
No.	Number
NSAF	National Survey of America's Families
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
NZSA	New Zealand Society of Accountants
OBB	Output Based Budgeting
OECD	Organisation for Economic Co-operation and Development
p.	page
para.	Paragraph
PBB	Performance Based Budgeting
pp.	pages
PPBS	Planning Programming Budgeting System
PSMR	Public Sector Management Reform
Qld	Queensland
Qtr	Quarter
SA	South Australia
SAC	Statement of Accounting Concepts
SCRCSSP	Steering Committee for the Review of Commonwealth/State Service Provision
SPSS	Statistical Package for the Social Sciences
TAFE	Technical and Further Education
Tas	Tasmania
UK	United Kingdom
USA	United States of America
VDTF	Victoria Department of Treasury and Finance
Vic	Victoria
Vol.	Volume
WA	Western Australia
ZBB	Zero Based Budgeting

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CHAPTER 1

INTRODUCTION

1.1 Background

During the 1980s, governments around the world began to look for alternatives to increase their efficiency, effectiveness, transparency and accountability (Osborne and Gaebler 1993; Boston et al 1996; Guthrie and Humphrey 1996; Organization for Economic Co-operation and Development (OECD) 1997a; Shand 1998; Campo and Tommasi 1999). Reforms were initiated as a response to the public performance problem in the context of public sector expansion in OECD countries; the economic downturn of the 1970s in industrialized capitalist economies; fiscal stress in government; and citizen demands for service quality (Mascarenhas 1996; Lane 1997; Shand 1998). Consequently, managerialism has been an important element worldwide in public sector management reform, including Australia, in order to provide more accountability, efficiency and effectiveness in the public sector (Parker and Guthrie 1990, 1993; Guthrie 1993; Hood 1995; Zifcak 1997).

Australia has been very energetic in public management reform over the past two decades since the Commonwealth government launched this program in the 1980s (Management Advisory Board (MAB) 1997). Since 1982, the Victorian government has also established the most innovative and effective program of reform of public authorities in Australia (Victoria Department of Treasury and Finance (VDTF) 1992a). These programs are expected to reform budget management so that it will help improve decision making and accountability at both government and agency level.

During the 1980s, a new paradigm of public sector management called New Public Management has also emerged. This has been described as one of the most striking international trends in public administration in the past two decades (Hood 1991; Osborne and Gaebler 1993). The new philosophy was designed to replace the model of traditional administration, which focuses on inputs and processes, by a model that focuses on results. Hood (1991) and Pollitt (1995) described aspects of New Public Management as comprising: decentralisation of management authority within public

agencies; cost cutting by greater discipline and parsimony in resource use; the disaggregation of the public sector units; the introduction of performance management as well as the establishment of explicit standards and measures of performance; greater emphasis on output controls; the separation of purchaser and provider; a shift to greater competition in the public sector; and an increasing emphasis on service quality and customer responsiveness.

Armstrong (1998) found that all of Pollitt's (1995) New Public Management elements were presented in the Victorian government's reform agenda (Coalition government). Hughes and O'Neill (2000) also found that the Kennett government pursued all the elements of Hood's New Public Management elements and led Victoria to the frontiers of public sector reform, as well as providing a template for other governments in Australia to use.

As part of New Public Management, the international trend toward performance oriented budgeting approaches has recently been increasing (Simpkins 1998; Campo and Tommasi 1999). In the 1980s, the focus changed to macroeconomic stabilization, and budgetary reform was essentially aimed at making the budget an effective tool for fiscal policy. There was increased interest in the prudent use of resources to sustain public policy and restore or retain economic growth. While there were differences among OECD countries in the magnitude of budgetary problems and the comprehensiveness of responses, there was considerable convergence in their approaches. Comprehensive budgetary reforms have emphasised achieving macro fiscal objectives such as fiscal consolidation at the same time as improving micro performance, including efficiency, effectiveness and the quality of service. Budgeting systems which are short-term and have detailed control of inputs have generally been a disabling environment for public sector micro performance. Indeed, improved micro performance will assist in achieving macro objectives (OECD 1997a; Shand 1998).

Recently international budget reform has been designed to change traditional input-oriented budgeting into output-oriented budgeting by measuring outputs and unit costs of public services. Consequently, Output Based Budgeting (OBB), which is one form of performance oriented budgeting, has been adopted in New Zealand and Australia including Victoria (Campo and Tommasi 1999). The move toward this new regime

focusing on the presentation of public sector budgeting information on an "output" basis, is based on the assumption that the pre-existing system of accountability was in many respects inadequate (Guthrie 1998; Guthrie and Carlin 1999). The major criticism of the traditional budget system was that it did not deal with key issues of government objectives, their link to the budget, and the services to be delivered. The goal of performance budgeting practice is to link resource allocation decisions with budget outcomes (Broom 1995; Martin 1997). Other concerns about the deficiencies of the pre-existing system included: its focus on the cash cost of inputs; the provision of non-useful information for decision making; poorly defined notions of performance, output and outcomes; and a lack of transparency. These defects have been the motivation for accounting and budgetary reform (Simpkins 1998).

Many countries around the world have introduced the new concept of performance oriented budgeting by focusing on outputs and outcomes. The new form of budgeting system may be known by several different names. For example, Performance Based Budgeting in the United States, Output Based Budgeting, Output Based Management, or Output Budgeting in Australia (Western Australia Treasury Department 1996b; VDTF 1997b; Queensland Treasury 1999), Performance Budgeting in Sweden (Swedish Ministry of Finance 2000), Resource Accounting and Budgeting in the United Kingdom (United Kingdom Her Majesty's Treasury 2001), Output Budgeting in New Zealand (New Zealand Treasury 1996). Moreover, the United Nations uses the term Results-Based Budgeting (United Nations 1998).

1.2 Research Problems

Currently, a potential problem for the Australian public sector including the Victorian public sector arises from a controversy about the usefulness of OBB in practice (Guthrie 1998; Scott et al 1999). In theory, the benefits of OBB could be substantial, for example, enhancing efficiency, effectiveness, transparency, accountability and improving the performance of governments. However, in reality, the usefulness of new public financial management including the OBB systems in practice is still questionable (Olson et al 2001; Guthrie, Parker, and English 2003). Whether or not the use of outputs contributes meaningfully to the ability of the public sector managers to better allocate resources has yet to be proved. Many advocates of OBB (mostly the Treasury) assert that OBB is a more useful system than previous input-focused systems because OBB

contributes to organisational improvements by providing information on the cost of a given output and a superior quality of performance information which leads to better resource allocation decisions (Holmes and Wileman 1995; Western Australia Treasury Department 1996b; VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Queensland Treasury 1998b; South Australia Department of Treasury and Finance 1998a; Campos and Pradhan 1999; Carlin and Guthrie 2001b).

On the other hand, a counter-argument is that all purely output based budgeting systems might suffer from the same problem as traditional input-based budgeting systems, that is, there is little linkage of outputs to outcomes; furthermore, making chief executives accountable for outputs may cause them to lose sight of outcomes (Boston et al 1991; Pallot 1991; Holmes and Wileman 1995; Lane 1997; Guthrie 1998; Campos and Pradhan 1999; Barzelay 2001). Some authors argue that the success of new public financial management including OBB has not been matched in reality and there is little evidence to support the claimed benefits of this budgeting system (Guthrie 1998; Shead 1998; Guthrie and Carlin 1999; Olson et al 2001; Carlin 2003a). Therefore, the consequences and the possible impacts of using OBB require investigation.

The Australian government has spent a lot of money on adopting a new budgetary system (Campo and Tommasi 1999) and on preparing budget papers in the output format. The Victorian government was an early adopter of OBB in Australia and was a leader in financial management reform. However, no empirical evidence exists about whether users of the Victorian budget papers are reading information generated by OBB and finding it useful. Recently, the increased emphasis on performance and accountability has led to a greater awareness of mechanisms to discharge accountability. In this respect, the role of the budget papers as a primary means of discharging public accountability, as well as the issue of the quality of performance information contained in budget papers is important and should be investigated.

Currently, government departments are regulated to prepare financial reports, particularly departmental annual reports, according to the Statement of Accounting Concepts (SAC) and the Australian Accounting Standards. However, no such legitimate reporting requirements exist for the preparation of departmental output performance information in the budget papers. Budget papers generally are prepared by departments

according to guidelines provided by the Department of Treasury and Finance. Taking into account the absence of reporting requirements for departments to prepare output performance information in budget papers, this study therefore adopts the Statement of Accounting Concepts, specifically, SAC2 (AARF 1990b) and SAC3 (AARF 1990c), as the frames of reference for the examination and discussion of the purposes for using the budget papers and the quality of performance information within the budget papers.

In the past, accountability through the use of line item budgeting was perceived as maintaining financial compliance with policies and budget limits made by central authorities. However, accountability through the introduction of OBB has moved from emphasising control to performance. There has been a growing concern with performance and outputs since the emergence of managerialism in the public sector (Zifcak 1997). Bartos (1994) also emphasised that performance management and reporting played a significant role in public sector budgeting reform. Further, stakeholders have demanded better accountability through performance indicators (Parker and Gould 1999). For accountability to exist, superior performance information which meets the needs of users as proposed by SAC2 and possesses the qualitative characteristics of information, as identified by SAC3, must be provided.

However, a problem for the public sector arises from a scarcity of empirical data to inform whether performance information generated by OBB within the budget papers is used and useful to users. Therefore, there is a need for research to investigate whether budget papers provide performance information which meets the needs of users in terms of its ability to "assist the report users to make and evaluate decisions about the allocation of scarce resources" as proposed by SAC2 and possess the qualitative characteristics of information such as relevance, reliability, comparability, and understandability, as identified by SAC3.

1.3 Research Aims and Scope of the Research

Considering the problems identified in the previous section, the primary aim of the present study is to assess the usefulness of OBB in the Victorian State Government in terms of the usefulness of information generated by OBB within budget papers and the consequences of using OBB in government departments. This study also sets out to examine the quality of output performance information within budget papers, to expand

knowledge about OBB in practice in order to assess whether there is a gap between budget theory and budget practice. The study also aims to provide information that would be of practical use to governments in assisting the development of guidelines for: the reporting of information such as output performance measures in government budget papers; improving the usefulness of information within budget papers; and making the implementation of the OBB systems more effective.

It should also be noted that whilst Victoria is implementing accrual output based budgeting, the scope and focus of this study is to analyse and discuss only the aspect of output based budgeting without investigating accrual accounting. Further, even though the politics of the budgetary process are important to understanding budgeting and the decisions to allocate resources, it is also not a focus of this study. To accomplish the aims of this study, a mail survey questionnaire will be used to investigate the perceptions of public officials who also are users of the Victorian budget papers about the usefulness of information generated by OBB within budget papers, and also, the consequences of using OBB. Additionally, a content analysis will be undertaken to assess the quality of performance measures in the budget papers over time.

1.3.1 Specific Aims

Taking into account the general aims of the study discussed earlier; this study is conducted to achieve ten specific aims as follows:

1. To investigate the perceived usefulness of information generated by OBB within Victorian budget papers in terms of:
   (a) The usefulness of items within budget papers;
   (b) The usefulness of output performance information; and
   (c) The usefulness of total output cost information.

2. To determine the usefulness of budget papers, in terms of the readership and comprehension difficulties of various items in the Victorian budget papers from the users perspective.

3. To examine the extent to which SAC2 (AARF 1990b) adequately represents the purposes for using budget papers by public official users.

4. To determine whether there is a relationship between the perceived usefulness of the budget papers, in terms of the frequency of use of the budget papers as well as the usefulness of the items within the budget papers, and:

(a) the readership;

(b) the comprehension difficulties;

(c) the purposes for using the budget papers; and

(d) the personal characteristics of the users.

5. To identify any relationships between the perceived usefulness of output performance information and:

(a) the purposes for using the budget papers;

(b) the qualitative characteristics of performance information; and

(c) the personal characteristics of the users.

6. To examine whether there is a relationship between the perceived usefulness of total output cost information and:

(a) the purposes for using the budget papers;

(b) the qualitative and usability characteristics of total output cost information; and

(c) the personal characteristics of the users.

7. To explore the general knowledge and understanding of public officials about OBB systems and performance measures.

8. To investigate the consequences of using OBB in Victorian government departments in terms of its impact on decision making, accountability and organisational operations.

9. To identify factors that would influence the use of performance information by public officials in Victorian government departments.

10. To provide an evaluation of the reporting of performance measures within the 2001/02 and 2002/03 Victorian budget papers of nine Victorian government departments.

1.4 Research Questions

Given that the main aim of this study is to assess the usefulness of OBB in Victorian government departments, two main research questions derived from gaps in the literature will be investigated.

Research Question 1: How useful is the information generated by OBB within the Victorian budget papers?

Research Question 2: What have been the consequences of using OBB in Victorian government departments?

These two research questions were answered in the form of proposition-testing. Specifically, three propositions were generated relating to the usefulness of information and were tested for answering Research Question 1. Additionally, three main propositions were developed relating to the consequences of using OBB and were discussed in answer to Research Question 2. The details of propositions used in this study to answer the above two research questions are presented in Chapter 4: Section 4.3.

1.5 Justification for the Research

The literature in Chapter 3 indicates that previous studies contained too little empirical data identifying the usefulness of information in the budget papers. If the budget papers are intended to communicate useful information to users for the purpose of making decisions, the question of the quality of information in budget papers is an important one. However, there is scant evidence about the quality of performance information and total output cost information in the budget papers from the users perspective as well as factors that influence the perceived usefulness of information in the budget papers.

Very few researchers have investigated the quality of performance information in government budget papers (e.g. Carlin and Guthrie 2001a). Whilst Carlin and Guthrie (2001a) conducted a content analysis of the quality of performance indicator disclosure in the Victorian government budget papers, their study was not comprehensive and could be argued to be different from seeking the perceptions of the users. Specifically, in the study of Carlin and Guthrie (2001a), only two Victorian government departments

and only one output for each of those two departments were selected for detailed content analysis over a three year period of 1999/00, 2000/01 and 2001/02. Consequently, the validity of the findings is questionable and the results are unconvincing. It is uncertain whether the findings could be generalised to represent the quality of the whole population of performance measures for every output contained in the Victorian budget papers of all Victorian government departments.

To fill these gaps in the literature, this study will perform a content analysis of all performance measures in the 2001/02 and 2002/03 Victorian budget papers (VDTF 2001, 2002a), including all outputs of the nine Victorian government departments. It should be noted that this study in some part extends the content analysis work of Carlin and Guthrie (2001a) by being more comprehensive in including performance measures of all Victorian departments. Further, a survey will be conducted to identify perceptions of budget paper users about the quality of performance information in meeting their needs.

To the best of the author's knowledge, no earlier studies have examined the needs of users of budget papers using a survey method, and specifically tested the relationships between the perceived usefulness of budget papers and the following variables: readership; comprehension difficulties; purposes for using the budget papers; qualitative characteristics of information; and personal characteristics of users. Further, there is no empirical data identifying which parts of the budget papers are most read, most useful and most difficult to understand for users. The results from this study will fill these knowledge gaps and will assist preparers of budget papers to better understand users, and to provide useful information that better meets the needs of users.

Further, there has been very limited empirical investigation of the consequences of using OBB in practice within government departments. The existing literature on OBB, except for the guides published by the Australian Treasuries, is mostly in the form of short articles in very specific conferences. These articles would appear to be intuitive and provide expert comment or judgment about OBB without critical evaluation or empirical evidence of the changes. Some authors have cautioned against the uncritical acceptance of the notion of OBB and called for an independent evaluation of the

consequences of using OBB as well as the quality of performance information reported in the government budget documents (Guthrie 1998; Carlin and Guthrie 2001a, 2003).

On one level, it may be asserted that Victoria has come a long way in recent years in linking agency performance to budgetary decisions by virtue of the establishment of OBB requirements. In reality, however, very little is known about the usefulness and actual consequences of OBB. The argument that predictions of OBB success and the claimed benefits of OBB have not been matched in reality has gone unheeded, partly due to the fact that little empirical evidence could be provided to support it. Consequently, an examination of the gap between budget theory and practice requires investigation.

The findings of this study will be useful for both Australian and non-Australian governments. As Victoria was an early adopter of OBB in Australia, lessons learned from the Victorian experiences with OBB are useful for other governments, which subsequently implemented the system, to better understand the impact of using OBB in public organisations. Also, the results of this study may assist non-Australian governments to weigh up the benefits and costs when they consider adopting OBB.

In summary, given a little knowledge about the usefulness of budget papers and OBB in practice, these issues are very important to investigate. Apart from the practical implications of the reporting of information in budget papers, this study has also provided a greater understanding of the controversy about the usefulness of OBB, and the closeness of the fit between budget theory and budget practice.

1.6 Assumptions of the Research and the Generalisability of the Results

Before generalising the results of this study to use for the wider population such as other Australian jurisdictions, it must be assumed that:

1. The information in Victorian budget papers is similar to those of other Australian jurisdictions;
2. There is no response bias (the results of the survey non-response bias of the present study are discussed in Chapter 5: Section 5.3);
3. The Victorian population represents a major proportion of the Australian total population;

4. Victorian public sector employees represent a major proportion of the Australian total public sector employees at the state and territory level; and
5. Government activities of the states and territories are similar.

The Victorian Population Represents a Major Proportion of the Australian Total Population

As at June 2002, the total population of Victoria was 4,873,000 persons with the total population of Australia being 19,663,000 persons. Therefore, Victoria represented a major proportion (24.78%) of the Australian total population, with a significant population figure of 2,415,500 persons being above the average number of the total population. In fact, Victoria was the second most populous state in Australia. Consequently, a survey conducted in Victoria is likely to be representative of Australia generally. Table 1.1 presents population figures by states and territories in Australia.

Table 1.1: Population by States and Territories, as at 30 June 2002

Total Population	NSW (000)	VIC (000)	QLD (000)	SA (000)	WA (000)	TAS (000)	NT (000)	ACT (000)	Aus (a) (000)	Average (000)
Persons	6,640	4,873	3,707	1,520	1,927	473	198	322	19,663	2,457.5
Percent	33.77	24.78	18.85	7.73	9.80	2.41	1.01	1.64	100.00	

Note: (a) Australian total includes Jervis Bay Territory, Christmas Island and Cocos (Keeling) Island.
Source: Adapted from the Australian Bureau of Statistics (2003a), Australian Social Trends, Population-State Summary Tables.

Victorian Public Sector Employees Represent a Major Proportion of the Australian Total Public Sector Employees

As at November 2003, there were 1,142,800 Australian public sector employees at the state and territory level, with there being 1,542,800 Australian total public sector employees of all three levels of government (see Table 1.2). As a result, the public sector employees at the state and territory level represented 74.07% of the Australian total public sector employees of all three levels of government. Therefore, there was no reason to believe that public sector employees at the state level were not a reasonable representation of all Australian public sector employees.

An analysis of the total population of public sector employees at the state and territory level further supports the assertion that Victorian public sector employees represent a major proportion of the Australian total public sector employees at the state and territory level. Particularly, the total population of public sector employees in Victoria was 250,100 persons with the Australian total public sector employees at the state and territory level being 1,142,800 persons (see Table 1.2). Therefore, Victoria represented a major proportion (21.88%) of the Australian total public sector employees at the state and territory level, with the Victorian public sector employee figure being above the average number of public sector employees at the state and territory level by 107,300 persons. In fact, Victoria had the second highest of the total number of public sector employees at the state and territory level, as at November 2003. Consequently, it is reasonable to assume that a survey of Victorian public sector employees at the state level is likely to be representative of Australian public sector employees generally.

Table 1.2: Public Sector Employees (Original), States and Territories

State and Territory	November 2003			
	Commonwealth '000	State '000	Local '000	Total '000
New South Wales	59.8	368.5	50.9	479.2
Victoria	53.7	250.1	36.4	340.2
Queensland	32.1	234.5	36.9	303.6
South Australia	14.9	93.2	9.6	117.7
Western Australia	16	125.1	15.6	156.6
Tasmania	5.7	33.5	4.1	43.4
Northern Territory	3.3	18.6	3.3	25.2
Australian Capital Territory	57.7	19.2	na	76.9
Australia	**243.1**	**1,142.8**	**156.9**	**1,542.8**
Average	**30.4**	**142.8**	**19.6**	**192.9**

Note: na - not available
Source: Adapted from the Australian Bureau of Statistics (2003c), Wage and Salary Earners, Public Sector, Australia, Catalogue No. 6248.0.55.001, December.

Government Activities of the States and Territories are Similar

A review of government expenses by purpose at the state and territory level reveals that the states and territories have broadly similar activities, as reported in Table 1.3. Consequently, the Victorian government is representative of all Australian states and territories.

Table 1.3: General Government Expenses by Purpose, State, Territory, and Australia

Items	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Aus(a)
	$m	$m	$m	$m	$m	$m	$m	$m	$m
General public services	960	706	873	192	459	170	141	477	16406
Defence	-	-	-	-	-	-	-	-	13307
Public order & safety	3670	2423	1946	948	1246	250	232	193	13095
Education									
Primary & secondary	7867	5288	4125	1705	2523	610	303	403	23264
University	-	13	3	26	16	1	-	15	10713
Technical & further education	1329	1232	578	313	427	92	70	75	4360
Other tertiary	-	-	-	-	-	-	31	-	29
Other	567	263	640	218	179	49	49	25	2638
Health									
Acute care institutions	6442	5281	2764	1756	2309	370	245	296	20321
Other health institutions	250	-	152	41	-	12	7	3	462
Community health services	1682	1205	1064	370	239	155	112	94	14024
Pharmaceutical	-	-	-	-	-	-	6	8	5397
Other	473	563	390	73	239	46	96	71	7399
Social security & welfare									
Social security	287	-	-	92	-	-	1	-	64411
Welfare services	2091	1900	822	473	504	185	83	121	10158
Other	238	-	5	-	-	-	-	-	2808
Housing & community amenities									
Housing & community development	994	349	810	342	278	128	36	50	3872
Water supply	69	182	9	96	262	3	1	-	1127
Sanitation & protection of the environment	452	211	78	109	86	13	1	15	2636
Other community amenities	-	-	39	-	2	-	-	4	1593
Recreation & culture									
Recreational facilities & services	597	472	327	119	113	60	39	54	2768
Cultural facilities & services	341	207	175	127	111	42	165	19	2131
Broadcasting & film production	10	-	-	3	-	-	-	-	1040
Other recreation & culture	-	83	3	-	-	6	1	7	1341
Fuel & energy	77	12	709	20	60	8	44	-	4298
Agriculture, forestry & fishing	603	558	612	258	399	70	46	-	4138
Mining, manufacturing & construction	70	17	72	53	132	6	90	-	2156
Transport & communications									
Road transport	2046	1546	1149	404	575	185	51	105	9635
Water transport	62	15	88	39	3	10	1	-	418
Rail transport	1178	1015	670	56	270	-	5	-	3130
Air transport	-	-	2	-	-	-	1	-	164
Communications & other transport	504	170	147	197	398	-	14	48	2091
Other economic affairs	1031	353	676	194	245	129	72	22	7085
Nominal interest on superannuation	745	937	630	299	277	101	82	11	8490
Public debt transactions	812	451	212	297	197	80	144	58	7331
Other	602	43	472	79	-	30	190	135	888
Total	**36048**	**25488**	**20240**	**8899**	**11548**	**2811**	**2361**	**2310**	**275120**

Notes:

- Nil or rounded to zero (including null cells)

(a) Includes multi-jurisdictional sector and local governments.

Source: Adapted from Australian Bureau of Statistics (2003b), Government Finance Statistics Australia 2002/03, Catalogue No. 5512.0, p.38.

1.7 Theoretical Frameworks and Justification

Two theoretical frameworks were adopted as the theoretical basis in this study: first, the decision-usefulness model; and second, the budget process model. The reasons for applying these two theoretical frameworks and a brief overview of the two theoretical frameworks will be discussed in the following section.

1.7.1 The Decision-Usefulness Model

The decision-usefulness model was used as a theoretical basis for a general discussion of the usefulness of information generated by OBB because its underlying concept is widely accepted by Australian and international professional accounting bodies. In addition, the decision-usefulness model facilitated a theoretical and practical understanding of the user needs of financial reports as well as government budget papers.

Unlike financial reporting which is regulated according to reporting requirements or an accounting conceptual framework, no such reporting requirements or accounting conceptual framework exists for output performance information and reporting in budget papers. Therefore, this study adopted the Statement of Accounting Concepts, specifically, SAC2 and SAC3, as the frames of reference for the discussion of the usefulness of budget papers.

The use of these statements of accounting concepts provides a number of advantages. First, SAC2 and SAC3 are agreed concepts and well established standards in respect of the objectives of financial reporting and the qualitative characteristics of financial information, developed by the Australian Accounting Research Foundation. Second, the underlying concepts of SAC2 and SAC3 are paralleled and comparable to international accounting concepts, which are acknowledged by both Australian and international accounting professional bodies. Third, SAC2 and SAC3 provide a list of logical concepts which may be used to test propositions in this study. The results of the questionnaire using the concepts and criteria identified in SAC2 and SAC3 will be of practical use to preparers of budget papers and will reflect issues, which have been under consideration by the Australian standard setting bodies. Finally, by adopting the objectives of financial reporting and quality criteria based on SAC2 and SAC3, it is possible to test the validity of the assumptions contained within the Australian

accounting conceptual framework in respect to government budget papers from the users perspective.

The concept of decision-usefulness in the formulation of accounting theory and an accounting framework for financial reporting was critically reviewed in the early work of Chambers (1955). The decision-usefulness researchers agreed that accounting theory and accounting standards were based on the usefulness of information to decision makers (Puxty and Laughlin 1983; Henderson and Scherer 1986). Since the 1970s, decision-usefulness studies have involved the search for a conceptual framework of financial reporting in which the major aim was the production of information likely to satisfy the needs of a variety of different report user groups.

The Australian accounting conceptual framework, which includes SAC2 and SAC3, is based on the *decision-usefulness* model or *user needs* model. Under the *decision-usefulness* model, the quality of financial reporting is determined in relation to the usefulness of the information to the users. Both private sector and public sector financial reporting are based on the *decision usefulness* of financial information. Decision-usefulness researchers have attempted to identify the classes of users of annual reports and their information needs as well as the use and importance of particular types and sources of information. Furthermore, the issue of the readability, understandability and usefulness of financial reporting have also been investigated. Empirical studies of user needs both in the private sector and public sector based on the decision-usefulness model are reviewed in Chapter 3.

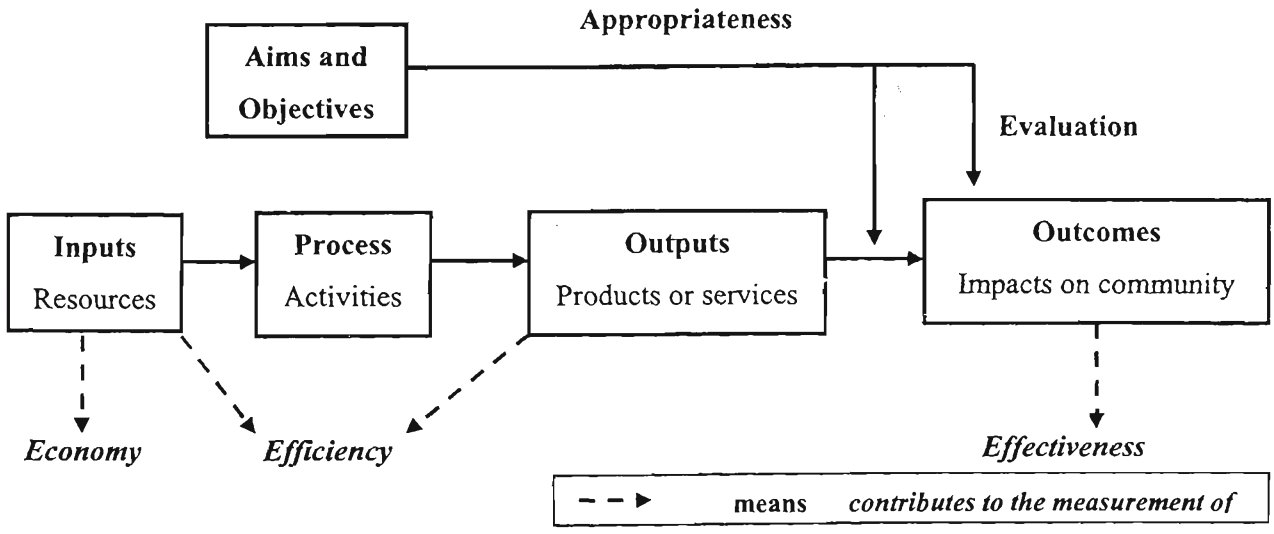
1.7.2 The Budget Process Model

The second theoretical framework is the budget process model. This model was used as the theoretical basis for the analysis of the OBB system in the public sector because it was a well established, simple and widely accepted budgetary model which facilitated a theoretical and practical understanding of OBB and performance measurement systems. The budget process model provides an explanation of the feedback monitoring system. Budgeting is conceptualised as a system with a relationship running from inputs, to process, to outputs, and finally to outcomes. Traditional cash-based budgets focus on inputs and process. For a performance oriented budget system, including OBB,

budgeting towards results has meant a focus on outputs, outcomes, and performance reporting (VDTF 1997b; Queensland Treasury 1998b).

Three performance measurement criteria: economy, efficiency, and effectiveness have distinct meanings; they measure performances at the different stages in the budget process model. The *economy* criterion can be useful in measuring performance by focusing on the minimisation of inputs. However, it has recently gone out of fashion since the concepts of performance oriented budgeting, managerialism and New Public Management have been introduced internationally. Recently, emphasis has been placed on performance criteria relating to outputs such as *efficiency*; outcomes such as *effectiveness*; and output/outcome evaluation such as *appropriateness*. The three elements of efficiency, effectiveness and appropriateness add together to represent the concept of "value for money" (New South Wales Treasury 2000). It should be noted that output performance measures under OBB only addressed efficiency (Elvins 1998). Therefore, a system of outcome evaluation to measure effectiveness needs to be established to ensure that outcomes are also evaluated. Figure 1.1 demonstrates the budget process model.

Figure 1.1: Budget Process Model



This model was modified from:

(1) Lynch and Lynch (1997, p.168), The Road to Entrepreneurial Budgeting, "*The Budget System Approach*";

(2) New South Wales Treasury (2000, p.11), Financial Management Framework, "*Key Facets of the Financial Management Framework*"; and

(3) United Kingdom National Audit Office (2001, p.2), Measuring the Performance of Government Departments, "*Relationship between Inputs, Outputs and Outcomes Model*".

For this study, key terms used in Figure 1.1 to describe the budget process model, are defined as follows:

> ***Aim*** is a summary of the overall objectives. It provides a vision statement that embraces the desired future that the organisation is working towards (United Kingdom National Audit Office 2001, p.67).
>
> ***Appropriateness*** is the extent to which planned outcomes match community need and government priorities (Commonwealth Department of Finance and Administration 1998, p.171).
>
> ***Economy*** is the acquisition of the appropriate quality and quantity of financial, human and physical resources at appropriate times and at the lowest cost concerned and may be assessed through input measures and comparisons with norms and standards (Campo and Tommasi 1999, p.15)
>
> ***Effectiveness*** is the extent to which actual outcomes are achieved, in terms of the planned outcomes, via relevant outputs or administered expenses (Commonwealth Department of Finance and Administration 1998, p.173).
>
> ***Efficiency*** is the extent to which inputs are minimised for a given level of outputs, or outputs are maximised for the given level of inputs (Commonwealth Department of Finance and Administration 1998, p.173).
>
> ***Inputs*** are defined as labour, materials and other resources used to produce outputs (VDTF 1997b, p.42)
>
> ***Objectives*** are succinct statements of the key goal(s) being pursued over the medium to long term, reflecting the key components of the intended strategy (United Kingdom National Audit Office 2001, p.67).
>
> ***Outcomes*** are Government's desired or intended impacts/effects on the community (VDTF 1997b, p.42).
>
> ***Outputs*** are products and services produced or delivered by a department/agency for external customers (VDTF 1997b, p.42).
>
> ***Process*** is Activities, strategies or operations used to produce the outputs designed to bring about outcomes (Commonwealth Department of Finance and Administration 1998, p.177).

1.8 Definition of Key Terms

A variety of definitions for each key term used in this thesis is provided by each Australian treasury. To enhance similar understandings and interpretation throughout the thesis, definitions of the key terms used in this thesis are provided for the purpose of standardisation and clarification of their meanings. The definitions used in this thesis were selected based on: the availability of the definitions from Australian treasuries and Australian government authoritative bodies; the precise terminology as used in this thesis; and the comprehensiveness of the definitions. The key terms and their definitions relating to output based budgeting, performance indicators, performance measures and performance information are listed below.

1.8.1 Output Based Budgeting

The term, *Output Based Budgeting*, raises questions about whether this budgeting system focuses on outputs or outcomes. A review of the definition of the term *Output Based Budgeting*, in Australian Treasuries guides, reveals that each state and territory government body uses a variety of terminology to describe their frameworks for implementing Output Based Budgeting systems. The variety includes: *Output Budgeting* (New South Wales Treasury 2000; South Australia Department of Treasury and Finance 2001); *Output Based Budgeting* (Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) 1999); *Output Based Management* (Western Australia Treasury Department 1996b; Commonwealth Department of Finance and Administration 1998); *Output Management* (VDTF 1997b); *Managing for Outcomes* (Queensland Treasury 1998b); and *Working for Outcomes* (Northern Territory Treasury 2002).

Whilst Output Based Budgeting may be known by various names, it appears to have a similar definition when several common aspects are taken into account, for example, clearly specifying outputs; focusing on identifying planned outcomes; delivering outputs that will best achieve government outcomes; focusing on the relationship between outputs, the government funds, and the outcomes desired by government; and receiving appropriations for the production of outputs (Western Australia Treasury Department 1996b; VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Queensland Treasury 1998b; SCRCSSP 1999; New South Wales Treasury 2000).

As all definitions provided by Australian treasuries focus on identifying planned outcomes and the delivery of outputs to achieve government outcomes, it is clear that the concept of Output Based Budgeting in Australia not only focuses on outputs, but is also intended to move forward to outcomes. Therefore, in this thesis the term *Output Based Budgeting* means budgeting by focusing on outputs and outcomes. The discussion about OBB throughout the thesis will relate to both outputs and outcomes.

Specifically, this thesis adopted the definition of *Output Based Budgeting* provided by the Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP 1999, p.x) as follows:

> "***Output based budgeting*** is a government-wide reform process that requires agencies to focus on the relationship between their outputs, the government funds appropriated to them, and the outcomes desired by government. Agency managers must clearly specify the nature and quantity of agency outputs, cost their outputs, and articulate the connection between the outputs delivered and government's desired outcomes."

This definition was selected because of its precise terminology, *Output Based Budgeting*, as used in this thesis and its comprehensive definition stating that agency managers must articulate the connection between the outputs delivered and government's desired outcomes.

1.8.2 Performance Indicators, Performance Measures and Performance Information

The terms *performance indicators*, *performance measures* and *performance information* are used in a different way in the government documents and the literature. Given that this study investigated the usefulness of OBB in the Victorian government, the definitions of key terms provided by the VDTF were reviewed and firstly selected for use in this thesis if those key terms were available. In the case that the definitions provided by other governments or researchers revealed some important points, they were incorporated into the definitions proposed by the VDTF before being applied to this thesis.

To distinguish the definitions of *performance indicators* and *performance measures*, this thesis adopted the definitions of these two key terms from the VDTF (2002b, p.viii) as follows:

> "***Performance Indicators*** are measures to determine the level of achievement of a departmental ***objective***. Performance indicators are monitored on an ongoing basis and reported on through the Budget cycle."

> "***Performance Measures*** are targets to determine the level of achievement of a departmental ***output***. Normally, the package of performance measures for an output will include quality, quantity, timeliness and price aspects. Performance measures should be monitored and reported on through the Budget cycle. They are used for Revenue Certification."

Additionally, "*performance measure* is a more precise measure than *performance indicator* and it also relates to outcomes and outputs." (Commonwealth Department of Finance and Administration 1998, p.176). The Commonwealth Department of Finance and Administration (1998, p.176) further discussed a shift from using quantitative indicators to using the broader term, *performance information*, which may be quantitative (numerical) or qualitative (descriptive). Bartos (1994, p.7) also stated that:

> "***Performance information*** is a collection of various indicators, both quantitative and qualitative, which allows a judgement to be made about the success of a program in meeting its objective."

In this thesis, the term *performance information* is used to represent both quantitative and qualitative performance data. However, the terms *performance indicators* and *performance measures* are used to refer to quantitative performance data. Particularly, the term *performance measures* rather than *performance indicators* is used in this thesis when performing content analysis of budget papers because this thesis involved an investigation of departmental outputs in terms of quality, quantity, and timeliness, according to the definition of VDTF (2002b).

1.9 The Format of Budgets

Budgets can be classified into two categories depending on their construction: an input budget and output budget. The format and information required to construct input and output budgets are different. The information required to construct an input budget includes lists of resources to be used such as salaries and office supplies (Robinson 1992). With an input budget, resources are allocated by objects of expenditure without specifying the outcomes to be achieved. The line item budget may be described as an input-oriented budget (Knight and Wiltshire 1977; Rickards 1990; Robinson 1992).

On the other hand, an output budget lists the products or services to be delivered to the public or external consumers, rather than by one unit of government to another unit of government. The information required to construct an output budget includes the objectives, outputs, outcomes to be achieved, performance measurement and output costs rather than objects of expenditure (VDTF 1997b).

1.10 Budget Structure

Budgets can be displayed in two structures: a program structure and an output structure. With respect to the classification of the budget by programs, each program will consist of a set of activities that promotes the accomplishments of the same set of the objectives (Dyer 1970; Campo and Tommasi 1999; Iwaskow 1999). A program structure should be established in the planning phase and should be based on a translation of an organisation's fundamental mission, goals, or objectives (Iwaskow 1999). Each program should represent activities and resources with a common purpose that will produce the same outputs.

The program structure is demonstrated by a broad program at the aggregate level and then is divided into more narrowly focused subprograms, which are further divided into program elements or activities (Dyer 1970; Elvins 1998). The budget shows how the various activities of different programs relate to each other. However, if there are two or more agencies in the same program, it is difficult to determine the nature of the budget of any one agency and also difficult to identify responsibility. The use of crosswalking, in which information organised by the program is reconfigured into an organisational format, can solve this problem (Schick 1966; Iwaskow 1999). In particular, the development of the crosswalk facilitates the conversion of data from a planning to management and control purposes. Dyer (1970) suggested that the format of a program budget should be flexible enough to provide assistance in the determination of what was done, when it was done, and for whom it was done. Iwaskow (1999) pointed out that there were several disadvantages in establishing a program structure such as an increase in paperwork, manpower time, and possible increased costs for the work. Further, since program delineations might be arbitrary and might not respect organisational lines, it was difficult to maintain budgetary control.

With respect to the classification of the budget by the output structure, output groups are identified and are then divided into more narrowly focused outputs with output performance measures (VDTF 1997b; Elvins 1998). Output groups comprise outputs which contribute to common outcomes. In the budget papers, the output group statement will include descriptions of each output group with a clear link between the output group and the government's desired outcomes. The output group statement will outline the key outputs of the group together with related performance measures and

targets covering the quantity of outputs to be delivered; the quality of delivery of the outputs or the standard of outputs expected; the time-frame for delivery of outputs; and the full cost of output delivery (VDTF 1997b). Moreover, the output group should provide a meaningful level of data aggregation for government resourcing decisions as well as for analysis by government, central agencies and users of published budget and accountability reports (VDTF 1997b). Specifically, outputs will list the products and services that departments are able to deliver to an external customer in order to achieve government outcomes. Further, the output should enable comparison of the performance of actual and potential providers of the output. Additionally, the output should be routinely measured so that the government can assess whether or not it is achieving what it paid for.

1.11 The Function of Budgets

Budgets can serve a number of functions such as control, management, and planning (Schick 1966; Wildavsky 1978; Lee and Johnson 1989; Murtuza 1999). Every budget reform tends to adjust the control, management and planning balance and use budgeting as a device for holding the government accountable for its long-term financial position. Usually every budgeting system comprises all these three features. However, in practice, the three functions are competing and receive an unequal attention in the operation of budgeting systems (Schick 1966; Lee and Johnson 1989). As different budget-orientations require different skills to implement the budgeting system, the execution of a budgeting system should demonstrate whether greater emphasis is placed on control, management or planning. In the past, the control purpose was the predominant function. More recently, the budget and budget process have been identified as tools for management and planning (Schick 1966; Campo and Tommasi 1999).

The purpose of the *control function* is to make the budget a tool for financial compliance with policies and budget limits made by central authorities. The control oriented budget places responsibility on the legislative branch as the principal authority for determining how values and budgets should be allocated. With the control oriented budget, detailed expenditures are classified by organisation and objects of expenditure (line item) to control the use of resources.

Due to the budgetary limits on government and the concern with value for money, the process of managing resources and money has changed from a control function with the detailed expenditure, to a *management function*, which focuses on outputs, outcomes and performance instead of the use of inputs (Schick 1966). The purpose of the management oriented budget is to use resources efficiently and effectively in the accomplishment of the organisation's objectives through concern with efficiency in a longer time perspective than with a control oriented budget. Key aspects of the management oriented budget are: identifying the objective and activity; measuring performance i.e., identifying cost per unit performance measure; and reporting performance (Schick 1966; Lee and Johnson 1989). With the management oriented budget, the budget document containing performance measures is a useful tool to help governments manage budgets efficiently. Several types of management oriented budgets exist, for example, Performance Budgeting and Output Based Budgeting.

The *planning function* is designed to plan for future needs by determining clear objectives and the strategy required to accomplish those objectives in a long-range perspective (Novick 1969; Vanderbilt 1977; Shehane 1994; Iwaskow 1999). It requires the development and identification of specific programs to meet the planning objectives. The planning oriented budget aims to create linkages between planning, budgeting and objectives (Novick 1969; Brumby 1999). In the budget process, the planning function involves the determination of objectives and the evaluation of alternative courses of action (Schick 1966; Dyer 1970; Frank 1973). There are several types of planning oriented budgets such as Planning Programming Budgeting System or Program Budgeting and Zero Based Budgeting (Schick 1966; Williams 1981). In the present study, the terms *Planning Programming Budgeting System*, *Planning Programming Budgeting* and *Program Budgeting* are used interchangeably.

1.12 Australian Government Structure

Australia is a federation with three levels of government: Federal (Commonwealth), State or Territory, and Local. There are six states (New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania) and two federal territories (Northern Territory and the Australian Capital Territory). Each state has its own parliament, executive government, and constitution. The major responsibility of each state government is to manage the state's finances and provide education, health

care, police, transport and social services. The primary sources of revenue for funding services are derived from Commonwealth government grants and state government taxes. Only the Commonwealth parliament imposes income taxes and has major power over fiscal matters. Therefore, the Commonwealth government can influence activities in some areas by imposing specific conditions on the funds it grants to the states (OECD 1997b; Australian Bureau of Statistics 2002).

1.13 Victoria as a Site of the Study

There were a number of reasons for selecting Victoria as a study site for the present study. In Australia, the Victorian government was the first to introduce an integrated package of reforms across the whole public sector and has undergone some of the most significant and extensive changes in the public sector (Armstrong 1998; English and Guthrie 2001). In the 1990s the Victorian government was a leader in financial management reform and the revolution of public sector governance, management and accounting technologies with speed and depth (Guthrie and Parker 1998; Carlin and Guthrie 2001a). Further, the Victorian government was an early adopter of new public management and OBB in Australia. Thus it has often been seen as a role model and provided a template for other governments (Hughes and O'Neill 2000; Carlin 2003b).

Considering that one of the aims of this study is to examine the use and usefulness of performance information, it is appropriate to study Victoria because it pioneered the use of performance management and reporting in the public sector, including setting performance criteria, review of actual performance against plans, and the use of performance information to improve competencies (Armstrong 1998).

All nine government departments in Victoria during the year 2002/03 were included in the population to participate in this study. This selection was appropriate because the recipient list of Victorian budget papers was available to the researcher and mainly consisted of public officials who worked for the Victorian governments at the departmental level. Also, government departments are significant entities in terms of the resources received from their state government. Their budgets account for the majority of the state budget. Additionally, since 1997 all Victorian departments have implemented output budgeting and management and have been required to report their departments' plans in the Victorian budget papers on an output basis (VDTF 1997c).

Therefore, public officials who have worked at a departmental level would be familiar with the operation of this budgetary system and with the format of output information in the budget papers, thus enabling the propositions of this study to be tested.

Finally, the Victorian departmental structure including the number and structure of departments did not drastically change over the two year period 2001/02 and 2002/03 when the content analysis of performance measures in all Victorian departments was undertaken. Therefore, the results of the content analysis in this study were not interfered with significant changes and shifts of departments. In summary, Victoria was selected as the study site because of its status as an early and far-reaching adopter of OBB and the accessibility of the Victorian budget paper recipient list, including contact names and address data of the targeted population to the researcher.

1.14 Victorian State Government

There were eight Victorian government departments in 2001 (VDTF 2001) and nine departments in 2002 (VDTF 2002a). The new department in 2002 was the Department of Tourism, Sport and the Commonwealth Games, separated from the Department of Innovation, Industry and Regional Development. Additionally, the Department of State and Regional Development was renamed as the Department of Innovation, Industry and Regional Development in the 2002/03 budget.

In 2001, the eight Victorian government departments were: the Department of Education, Employment and Training (DEET); the Department of Human Services (DHS); the Department of Infrastructure (DOI); the Department of Justice (DOJ); the Department of Natural Resources and Environment (DNRE); the Department of Premier and Cabinet (DPC); the Department of State and Regional Development (DSRD) and the Department of Treasury and Finance (DTF).

The nine departments in 2002 were: the Department of Education and Training; Department of Human Services; the Department of Infrastructure; the Department of Innovation, Industry and Regional Development (DIIRD); the Department of Justice; the Department of Natural Resources and Environment; the Department of Premier and Cabinet; the Department of Tourism, Sport and the Commonwealth Games (DTSCG); and the Department of Treasury and Finance.

1.14.1 Victorian Financial Management Reform

Since 1982, public sector reform in Victoria has focused on enhancing the transparency of arrangements, within the objective of moving to a more commercial basis in which funding is related to performance (VDTF 1992a). In 1992, the Coalition government set its financial management objectives to restore the State's budget to surplus and re-establish its triple-A credit rating, particularly by removal of the current account deficit and reduction of state debt (VDTF 1997c; George 1999). The management reform program included major initiatives that were recommended by the Victorian Commission of Audit in 1993.

Since the Coalition government introduced the Public Sector Management Reform (PSMR) package in 1992 (VDTF 1992b), there have been new initiatives in the Victorian public sector including many changes in the presentation of information in the Victorian budget papers. In the 1993/94 Budget Papers, Victoria included output measures for each department (VDTF 1993). However, both actual budget data for 1992/93 and estimated data for 1993/94 were still presented in the program-based structure. One initiative was the Financial Management Act 1994 (effective July 1994) which was established to improve budget sector management, accountability and performance reporting (VDTF 1994). Nevertheless, in the 1994/95 and 1995/96 Budget Papers, Victoria continued to present its budget using the program-based structure (VDTF 1994, 1995).

For the first time, in the 1996/97 Budget Papers, two departments, the Department of State and Regional Development and the Department of Treasury and Finance, based their cost estimates and presented their budgets, on output groups instead of programs as in the past (VDTF 1996b). However, the 1996/97 budgets still reported on a cash basis. In 1997, all departments fully moved to report their budgets in the format of output groups. The departments at that time moved from program management to output management and Budget Paper No.3 disclosed outputs and government outcomes. Whilst the 1997/98 budget presented the government's plan on an output basis for all departments, it still reported on a cash basis. Later, from 1 July 1997, departments were required to present their pricing structures on a full cost basis (VDTF 1996a, 1997a). Additionally, the Management Reform Program (MRP) was introduced in 1997/98 to improve accountability for resources use (VDTF 2004).

For the budget year 1998/99, a comprehensive output budgeting reporting regime was implemented. The introduction of accrual budgeting in the 1998/99 budget papers was a significant new initiative both at the aggregate and departmental level. Victoria became the first state, and the second Australian jurisdiction after the ACT, to present its budget on an accrual output management basis (VDTF 1998). Victoria's 1998/99 budgets were on an accrual basis including parliamentary appropriations. Victoria's 1999/00 budgets continued to be reported on an accrual output budgeting (VDTF 1999). All Australian governments have since agreed on an accrual-based reporting framework which was developed consistent with accrual-based government finance statistics, and was to be implemented by all jurisdictions no later than the 2002/03 budget cycle (VDTF 1999).

In April 2000, the Financial Management (Financial Responsibility) Act 2000 was passed by parliament. It inserted the financial responsibility provisions in Part 5 of the Financial Management Act 1994 (VDTF 2000). In 2001, a program called *Getting Together* was a joint initiative between the Budget and Financial Management Division of VDTF and government departments. This program aimed at enhancing working relationships between the Division and all other government departments and agencies in order to achieve more effective financial management across the entire public sector (VDTF 2003a).

In February 2002, the Victorian Premier announced the commitment of the Victorian government to introduce best practice business tools for environmental management in government departments. Under this initiative, Victorian government departments were required to: implement an Environment Management System by 30 June 2003; comply with a Green Purchasing Policy; and report annually on their environmental performance (VDTF 2003b). Table 1.4 summarises initiatives of the Victorian financial management and changes in the presentation of budget structure and output performance information observed from budget papers for the years 1992 to 2002.

Table 1.4: Summary of the Victorian Financial Management Reform

Budget Year	Reform Initiatives of Victorian Financial Management
1992	- Introduced the Public Sector Management Reform (PSMR) package
1993/94	- Introduced Budget Strategy Management Reform Framework
	- Victorian Commission of Audit report 1993
	- Proposed legislative reform
	- Included output measures for each department with the program-based structure in 1993/94 Budget Paper No. 4
1994	- Commenced new Financial Management and Audit Acts (Financial Management Act 1994)
	- Publication of budget and three year forward estimates
1995/96	- Reported budget data on a program structure
	- Introduction of a capital charge for 1994/95 budget
	- Proposed Integrated Management Cycle, asset management policy and two year asset valuation program in 1995
1996/97	- Two departments, the Department of State and Regional Development and the Department of Treasury and Finance, based their cost estimates and presented budgets in Budget Estimates 1996/97, on output groups instead of programs
	- Continued to reported budget on a cash basis
	- Began to improve definitions and performance measures in the reporting of outputs
1997/98	- For the first time, the 1997/98 Budget presented the Government's plan on an output basis. Departments moved from program management to output management. All departments fully moved to report their budget in the format of output groups
	- Budget continued to be reported on a cash basis
	- From 1 July 1997, departments used output price to be full cost
	- Budget Paper No.3 disclosed outputs and government outcomes
	- Introduced the Management Reform Program (MRP) in 1997/98 to improve accountability for resources use
1998/99	- The introduction of accrual output budgeting in 1998/99 is a significant new initiative both at the aggregate and departmental level
	- Victoria's 1998/99 budget was on an accrual basis including parliamentary appropriations
1999/00	- Continued to use accrual output budgeting
	- Consistent with the move to the presentation of financial information on an accrual basis, all Australian governments have agreed on a new accrual-based Uniform Presentation Framework
2000/01	- The Financial Management (Financial Responsibility) Act 2000 was passed by parliament in April 2000, contained in Part 5 of the Financial Management Act 1994
2001/02	- Initiated the "*Getting Together*" program to enhance working relationships between the Budget and Financial Management Division and all other government departments and agencies in order to achieve more effective financial management across the entire public sector
2002	- Announced the commitment of Victorian government to introduce best practice business tools for environmental management in government departments

Sources: Author's observations of the Victorian Budget Papers for years 1992 to 2003; VDTF (1997b, 2003a, b, 2004); and Public Accounts and Estimates Committee (1998).

1.14.2 The Structure of the Victorian Budget Papers

The Department of Treasury and Finance produces budget papers each year, providing financial projections of government income and expenditure for the year ahead. Basically, there are seven main sets of budget papers as follows.

Budget Paper No.1 is the Treasurer's Speech. It outlines the government's economic and financial program. The Treasurer uses this budget speech to outline the government's strategy, announce new initiatives, report achievements or deliver revenue adjustments.

Budget Paper No.2 is the Budget Statement. It presents information regarding financial policy objectives and strategies; budget position; economic trends; budget initiatives; balance sheet management; statements of risks; and estimated financial statements.

Budget Paper No.3 is the Budget Estimates. It provides information about the detailed output delivery plans of individual departments, revenue and expenses, the outputs which the government expects to purchase, and the departmental objectives that are to be achieved through the delivery of outputs. Budget Paper No.3 consists of four statements. First, the *departmental overview* provides a brief discussion of departmental financial estimates. Second, the *departmental statements* incorporate total resources of each department, showing the financial resources available to the department from all sources, and the way the resources are used. The contents for each department are separated into two parts. Part one provides a set of output group tables outlining the description of the output group and the relationship between the outputs in the group and the departmental objectives to be achieved. Moreover, performance measures and targets in terms of quantity, quality, timeliness, and cost are provided for each output produced by the departments. Part Two presents financial information about the resources available to departments as well as the use of those resources. Third, Budget Paper No.3 indicates the *state revenue* which outlines the various sources of state government revenue for both general and specific purposes. Finally, the *public account* is included which provides details of public account receipts and payments.

Budget Overview describes budget highlights according to the key elements used to form the government's policy. It identifies key areas that the government focuses on and demonstrates a clear vision for the future.

Budget Information Paper (BIP) 1 is the Public Sector Asset Investment Program. It presents projects that will either increase the service capacity or maintain the existing service capacity of assets to meet the priority needs of all Victorians.

Budget Update includes revised estimated financial statements and updates on Victoria's financial position.

Finally, the *Media Release* is a collection of press releases for the media and interest groups.

1.14.3 Output Performance Information in the Victorian Budget Papers

Since 1997 outputs have been published in the Victorian budget papers as a first step towards OBB, replacing the former program format. As noted earlier, for the first time in the 1997/1998 Victorian budget papers, all Victorian government departments fully changed so as to report their budgets in the format of output structure (VDTF 1997a). Further, for the first time in the 1998/1999 Victorian budget papers, output performance measures did not measure organisational performance in terms of the traditional production model (against economy, efficiency, effectiveness and equity criteria). They measured how well the department or agency had produced or delivered its outputs by assessing performance in terms of quantity, quality, cost and timeliness (VDTF 1997b, 1998). In the Victorian budget sector, output performance information was used to assist the government to make funding decisions about the products and services it wanted to deliver to the community to achieve its desired outcomes.

1.15 Summary of Chapter and the Structure of the Thesis

This thesis is organised into eight chapters. In this introductory chapter, research problems, research aims, research questions, and arguments about the generalisability of the results, were described. Theoretical frameworks and their justification as well as the definitions of key terms, were also provided. Further, the format of budgets, budget structures, and the function of budgets are presented. Finally, an overview of the

Australian and Victorian government structures as well as the Victorian financial management reform, were briefly outlined.

In Chapter 2 a literature review relating to budgetary systems and performance information is presented. This chapter provides information about benefits and limitations of major budgetary systems as well as the role of performance information in the public sector. An empirical study on the impact of budgetary systems on decision making, accountability, and organisational operations is also outlined. Finally, theories of budgeting and decision making are discussed.

A literature review relating to the *decision-usefulness* model and the Australian Accounting Conceptual Framework, in particular SAC2 and SAC3 is presented in Chapter 3. The reviews include empirical studies of the objective of financial reporting, the qualitative characteristics of information, and user needs both in respect of the private and public sectors. Also, evidence from previous studies on factors influencing the perceived usefulness and the use of financial reporting are documented.

The research methodology is presented in Chapter 4. The conceptual framework including variables operationalisation and the research propositions are outlined. The procedures of the two research methods (survey and content analysis) used in this study are presented. The reliability and validity of the research instruments and statistical techniques employed in this study, are also discussed.

In Chapter 5 the univariate survey findings are presented. In this chapter the response rate and the result of non-response bias from the OBB questionnaires are reported. A univariate analysis of the survey data is discussed mainly relating to the usefulness of information in the 2002/03 Victorian budget papers and the consequences of using OBB in public organisations.

The survey propositions-test results are presented in Chapter 6. The bivariate (cross-tabulation) analysis results of Propositions 1 to 3 for Research Question 1 are presented relating to the usefulness of information within budget papers. Also, the results of the cross-tabulation and multivariate analysis of Propositions 4 to 6 are discussed to answer Research Question 2 involving the consequences of using OBB.

In Chapter 7 the content analysis results are presented. The discrepancy rates between the latent and manifest content analyses of new performance measures are reported. Three aspects of the results of a longitudinal content analysis of the Victorian budget papers over the two year period are discussed: the change in the total amount of performance measures between the budget year 2001/02 and 2002/03; the survival rate; and the novelty rate.

Finally, Chapter 8 presents conclusions and discusses implications. A summary and conclusions of the main findings of the survey questionnaire and content analysis are presented. Three implications of those findings are identified: theoretical implications; methodological implications; and practical implications. Further, frameworks for reporting information in the budget papers as well as the implementation of OBB in the government departments are proposed.

CHAPTER 2

BUDGETING AND PERFORMANCE INFORMATION

2.1 Introduction

In this chapter the benefits and limitations of major budgetary systems as well as empirical studies on public budgetary systems are provided. The role of performance information in the public sector is also reviewed. In addition, two types of budgeting theories, namely normative theory and descriptive theory are discussed. Finally, three decision making theories are presented: rationalist, incrementalist and mixed-scanning.

2.2 The Evolution of Budgetary Systems

During the 1920s and 1930s budgets emphasised financial control with the adoption of line item budgeting (Schick 1966; Vanderbilt 1977). When the concept of the management oriented budget emerged, Performance Budgeting emphasising efficiency, became fashionable in the early 1950s (Iwaskow 1999). In the 1960s, the planning oriented budget, focusing on strategic long range planning and efficiency and effective allocation of limited resources, began with the adoption of the Planning Programming Budgeting System (PPBS) or Program Budgeting in a number of OECD countries (Vanderbilt 1977; Brumby 1999). Later, the Zero Based Budgeting (ZBB) concept was introduced in the 1970s (Phyrr 1973). Whilst the dominant trend in budgeting in the 1980s was prioritisation, in the 1990s it was accountability (Schick 1990; Rubin 1996). Since the 1980s the international trend toward performance oriented budgeting approaches, calling for the linkage of budget inputs and budget outcomes, has been increasing (Guthrie 1998; Simpkins 1998; Campo and Tommasi 1999). Consequently, in the 1990s, Output Based Budgeting was adopted in New Zealand and Australia (VDTF 1997b; Campo and Tommasi 1999) and Performance Based Budgeting (PBB) was introduced in the United States (Easterling 1999). Premchand (1984) pointed out that while budgetary systems had various names, they shared several common features, such as classification, specification of objectives, and the evaluation of efficiency.

2.3 Five Major Types of Budgetary Systems

There are five major types of budgetary systems that have been used in the public sector organisations: line item budgeting; zero based budgeting; the planning programming budgeting system; performance budgeting; and output based budgeting. The benefits and limitations of five major types of budgetary systems are discussed in the following sections.

2.3.1 Line Item Budgeting

The line item budget is concerned with controlling costs of resource inputs such as salaries and rents (Schick 1966). A line item budget has many beneficial features, most of which stem from the fact that it does not require advanced accounting systems and is easy to prepare, calculate, and understand (Wildavsky 1979). Further, its format fits well with an annual budgetary cycle where agencies are required to compare the actual expenditure on each item during the past year with the amount allocated (Knight and Wiltshire 1977; Wildavsky 1978). Moreover, responsiveness to changing economic conditions is facilitated best with a budget calculated yearly, which the line item budget does. Additionally, the line item budget does not demand or inhibit policy analysis because it is policy-neutral, and as such, any policy can be converted into line items (Wildavsky 1978). Line item budgeting also tends to reduce conflict because choices that might cause conflict are fragmented so that not all difficulties need to be faced at any one time (Wildavsky 1979; Robinson 1992). Thus, it is feasible and practical for the public sector with its inherent significant political dynamics (Iwaskow 1999). Finally, the line item format lends itself well to audit and facilitates the central agency in checking whether only the amount specified has been spent on each item (Knight and Wiltshire 1977).

Nevertheless, the line item budget has a number of drawbacks, making it unsuitable in certain situations. For example, it is irrational in the sense that it deals with inputs instead of outputs and outcomes (Wildavsky 1978; Campo and Tommasi 1999). The relationships between inputs and outputs, as well as that of outputs and outcomes are not demonstrated by the budget (Lee and Johnson 1989). Further, the line item budget tends to ignore potentially controversial considerations like policy issues and service levels because of its concentration on money spent on inputs (Rickards 1990). It also impedes both performance and program prioritisation because of an input oriented

approach in budget formulation (Campo and Tommasi 1999). It is also difficult to evaluate performance as the budget cannot indicate whether the goals of an organisation are appropriate or have been met, because objectives are neither clear nor considered (Knight and Wiltshire 1977; Wildavsky 1978). Further, its emphasis on control, therefore, does not encourage the explicit inclusion of planning in the budget (Knight and Wiltshire 1977).

Moreover, it is shortsighted in that line item budgets usually cover just one instead of many years, which can lead to overspending because huge disbursements in future years are hidden (Wildavsky 1978). Additionally, minor accounting errors in the line item budget can snowball into larger problems. As one year's budget will be determined by the previous year's budget, any mistakes in the previous year's budget will follow in the next, thereby compounding and exacerbating the problem. As the line item budget is heavily historical, it does not search for the most efficient combination of inputs to deliver service and lacks a better alternative (Rickards 1990; Campo and Tommasi 1999). Finally, the line item budget also lacks the flexibility to transfer a budget between different objects of expenditure because of its rigidity of appropriation rules (Campo and Tommasi 1999; Iwaskow 1999).

2.3.2 Zero Based Budgeting

Zero Based Budgeting was introduced in order to overcome the limitation of incremental budgeting because resources that have already been granted to a program do not necessarily mean that it must be continued (Herzlinger 1979; Pyhrr 1999). In the Zero Based Budgeting system, the entire budget including old and new programs is evaluated each year and all activities must be justified from base zero. In principle, there is a link between planning and budgeting (Williams 1981). Zero Based Budgeting can generate improvements in many areas for any organisation that decides to adopt it. It improves communication between employees at all levels and encourages greater involvement of managers at all levels in the budget process in generating the decision package (Pattillo 1977; Schick and Stenberg 1978; Herzlinger 1979; Williams 1981). Zero Based Budgeting also assists in eliminating both programs that provide the poorest results and duplicative work that is being done between programs (Wildavsky 1979). Additionally, because it is a short term budgeting tool it can be used with every budgeting format such as organisational, functional and program formats (Draper and

Pitsvada 1981; Brumby 1999; Pyhrr 1999). Finally, it leads to much better information about the extent and range of the organisation's activities (Herzlinger 1979).

There are however many pitfalls inherent when implementing Zero Based Budgeting. For example, Zero Based Budgeting creates a huge volume of paperwork, which is not helpful in decision making (Draper and Pitsvada 1981; Puritano and Korb 1981; Williams 1981). Further, annual reviews and evaluations of all program expenditure for the preparation of the annual budget, prove to be practically impossible, incremental and too demanding (Wildavsky 1978; Williams 1981; Brumby 1999). Schick and Hatry (1982) argued that Zero Based Budgeting in practice is not rational, does not really begin at zero, and becomes a matter of percentages rather than an examination of agency operations and performance. Moreover, calculations become unmanageable because everything at every time is subject to scrutiny (Wildavsky 1978; Schick and Hatry 1982; Havens 1983).

There is also an ambiguity in the methods used to rank decision packages and bias can occur in the evaluation process because of the subjective nature of the ranking process (Wildavsky 1979; Williams 1981; Schick and Hatry 1982; Phyrr 1999). Further, there is no attempt to link evaluation with the budget process (Havens 1983). With Zero Based Budgeting, agencies do not know the precise relationship between the funds they spend and the results of the services they deliver, nor do they know the precise relationship between services and costs (Schick and Hatry 1982). Additionally, it is difficult to identify objectives and appropriate decision units, rank dissimilar programs and handle large volumes of packages (Pyhrr 1999). It is also expensive to prepare and requires considerable time and skills to operate (Brumby 1999). Finally, its suitability is limited only to small organisations which have consistent goals (Puritano and Korb 1981).

2.3.3 The Planning Programming Budgeting System

The Planning Programming Budgeting System or Program Budgeting was designed to accommodate the multiple functions of budgeting such as integrating planning and budgeting in a program format (Schick 1966; Iwaskow 1999). Some authors are of the view that program budgeting is conceptually sound and can be implemented (Novick 1973; Babunakis 1976). The program budgeting process helps to better define an

organisation's objectives and strategies as well as creating better linkages between objectives, programs, activities, and financial resources (Brumby 1999; Campo and Tommasi 1999; Iwaskow 1999). Program budgeting also facilitates a comparison of program effectiveness and can assist in reducing or eliminating duplicated activities (Dean 1986b). Moreover, it allows administrators to evaluate the anticipated results of proposed programs and to compare results from different proposals in searching for the best alternatives (Botner 1970; Dyer 1970; Macleod 1971). Program budgeting is also useful because it encourages the use of long term or multi year planning. Additionally, program budgeting assists managers to classify expenditure so as to identify the direct costs as well as to estimate the cost consequences of expanding or contracting any programs. Further, program budgeting allows assessment of the financial implications of a program over an extended period of time and encourages better cost control (Macleod 1971; Bellamy and Kluvers 1995; Kluvers 2001a). Finally, in some countries, program budgeting helps to improve the presentation of the budget, which may lead to a greater performance orientation by budget officials (Campo and Tommasi 1999).

The benefits of program budgeting outlined above come at the expense of many disadvantages. For example, calculations are vastly increased and difficult because of the necessity of evaluating every program in comparison with all others (Wildavsky 1978). There is a lack of ownership and accountability because responsibility for programs is scattered throughout the whole government (i.e. multiple jurisdictions might have overlapping responsibility for the same program) (Wildavsky 1979; Campo and Tommasi 1999). Indeed, a major problem with program budgeting is the disconnection between the program structure and the administrative structure (Dean 1986b; Campo and Tommasi 1999). Additionally, the program budgeting concept is inappropriate for use in organisations operating in changing environments because it contains centralising bias, bureaucracy and rigidity (Dyer 1970; Wildavsky 1979).

Also, program budgeting is time consuming and greatly increases the amount of data to be gathered (Vanderbilt 1977; Puritano and Korb 1981). Further, program budgeting increases the cost of correcting errors because of its highly differentiated and tightly linked characteristics, thus decreasing commitment in correcting those errors (Wildavsky 1979). Moreover, costs associated with the adoption of program budgeting are substantial (Dyer 1970). A problem frequently arises because the benefits and costs

of some projects cannot be stated numerically (Knight and Wiltshire 1977) and it is impossible in practice for all policies related to common objectives to be compared by cost and effectiveness (Wildavsky 1979). Additionally, it is difficult to define policy aims, use performance indicators to measure results, and there is no tight relationship between resources and results (Schick 1990). Moreover, practitioners of program budgeting are unable to define programs or attach costs to them (Vanderbilt 1977). Further, it is difficult to develop effectiveness measures and these measures are not used to differentiate among alternatives (International Bank for Reconstruction and Development (IBRD) 1998). Finally, analyses are prepared but rarely used in making budget allocations because program budgeting does not provide information relevant to the user at all levels (Wildavsky 1979; Schick and Hatry 1982).

2.3.4 Performance Budgeting

Whilst in the 1950s, performance budgeting focused on input and output measures, in the 1980s, it focused on outcomes and the linking of output and outcome measures with funding decisions (Lu 1998; Easterling 1999; Wang 1999a). Performance budgeting allows for many advantages in the budgeting process. It links spending to outcomes by illustrating the link between inputs, outputs, and outcomes (Smith 1999). Moreover, performance budgeting facilitates performance auditing, monitoring, evaluation and performance reporting (Dean 1986a; Smith 1999). Further, performance budget execution is flexible and allows for improved budget submissions (Wang 1999a). Additionally, performance budgeting provides better performance measurement, enhances responsibilities at below ministry level, and makes managers more accountable for program decisions that affect budget outcomes (Berry and Flowers 1999; Smith 1999).

Performance budgeting also assists in changing the core budget discussions among legislators to a stronger focus on outcomes and enhancing awareness of outcomes and factors that affect performance outcomes (Willoughby and Melkers 2001). Moreover, performance budgeting improves operations by linking budget and program performance over time (Smith 1999). It also leads to cost saving, reduces duplicative services, and encourages better understanding of government operations (Melkers and Willoughby 2001). Finally, performance budgeting improves the quality of information

being developed by agencies, provides a better program evaluation and increases the involvement of officials in the budget process (Knight and Wiltshire 1977).

Performance budgeting however, does present many disadvantages for the organisation that decides to adopt it. It is too expensive for small units of government, since it involves extra officials and new sets of documents (Knight and Wiltshire 1977). Further, performance budgeting increases the workload of public officials (Melkers and Willoughby 2001) and is vulnerable to threats from fraud and misrepresentation (Smith 1999). Whilst performance budgeting requires program-based performance information and an accounting system which supports the calculation of unit costs, these requirements cannot be provided by most governments (Hendon 1999). Consequently, the budget does not adequately link programs with their costs. Moreover, the consensus between the parliament and the executive on organisational goals and relevant performance measures is often difficult to achieve because many agencies have multiple and contradictory goals (Wang 1999a).

Additionally, there are problems in defining and establishing appropriate performance measures (Dean 1986b; Melkers and Willoughby 2001). Further, outcome measures that can be used to assess the impacts of programs to the public or community, are not developed (Hendon 1999). There is also a lack of available data to track outputs and outcomes of programs over time (Berry and Flowers 1999; Hendon 1999). Due to the difficulties of developing outcomes and effectiveness measures in the public sector, they are rarely used by budget decision makers (Lu 1998). Moreover, performance budgeting concentrates too much on efficiency, and therefore outcomes are not given enough attention (IBRD 1998).

Another important problem is that agencies lack internal procedures to ensure that performance data are accurate (Hendon 1999). Lu (1998) suggested that the poor quality of performance measures and their attempt at comprehensiveness are generic defects that undermine performance budgeting success. Finally, performance budgeting takes no account of the constraints faced by users such as the time available to them to study the information, its relevance to their needs and their expertise in using it. As such, information overload is particularly common (Dean 1986a).

2.3.5 Output Based Budgeting

Recently various governments have introduced Output Based Budgeting. For example, New Zealand (New Zealand Treasury 1996; Schick 1996), the Australian Capital Territory (Australian Capital Territory Treasury 1995), Victoria (VDTF 1997a), South Australia (South Australia Department of Treasury and Finance 1997b), Queensland (Queensland Treasury 1998a), Western Australia (Western Australia Treasury Department 1996a, 2000), Tasmania (Tasmania Department of Treasury and Finance 2002), the Northern Territory (Northern Territory Treasury 2002) and the Commonwealth Government (Commonwealth Department of Finance and Administration 1998).

In theory, OBB has been introduced with an expectation of the many benefits that it will provide to government. Proponents of OBB claim that it promotes greater efficiency, transparency, and accountability of governments (VDTF 1992a; New Zealand Treasury 1996; Western Australia Treasury Department 1996b; OECD 1997b). Clarifying the nature of outputs would result in a more intelligent analysis of the outcomes to which they are supposed to contribute. Therefore, the outcomes can be better understood because of the ability to pose questions with greater precision than previously (Holmes and Wileman 1995). Experience to date has shown that politicians are beginning to ask further questions about why certain activities are being carried out by government departments rather than focusing on the levels of inputs as in the past (Boston et al 1996). The New Zealand Treasury (1996) found that the chief executives had a clear idea of what was expected of them and could be held responsible if agreed performance standards were not met.

Advocates of OBB claim benefits over an input system stating that the government knows the full cost of outputs; is able to specify performance standards required in the delivery of the outputs; and is able to compare the cost-effectiveness of alternative providers. Consequently, OBB will help governments to improve service delivery, service quality and management information upon which to make better decisions (Boston et al 1996; McTaggart 1997; VDTF 1997b, c; Queensland Treasury 1998b; Western Australia Treasury Department 2000; Trenorden 2001). Additionally, a differentiation between purchaser and ownership perspectives of performance, and

between inputs, outputs and outcomes, promotes clear specification of performance and provides information for assessing performance (New Zealand Treasury 1996).

Many advocates claim that OBB will improve management decision making, internal resource allocation and increase accountability. Specifically, OBB will improve information upon which it can base decisions relating to the types of services that are most effective in achieving government outcomes, and which service providers offer the best quality service and value for money (Western Australia Treasury Department 1996b; Queensland Treasury 1998b). Further, well defined performance measures will assist governments to compare the performance of agencies against other providers; select the level and mix of outputs for which agencies should be funded for achieving the government outcomes; and assess whether outputs have been delivered. Therefore, governments will purchase only those outputs necessary to achieve the desired outcomes, and will purchase from the most cost efficient and effective public or private sector providers within the competitive environment (Trenordon 2001).

Moreover, appropriation and budgeting by outputs rather than by aims, objectives or programs, enables a more transparent targeting of expenditure. This enables resources consumed, to be related to services produced and there is a relationship between outputs and costs (Pallot and Ball 1996). Further, budgets relating to outputs facilitate the establishment of a relationship between the result of the expenditure and the level of expenditure. The linkage between outputs and government outcomes will strengthen a government's strategic and fiscal control, enabling limited resources to be allocated in line with government policy objectives (VDTF 1997c). Additionally, as outputs are aligned to departmental objectives and government outcomes, this ensures that services are relevant to the government and the community. Likewise, the benefit for the government is that OBB encourages the translation of policy objectives into funded services (Queensland Treasury 1998b). Separate appropriations for outputs and the specification of output performance measures, enable managers to allocate and manage resources for the delivery of specific services. Further, output cost information provides governments with a sound basis for resourcing departments and accurate information to enable informed decision-making (VDTF 1997b).

Other claimed benefits of OBB are greater customer focus (Boston et al 1996; New Zealand Treasury 1996; South Australia Department of Treasury and Finance 1998a); improvement in government management and funding of services (Queensland Treasury 1998b; Carlin and Guthrie 2001b); the encouragement of a competitive environment to enhance the quality and efficiency of budget sector operations; a clear separation of the responsibilities of ministers and departmental chief executives (Boston et al 1996); and an improvement in the link between an agency's corporate strategic planning and internal resource allocation processes (Western Australia Treasury Department 1996b). Further, agencies can identify whether the same or similar outputs are produced thereby minimising or avoiding duplication of effort (Western Australia Treasury Department 1996b; Queensland Treasury 1998b).

OBB also improves transparency of governmental activities and facilitates the switching of resources into key priority areas, as a result of distinguishing purchase and ownership interests of the government with output appropriation and reporting (Boston et al 1996; VDTF 1997b). Moreover, agencies' output goals are more quantified and focus on the delivery of outputs in the most efficient manner, with improved internal performance management, including: planning; performance monitoring; and performance evaluation (Western Australia Treasury Department 1996b). Another benefit for public agencies is that there is an increase in the flexibility and autonomy to manage service delivery (Queensland Treasury 1998b).

OBB also has benefits for public officials. For example, public officials potentially have more streamlined work processes with duplication minimised. Further, they have a clearer understanding of what is expected, how success is measured, and how their works contribute to the outputs of their agencies (VDTF 1997b; Queensland Treasury 1998b). Robinson (1992) is of the view that output classification of expenditure facilitates the development of useful output performance indicators. Expenditure information classified by outputs is more useful for the purpose of expenditure review or appraisal than information classified by organisational or functional structure.

Boston et al (1996) stated that government departments in New Zealand were providing better services with fewer resources. At the ministerial level, the capacity to prioritise and control public spending had improved. Further, managers and politicians on the

whole shared the view that objectives had been clarified, and that accountability and transparency had been enhanced, through the improved specification of outputs. The structural changes such as the separation of policy advice and service delivery activities into separate agencies helped to overcome the problems of multiple and conflicting objectives.

Nevertheless, there is scant evidence of the positive impact of OBB in practice (Campo and Tommasi 1999; Carlin 2003a). The limitation of OBB is that budgets focusing on outputs would obscure the importance of outcomes (Holmes and Wileman 1995; Boston et al 1996; Guthrie 1998; Barzelay 2001). Also, Holmes and Wileman (1995) indicated that the measurement of societal impact was difficult. Further, Boston et al (1996) stated that the process of identifying objectives and reporting in the estimates was difficult. Moreover, Robinson (1992) argued that output classification should not be used as a form of central control because quite highly disaggregated output categories should be provided, which would then impose quite unnecessary inflexibilities and costs. As the amount of information which decision makers were able to understand and usefully utilise was limited, there are questions as to whether the parliament and its select committees have the necessary skills, time, resources, and motivation to use the increased quantity and quality of information available (Boston et al 1996).

There are many problems inherent in implementing the OBB systems. For example, it is difficult to assign input costs to outputs and it is normally impossible to assign output costs to outcomes. Additionally, OBB requires accounting expertise. Therefore, problems may exist with the availability of those financial skills (Pallot and Ball 1996). With OBB, government agencies must operate in a contestable, potentially volatile marketplace which requires highly skilled managers. Trenordon (2001) argued that it was in danger of placing undue pressure on public sector managers who might be less inclined to take risks in a highly contestable, market oriented operating environment. Consequently, OBB has the tendency to discourage senior management and Chief Executive Officers from recommending courses of action.

Moreover, there were some difficulties when implementation took place in Australia and New Zealand. These common difficulties include a lack of rigour in the definition and measurement of outputs, a lack of clarity and measurability in the choice of

outcomes, and an almost total lack of performance measurement systems that provide feedback about the impact of purchased outputs on outcomes (Carlin 1998; Guthrie and Carlin 1999). The study by Carlin and Guthrie (2001b) also indicated that in practice, the OBB documents in Queensland and New Zealand provided less useful information than traditional input based program budget statements. Additionally, Guthrie and Carlin (1999) argued that where an internal management shift did not take place, there was no reason to expect that a change in the format and content of external budget documents would lead to the improvement of organisational economy, efficiency or effectiveness. Therefore, appropriate definitions of outputs and outcomes needed to be agreed upon, and useful, stable performance measures and indicators had to be identified and implemented to support an effective feedback mechanism. Another argument was that reforms introduced to evaluate performance in the Australian public sector were promoted with high expectations but had only partially been fulfilled because of weaknesses in implementation (Guthrie and English 1997).

In New Zealand, Boston et al (1996) identified several limitations of OBB in practice. First, the allocation of costs to outputs had been particularly difficult. Second, corporate planning was introduced but not integrated with the resource allocation process. Finally, some departments claimed that improved output specification decreased management flexibility and enhanced the chances of budget appropriations being cut. According to Campo and Tommasi (1999), Ministry of Finance officials in most developed countries have considered OBB and refused to recommend it because of the cost of obtaining data and intensive monitoring of results. Further, there is the elusive factor of output quality. As for developing countries, there is an argument that this approach is generally unsuitable, although a few exceptions are conceivable.

2.4 The Victorian Budgetary Systems

Since 1982, the Victorian government has introduced public sector reform to strengthen the financial and economic management of the state (VDTF 1992a). Prior to the introduction of OBB, the preparation of the Victorian budget was based on a program structure. On 1 July 1984, all Victorian government departments commenced program based appropriation management under the overview of the Department of Management and Budget (Gowan 1985). The Victorian government's strategy for reforming the budget sector has been focused on enhancing the transparency of arrangements, with an

objective of moving to a more commercial basis in which funding is related to performance (VDTF 1992a).

Later, in 1997 a package of reforms was promoted by a new government in order to restore the state's budget to surplus and re-establish its triple-A credit rating (VDTF 1997c). The primary focus of Victorian public sector reforms since 1997 has been to improve the efficiency, effectiveness and performance of the public sector, to focus on output and outcomes, to make the public sector more responsive to the needs of government and the community, and to create more competition and accountability to government and the parliament (VDTF 1997b, c).

The first stage in the introduction of OBB was for each department to establish and define an output structure. Appropriation on the basis of outputs has been considered to be an inherent part of the OBB systems adopted by the government. Under the output-outcome framework, unclear quality information is replaced by measurable indicators of what was planned and what was delivered, based on outputs (VDTF 1997b). The OBB systems in Victoria are similar to those introduced by the federal government and other jurisdictions in Australia. The characteristics of the OBB systems adopted in Australia including Victoria are discussed below.

In theory, OBB involves: defining the government's objectives; defining outputs and outcomes to achieve objectives; focusing on outputs and outcomes; budgeting and appropriation by outputs based on output structure; using performance indicators to measure outputs; reflecting full accrual cost; and separating purchaser and owner as well as purchaser and provider relationships (Western Australia Treasury Department 1996b; VDTF 1997b, Commonwealth Department of Finance and Administration 1998; Queensland Treasury 1998b; South Australia Department of Treasury and Finance 1998a; New South Wales Treasury 2000). On the whole, OBB is a management approach designed to assist governments and agencies in resourcing the outputs required to achieve planned outcomes (VDTF 1997b; Commonwealth Department of Finance and Administration 1998).

Under OBB, budgets are specified in terms of the purchase of goods and services rather than in terms of the consumption of inputs (Western Australia Treasury Department 1996b; VDTF 1997b). This budgetary system uses outputs as the basic unit for budgeting and performance reporting. Outputs and performance are measured in terms of quantity, quality, timeliness and cost (VDTF 1997b). The government sets its strategic priorities or intended outcomes, and then commissions departments to deliver outputs that the department determines will best achieve those outcomes. It requires agencies to focus on the relationship between their outputs, the government funds appropriated to them, and the outcomes desired by the government.

This approach is intended to emphasise the relationship between what agencies produce and their impact on society. Departments must demonstrate how outputs contribute to achieving their approved objectives, and how these objectives are aligned with whole-of-government outcomes. Performance measures are central to OBB, since it is through these measures that the attainment of objectives is measured. It is by means of performance measures that feedback is provided to decision makers (VDTF 1997b; Queensland Treasury 1998b). Together with a system of performance measurement for the organisation, OBB has been seen as providing improved accountability and improved performance (VDTF 1997b). In summary, key features of the Victorian approach to OBB are that the system focuses on objectives, outputs and outcomes rather than inputs and processes as well as providing greater flexibility and discretion in the management of resources to achieve those outcomes.

2.5 Empirical Research on Public Sector Budgetary Systems

Literature on public sector budgeting has various foci, for example, studies on public sector budgetary systems have examined different types of budgetary methods (Botner 1985; Grizzle 1986; Bellamy and Kluvers 1995; O'Toole et al 1996); other studies have examined budgetary theory by considering theoretical underpinning of budgeting systems such as incremental budgeting (Bailey and O'Connor 1975; Barnett et al 1991; Reddick 2003; Seal 2003). Some studies have focused on international comparisons of budgetary processes and practices as well as the interrelations among budgeting, auditing and evaluation (Knight and Wiltshire 1977; Gray et al 1993).

A further stream of public sector budgeting literature has focused on performance evaluation in the budgetary process (Havens 1983; Lauth 1985; Di Francesco 1998; MacKay 1999). In the United States, Lauth (1985) found that evaluation measures were not used by Georgia's budget officers to a substantial degree in the budgeting processes. Havens (1983) identified three impediments to linking evaluation and budgeting: organisational structure; a conflicting perception of time; and different intellectual frameworks of budgeters and evaluators.

In Australia, Di Francesco (1998) criticised the statistics used by the Australian Department of Finance and Administration and implicitly rejected its conclusions about the estimates relating to the influence of evaluation findings on the new policy and savings proposals. Di Francesco (1998) indicated that evaluation strategy has had only a minor impact on Australian central budgetary processes. Moreover, a large proportion of savings options were prepared by the Department of Finance and Administration without using evaluation information. In contrast, MacKay (1999) offered an opposing view to that of Di Francesco (1998). MacKay argued that there were no statistical or methodological flaws in the estimation method used by the Department of Finance and Administration. Consequently, MacKay (1999) supported the findings that evaluation had played an important role in the arguments relating to new policy proposals and savings options, as well as having influenced cabinet's budget deliberations in Australia.

Further, a review of the literature relating to budgetary practices revealed that research has tended to focus on issues of the implementation processes of budgetary systems (Capron 1969; Harper et al 1969; Schick 1990; Martin 1997; Melkers and Willoughby 1998; Sheffield 1999; Berry et al 2000; McGill 2001) and problems in implementing budgetary systems (Moshier 1969; Moore 1980; Lauth 1985; Mascarenhas 1996; Hendon 1999; Carlin and Guthrie 2001b). Whilst there exist a number of extensive empirical studies on various public sector budgetary systems, there is very limited literature on empirical studies of the consequences of using OBB in practice. Therefore, the literature review in the following sections is concerned with the impact of using various budgetary systems in the public sector, not particular to OBB, on decision making, accountability and organisational operations.

2.5.1 The Impact of Budgetary Systems on Decision Making

Extensive research has examined the impact of introducing various budgeting systems rather than OBB on decision making or resource allocation decision such as Zero Based Budgeting (Schick and Hatry 1982; Lauth 1985); Performance Budgeting (Lu 1998; Berry and Flowers 1999; Jordan and Hackbart 1999; Melkers and Willoughby 2001); and the Planning Program Budgeting System (Macleod 1971; Novick 1972; Sallack and Allen 1987; Bellamy and Kluvers 1995; Kluvers 2001a, b).

A review of the literature indicates inconclusive findings about the impact of using budgetary systems on resource allocation decisions. The findings from many studies suggest that budgetary systems influenced resource allocation decisions (Churchman and Schainblatt 1969; Mushkin 1969; Novick 1972; Dean 1986b; Sallack and Allen 1987; Willoughby and Melkers 2001). Churchman and Schainblatt (1969) found that the program structure required by program budgeting influenced resource allocation decisions. Some authors also indicated that program budgeting improved the quality of information and shifted decision making from the incremental approach by improving analytic capabilities designed to achieve the rational decision making process (Mushkin 1969; Novick 1972).

In Australia, Sallack and Allen (1987) found that program budgeting encouraged the Commonwealth to consider future implications of current budgetary decisions rather than focusing on the immediate prior year, thus enforcing the Commonwealth to institutionalise long term perspectives on budget decisions. Bellamy and Kluvers (1995) and Kluvers (2001a) found that the introduction of program budgeting in Victorian local government made budget decisions more focused, assisted councils to have clearer objectives, encouraged the use of long term planning, allowed assessment of long term financial implications of a program, provided a means of estimating the cost consequences of expanding or contracting a program, enabled a better sorting out of expenditure into direct costs, and improved cost control.

As a result of introducing performance budgeting, Dean (1986b) suggested that reasons for funding requests were to some extent clarified, thereby assisting budget allocation decisions. Melkers and Willoughby (2001) also found that performance budgeting had been successful in improving decision making in government. Moreover, performance

measures generated by performance budgeting were used with great success as a decision aid for budget officials. Further, in some state government agencies, the consideration of performance resulted in a reallocation of funding (Willoughby and Melkers 2001).

On the other hand, a number of studies supported the view that budgetary systems did not have a substantial influence on the allocation and reallocation of resources (Harper et al 1969; Mushkin 1969; Novick 1972; Dean 1986a; Bellamy and Kluvers 1995; Lu 1998; Berry and Flowers 1999; Willoughby and Melkers 2000; Kluvers 2001a). Harper et al (1969) and Mushkin (1969) indicated that program budgeting in the United States had limited influence on the major resource allocation decisions because it provided too many options together with their total costs and possible effects. Likewise, Bellamy and Kluvers (1995) found that the use of program budgeting did not have substantial influence on resource allocation decisions of Victorian local government. Further, Kluvers (2001a) suggested that it was uncertain whether program budgeting had assisted in the reallocation of resources in local government. Schick and Hatry (1982) indicated that Zero Based Budgeting in the United States did not significantly improve the quality of information to assist public officials in making resource allocation decisions and did not make a direct contribution to the reallocation of resources.

Lu (1998) indicated that performance budgeting did not change budgetary decision making and outcomes because of the rare utilisation of outcomes and effectiveness measures and the difficulties of measuring those measures in the public sector. Willoughby and Melkers (2000) found that performance budgeting had not been very effective in affecting cost savings and not effective at all in changing appropriation levels. Berry and Flowers (1999) suggested that performance budgeting did not change decision making in some Florida state agencies because both legislators and the governor did not make budget decisions based on information generated by performance budgeting. Dean (1986a) also supported the finding that the impact of performance budgeting on budget formulation was small and the linkage with planning was weak. Further, Jordan and Hackbart (1999) found that performance budgeting did not significantly affect resource allocation decision and funding of the state

governments in the United States because they were reluctant to use performance directly as an allocation tool.

2.5.2 The Impact of Budgetary Systems on Accountability

Prior public sector budgeting research examining the impact of budgetary systems on accountability has tended to focus on the improvement of the budget debate. Some studies found that the format of the budget such as program budgeting was an important factor influencing the nature of budget deliberations (Grizzle 1986; Pettijohn and Grizzle 1997). Other studies found that program budgeting documents improved the information for public and legislative debate. Thus the content of debates had been substantially improved (Mushkin 1969; Novick 1972).

The studies of Willoughby and Melkers (2000, 2001) revealed that performance budgeting had not been very effective in meeting the needs of the public and in improving communication with the public about performance. However, it was somewhat effective in (a) communicating with the public about performance; (b) changing the substance of budget discussions among legislators; and (c) increasing focus and awareness on outcomes as well as factors that affected performance outcomes. Berry and Flowers (1999) found that performance budgeting changed the views of both the legislature and the agencies so as to focus on accountability for results.

To assess the impact of budgetary systems on accountability, some studies investigated the volume of budgetary documentation and the time given to consider the budget after adopting a particular budgetary system (Schick and Hatry 1982; Bellamy and Kluvers 1995). Schick and Hatry (1982) indicated that paperwork and budget preparation time had increased as a result of using Zero Based Budgeting. Bellamy and Kluvers (1995) found that councillors in Victorian local governments had not been given additional time to consider the significantly increased volume of budgetary documentation after the adoption of program budgeting.

Given increasing demands for greater accountability, there is pressure for performance information to be audited in order to ensure the integrity of such information. Dean (1986a) found that performance budgeting had facilitated performance audits in India, Malaysia, the Philippines, and Sri Lanka. Additionally, Johnsen et al (2001) suggested that performance auditing, compared to financial statement audits, had a clearer connection to both performance improvement and day-to-day management processes in the Finnish and Norwegian local governments. Nevertheless, Jordan and Hackbart (1999) indicated that the pre-audits of performance information conducted by budget offices in American state governments, did not significantly influence the usage of performance budgeting or funding. In Australia, the results of Kluvers' (2001b) study reported by most chief finance officers reveal that performance indicators in Victorian local governments were not checked for accuracy as part of the budgetary process and external auditors had not been used to conduct performance audits. Therefore, Kluvers (2001b) concluded that program budgeting did not always enhance accountability in Victorian local government.

2.5.3 The Impact of Budgetary Systems on Organisational Operations

A review of prior public sector budgeting literature shows that the introduction of budgetary systems inevitably affects the operations of public organisations. Several studies have examined the impact of budgetary systems on organisational structures (Dyer 1970; Dean 1986b; McGill 2001). Dyer (1970) indicated that program budgeting had an impact on the relationships among all units within an organisation by reducing the uncertainty inherent in decisions. Dean (1986b) and McGill (2001) found that in implementing program budgeting, organisations required change in order to reconcile the program structures with the organisational structures.

Some studies examined whether budgetary systems assisted in reducing duplicative activities or services (Kluvers 2000; Willoughby and Melkers 2000, 2001). Kluvers (2000) found that program budgeting had little impact on the elimination or reduction of activities that were being duplicated. Willoughby and Melkers (2000, 2001) indicated that performance budgeting was not very effective in reducing duplicative or ineffective services or programs. However, performance budgeting was somewhat effective in improving coordination between agencies and the legislature (Willoughby and Melkers

2000) and in improving (a) responsiveness to customers, (b) programs or service quality, and (c) the effectiveness of agency programs (Willoughby and Melkers 2001).

To fully achieve the benefits provided by a particular budgetary system, most studies recommend that staff involvement and the motivation of staff with respect to cooperation (Herzlinger 1979; Schick and Hatry 1982; Bellamy and Kluvers 1995) as well as staff training (Herzlinger 1979; Dean 1986a; Bellamy and Kluvers 1995; MAB 1997) are important factors affecting the successful implementation of budgetary systems. Herzlinger (1979) and Schick and Hatry (1982) supported the view that Zero Based Budgeting encouraged the involvement of all managers in the budget process. Bellamy and Kluvers (1995) concluded that the limited extent of staff involvement and inadequate staff training in the implementation process could prevent the achievement of the full benefits of program budgeting. Dean (1986a) found that performance budgeting required staff training and had an impact on management attitudes about broader appreciation of financial management. The Management Advisory Board (1997) indicated that staff training was essential to implement the financial management and budgeting reform in the Australian public sector.

Finally, in the implementation of financial management initiatives, staff are always concerned about whether the new initiatives will affect their workload and provide benefits for them. Melkers and Willoughby (2001) found that performance budgeting increased the workload of budget officers. However, it assisted budget officers to have a better understanding of state government operations. Schick and Hatry (1982) indicated that public officials improved their understanding of activities in their units as a result of using Zero Based Budgeting.

2.6 The Role of Performance Information in the Public Sector

Recently, performance information has been recognised by governments internationally as an important tool to enhance effective management and accountability. As governments are increasingly being demanded to show greater accountability for their performance, performance information plays a key role in public sector governance, and performance reporting is crucial to public sector accountability (Management Advisory Board and Management Improvement Advisory Committee (MAB-MIAC) 1993a, b; VDTF 1997b; Auditor-General Victoria 2003a). Importantly, performance information

provides useful data for the improvement of performance and enables public sector ministers and managers to set appropriate objectives, focus on allocating resources to achieve the desired outcomes, and improve service delivery (MAB-MIAC 1993a; Bartos 1995; Barrett 1997).

Unlike private sector organisations, whose profit is the key performance measure, public sector organisations rarely have limited objectives and are driven to achieve social goals rather than profitability. Consequently, the measurement of performance in the public sector can be difficult. The Commonwealth Management Advisory Board and the Management Improvement Advisory Committee defined performance for the public sector as "the achievement of planned outcomes or results, and the taking of actions designed to stimulate such outcomes." (MAB-MIAC 1993a, p.3). Therefore, performance for the public sector can be measured by the assessment of the extent to which objectives and outcomes are achieved.

There exists considerable research on the development and use of performance information and measurement in the public sector (MAB-MIAC 1993a; O'Toole et al 1996; Kluvers 1998; Kloot 1999; Willoughby and Melkers 2001; Cavalluzzo and Christopher 2004). In Australia, MAB-MIAC (1993a) indicated that managers in the Australian public services were more aware of the role of performance information and more prepared to use it in decision making. Kluvers (1998) found that few Victorian local governments used performance indicators and that those indicators were also perceived to be problematic. However, Kloot (1999) indicated a substantial increase in the level of use of performance measurement in Victorian local governments.

For local governments in the United States, O'Toole et al (1996) found that performance measurement reporting did not have a very important role in agencies' budget decision making processes. However, Willoughby and Melkers (2001) found a high level of use of performance measurement by budget officers in American state governments. Finally, Cavalluzzo and Christopher (2004) found that organisational factors such as training in performance measurement techniques and top management commitment to the use of performance information, had significant positive influences on the development and use of measurement systems in the United States.

Many studies have pointed out difficulties in the development of performance measures and the use of performance information in the public sector, for example, the difficulty in specifying and measuring outcomes and quality as well as problems with the development of appropriate performance measures and multiple or lack of clear objectives (The House of Representatives Standing Committee on Finance and Public Administration (HRSCFPA) 1990; MAB-MIAC 1993a; Guthrie 1994; VDTF 1997b; Kluvers 1998; Shead 1998; O'Faircheallaigh et al 1999; Carlin 2003a). Another problem raised by many researchers concerns the usefulness and validity of performance information in the public sector (Guthrie, 1994; Kluvers 1998; Clark 1999; Carlin and Guthrie 2001a; Walker 2001, 2002; Barton 2003). In most cases, research indicated the following problems: performance information used in the Australian public sector did not provide very useful information; it lacked the qualitative characteristics of information such as comparability; and it frequently dropped old indicators and created new indicators.

2.6.1 The Role of Performance Information in the Australian Public Sector

In 1984, the Financial Management Improvement Programme was established (HRSCFPA 1990). Consequently, performance information has played a key role in the Australian public sector accountability framework (HRSCFPA 1990; MAB-MIAC 1992; VDTF 1997b). The important role of performance information in the Australian public sector has been emphasised in a number of recommendations proposed by the HRSCFPA (1990) as follows.

> "further streamlining of the budgetary and regulatory framework should have regard to a demonstrated and significant improvement in performance information and evaluation and accountability practices within the public sector"(para.6.29, p.64).

> "Departments and agencies should make a concerted effort to develop performance information that assists decision-making and accountability." (para.7.23, p.79).

> "the House of Representatives, through its committees, should increase its scrutiny and use of performance information in the explanatory notes by making greater use of the information in their general inquiries" (para.8.70, p.102).

The crucial role of performance information in the Australian public sector was further highlighted by the Management Advisory Board (MAB-MIAC 1993a). The report *Performance Information and the Management Cycle* outlined the role of performance information in improving decision-making and holding public sector managers to account for performance as well as focusing on the achievement of outcomes.

A review of public sector budgeting literature illustrates that there have been a limited number of studies on the progress or impact of the Australian financial management reforms in practice. Whilst several studies have been carried out to examine the progress of Australian public reform (HRSCFPA 1990; MAB-MIAC 1992, 1993a, b; MAB 1997; Certified Practising Accountant (CPA) Australia 2000), most of the studies were conducted by government bodies.

The 1990 parliamentary report (HRSCFPA 1990) indicated that the changes resulting from the Financial Management Improvement Programme have improved Australian public sector management. However, a number of weak areas were identified, for example, a lack of progress in developing *program effectiveness* performance information, a difficulty in developing good performance information to inform government decision making and enhance accountability, and a failure to integrate the planning function with performance measurement and evaluation.

In 1992, MAB-MIAC (1992) found that where evaluation had been carried out, performance information was of better quality. Further, MAB-MIAC (1993a) suggested that there was a developing pattern of good management practice to promote a more effective use of performance information in the Australian public service. However, it was found that the use of performance information in strategic planning was generally not well developed. Additionally, there was often insufficient understanding within departments and agencies about how performance information was being used in the decision making process.

In 1997, the results of MAB (1997) reveal that the Commonwealth public sector was lagging behind the practices of the private sector and the rest of the Australian public sector in implementing the financial management reform framework. The CPA Australia (2000) also examined the progress of financial management reform in the public sector across the three levels of the Australian government. The study found substantial progress of financial management in the Australian public sector since 1997. For example, there was a significant shift in focusing on individual line item budgets (e.g. salaries) towards focusing on financial results (operating result).

2.6.2 Performance Information in the Victorian Budget Papers

As part of the implementation of OBB in Victoria, Victorian departments are required to develop reporting systems in which performance measurement is a main component and incorporate it into their budgetary systems (VDTF 1997b). The annual budget papers are regarded as a major means for demonstrating accountability to the parliament and the general public. The performance of Victorian government departments can be monitored and evaluated through the use of performance information to determine whether the government's objectives are being met. For accountability to exist, the performance information must be of good quality in order to assist stakeholders in making informed judgements about the performance of government. Therefore, good quality performance information in budget papers is crucial to enhance the accountability of governments. In this regard, performance audit plays a key role to ensure the good quality of performance information. Since December 1999, the Victorian Auditor-General has had a mandate from the *Audit Act 1994* to audit the relevance, appropriateness and fair presentation of performance indicators in the Victorian government (Auditor-General Victoria 2003b).

2.6.3 Quality of Performance Information in the Victorian Budget Papers

A review of the literature both overseas and in Australia illustrates that very few studies have examined the quality of performance information in public sector budget papers. In Victoria, the review and evaluation of the quality of performance information in the budget papers has been mostly conducted by government bodies such as the Victorian Auditor-General; the Public Accounts and Estimates Committee; and the Joint Committee of Public Accounts and Audit. The following sections present a summary of the key findings and recommendations of these government bodies relating to the quality of performance information in the Victorian budget papers.

2.6.3.1 The Victorian Auditor-General's Reports

In June 2001, the Victorian Auditor-General suggested that the Victorian government had progressed considerably in implementing a new performance management and reporting framework (Auditor-General Victoria 2001b). However, it was found that the development of the framework was still not complete and the nature of most measures did not readily enable an assessment of the efficiency and effectiveness of each

department's operations. Therefore, the audit opinions could not be made to evaluate the quality of performance information in the Victorian budget papers.

In November 2001, the Victorian Auditor-General found that the development of the performance management and reporting framework was still not finalised and public sector agencies did not report performance information against their objectives (Auditor-General Victoria 2001a). Therefore, the Auditor-General had not been in the position to carry out his mandate to audit the performance indicators related to departmental objectives. Nevertheless, the quality of the selected output performance measures within 8 government departments was assessed. The results revealed that output performance measures were generally relevant to department objectives, provided a balanced view addressing quality, quantity and timeliness, as well as being auditable.

Later, in the 2003 Victorian Auditor-General's reports (Auditor-General Victoria 2003a, 2003b), a number of deficiencies and recommendations were identified relating to the presentation of output performance information in the Victorian budget papers.

First, whilst output performance measures and targets were reported in budget papers, there was no requirement for the disclosure of changes made to these measures and targets in the budget papers. Consequently, the comparability of performance information across years and parliament's capacity to assess performance trends were limited (Auditor-General Victoria 2003a). The Auditor-General recommended strengthening the requirements for output performance reporting to explicitly provide for (a) the disclosure of changes to the performance measures and targets including the rationale for discontinuing performance measures and (b) any information which assisted the comparability of performance information between periods.

Second, some performance measures for particular outputs of departments focused only on certain aspects of output delivery and did not adequately capture overall output performance. The Auditor-General was of the view that this was an inherent limitation of the output management regime and recommended that:

> " ... the output measures and targets published in the Budget Papers (and used as part of the certification process to hold departments to account), should seek to capture the key aspects of output delivery, and be supplemented with brief supporting information outlining the underlying complexities and key drivers of quantity and quality impacting on the cost of each output..."(Auditor-General Victoria 2003a, p.50)

Third, the departmental output performance information used for the revenue certification process was not subject to periodic independent validation. The Auditor-General recommended the development of appropriate procedures to provide for periodic independent validations of departments' performance data. Further, a review of quarterly performance measures and targets should be performed to enable departments to more clearly demonstrate progress in their delivery of agreed outputs during the quarterly revenue certification process.

Finally, there was no provision for the reporting of performance against government outcomes on a whole government basis. Subsequently, the Auditor-General recommended that the performance reporting framework should include: the broad range of government outcomes, not just those in *Growing Victoria Together*[1]; all public sector agencies contributing to the achievement of government outcomes; and the specification of objectives and performance indicators at a ministerial portfolio level.

In summary, the Auditor-General's recommendations include: certification of the accuracy and reliability data used for performance management and reporting and a monitoring framework which ensured comparability of ex-ante and ex-post reporting; development of a streamlined, standardised format for agency performance reporting; comprehensive disclosure of the reasons why targets had not been achieved; and consolidated reporting of the performance of cross-agency programs or strategies.

[1] Growing Victoria Together, introduced by the Department of Premier and Cabinet, sets out the Victorian Government's broad vision for the future. It focuses on 11 priority issues: valuing and investing in lifelong education; high quality accessible health and community services; sound financial management; safe streets homes and workplaces; growing and linking all of Victoria; promoting sustainable development; more jobs and thriving, innovative industries across Victoria; building cohesive communities and reducing inequalities; protecting the environment for future generations; promoting rights and respecting diversity; and government that listens and leads (DPC 2004).

2.6.3.2 The Public Accounts and Estimates Committee's Reports

In 1998, a number of recommendations were provided to improve the implementation of OBB and enhance the usefulness of budget papers and performance information as follows. First, budget papers should include the achievement of the actual performance against targets for outputs and outcomes, and explanations of why previously stated output targets and explanations have changed or not been achieved. Second, Budget Paper No.3 should be prepared by describing more fully the link between inputs, outputs and outcomes. Third, all departments should review their outcome objectives to ensure that they were not too broad and, were suitable and able to be measured in a meaningful way. Fourth, the outputs, output and outcome performance measures, targets and actual figures reported in the budget papers should be independently audited or evaluated. The VDTF should also review existing departmental output specifications to ensure that they represented appropriate and meaningful outputs. Fifth, government agencies should commit to the stabilisation of output and performance measures reported in their budget estimates. The changes should be made only in response to prevailing circumstances and explanations of those changes should be provided. Sixth, costing information provided on a group summary basis presented in Budget Paper No.3 should provided a more detailed breakdown in order to enhance the understanding of the information. Finally, more detailed explanations should be provided for significant items in the budget papers, including detailed explanations for significant variations from the previous year.

In summary, the key concerns of the Public Accounts and Estimates Committee (1998, 1999, 2000, 2001, 2002) relating to performance information and reporting in the Victorian government were: (a) the inadequacies of the existing performance indicators for agencies' outputs and objectives and for the government's desired outcomes; (b) the poor linkage between agencies' outputs, resource allocation and objectives and the government's desired outcomes; (c) the lack of understanding and application of the principles of good performance reporting; and (d) the instability of outputs and performance measures reported in budget estimates.

In 2003, the Public Accounts and Estimates Committee (2003) was still concerned about the slowness in the finalisation of the performance measurement and reporting framework in Victoria because it obstructed effective accountability for the delivery of outputs and outcomes of departments and the performance of government as a whole. Further, the Public Accounts and Estimates Committee was of the view that the VDTF should engage in: actively monitoring the progress made by individual government agencies in implementing the framework; assisting agencies to implement the performance measurement and reporting framework; and establishing best practice in performance measurement and reporting.

2.6.3.3 The Joint Committee of Public Accounts and Audit' s Public Hearings

A concern has also been raised in the public hearings about the quality of performance information in budget documents including budget papers organised by the Joint Committee of Public Accounts and Audit (2001). In summary, there was evidence that performance information in the budget papers lacked the comparability characteristic from period to period.

2.7 Theories of Budgeting

As discussed in Section 1.3, this study sets out to assess whether there is a gap between budget theory and budget practice. Therefore, this Section is designed to explain different types of budget theory. Theoretical approaches to budgetary resource allocation can be classified into two types: normative theory and descriptive or explanatory theory (Danziger 1978; Rubin 1990).

A normative theory of budgeting prescribes how budget decision making ought to occur or what ought to be in order to provide a basis for allocating funds among competing activities (Danziger 1978; Wildavsky 1979; Rubin 1990). The theory attempts to specify the way budget decisions should be made including many of the budget reform proposals that reflect an interest in budget "outputs" or achievements. A normative theory of budgeting explains what the government's activities ought to be at a particular time. However, normative theory does not claim to accurately reflect the way budget decisions are actually made (Danziger 1978; Wildavsky 1979).

A descriptive theory is based on close observation or participation in public activities (Rubin 1990). The advice from descriptive theory is based on a much broader range of observations than normative theory and its proposed solutions may be based on observations rather than values. The supporters of descriptive theory believe that normative theory is unrealistic because it is not concerned with how budget decisions are actually made (Lindblom 1959, 1979; Danziger 1978; Wildavsky 1979). Rubin (1990) suggested that budgeting was complex and more descriptive theory was needed to examine the gap between theory and practice otherwise the gap between theory and practice might become unacceptably wide.

2.8 Decision Making Theory

There are three basic decision making theories: rationalist or comprehensive; incrementalist or muddling through; and mixed-scanning (Etzioni 1967; Danziger 1978; Clark and Corbett 1999). The three approaches may be distinguished in terms of funding necessary and time required. The rationalist approach requires maximum time and funding before action; the mixed-scanning approach requires less time and funding than the rationalist approach whilst the incrementalist approach requires least time and funding necessary of all approaches.

2.8.1 The Rationalist Approach

Decision-making according to the rationalist approach consists of two steps. First, a complete specification of an organisation's goals must be ranked by priority. Second, all possible alternatives are identified and the alternative that optimizes the benefits relative to costs will be selected (Danziger 1978; Etzioni 1989). The rationalist approach assumes that alternative budgetary strategies to achieve objectives are comprehensively identified and that choices are made between alternatives in a rational manner that optimises the allocation of public resources. Further, it assumes that complete and perfect information about all alternatives is both available and manageable and that there is virtually no limit on the human capacity for processing information (Danziger 1978). The rationalist approach involves an exhaustive survey of detailed observations and reviews of all alternatives as often as possible. Schick (1973) considered that the rational approach was implementable and would lead to an improvement in the effectiveness of agencies.

Nevertheless, rationalist models are perceived as being unrealistic and undesirable because in practice it is costly to analyse all alternatives, it is likely to overwhelm decision making capacities to review all alternatives, and it ignores the role of the political system (Danziger 1978; Wildavsky 1979; Etzioni 1989). Therefore, budgeting should not be comprehensive because knowledge, time, and manpower were usually in short supply and most policy analysis was concerned with reducing rather than increasing the cost of calculations.

2.8.2 The Incrementalist Approach

The most important characteristic of the incrementalist approach as applied to budgeting is that budgetary decisions are necessarily political and there are constraints on the budgeter's limited resources for analysis (Lindblom 1968; Danziger 1978; Wildavsky 1978). Indeed, the incrementalists believe that man is not rational (Wildavsky 1978) and budgetary decisions are influenced by politics, time pressures, limited knowledge and limited intellectual capacity of decision makers (Lindblom 1959; Etzioni 1986). Incrementalists such as Charles Lindblom (1959) and Aaron Wildavsky (1975) were to a large extent focused on incrementalist concepts in explaining how budget decisions are, rather than should be, made. Incrementalists argued that the decision making process involved in budgeting was incremental in nature and budgeting should be done in small incremental steps based on small changes which policy makers were concerned and understood. According to the incrementalist approach, the previous budget allocation is accepted as a base and marginal adjustments are made each year. As only few alternatives that are politically feasible are considered, it effectively limits the amount of information that must be gathered and processed as well as reduces the burden of calculation (Danziger 1978; Wildavsky 1979).

Nevertheless, the main weakness of the incrementalist approach is that it is highly conservative. Therefore, it is less appropriate when conditions are rapidly changing and when the initial course was wrong (Etzioni 1967). Further, the incrementalist approach focuses on the short run and seeks no more than limited variations of past policies. Thus, it is difficult in translating long term objectives into action plans and budgets. In practice, only the year-over-year incremental budget receives the most analytical attention by senior managers (Wildavsky 1979). In many cases the "base" to which the increment is added is treated as though it were already authorised, hence no additional

review or evaluation is performed (Schick 1969; Pyhrr 1999). Therefore, activities which no longer contribute to an organisation's goals, may be overlooked and accepted unchallenged in the budget process. Desirable new alternatives and activities in unexpected areas may then be ignored and left out of the budget, because of funding obsolete activities (Etzioni 1986; Campo and Tommasi 1999; Pyhrr 1999). Finally, many authors have perceived the difficulty of developing a comprehensive overview of all alternatives and costing them (Lindblom 1959; Knight and Wiltshire 1977; Wildavsky 1988; Etzioni 1989).

2.8.3 The Mixed-Scanning Approach

Etzioni (1967) argued that the assumptions upon which the rationalist and incrementalist approaches were based were unrealistic or weak. Therefore, an alternative approach for decision making called mixed-scanning emerged, which represented a compromise position and which combined elements of both the rationalist and incrementalist approaches (Clark and Corbett 1999).

Etzioni (1967) pointed out that the rationality of decision makers was restricted and that incremental decisions were made, but in the contexts of fundamental decisions. In mixed-scanning, it is important to distinguish fundamental decisions from incremental decisions. Fundamental decisions are made in contrast to rationalist decisions by exploring the main alternatives that actors see in view of their conception of the goals, without detail but in an overview perspective. Etzioni (1967) proposed two stages of decision making. The first stage included a broad investigation to identify alternatives or problems but not in great detail; and the second stage involved a detailed focus on those alternatives or problems revealed by the first investigation that required a more in-depth examination. Indeed, some projects, that do not qualify using the criteria selected, may not need to be reviewed in detail at all.

Unlike rationalists, mixed-scanning decision makers do not commit all their resources on the basis of a comprehensive preliminary analysis. Unlike incrementalists, they know what they want to achieve and which elements or problems to focus on (Etzioni 1989). Etzioni (1986) believed that broad scanning was more economical than comprehensive scanning of all alternatives. While mixed-scanning might overlook areas in which only a detailed investigation could identify alternatives, it is less likely than incrementalist to

overlook obvious alternatives in unexpected areas. Thus, mixed-scanning is much less detailed and demanding than the full search of all alternatives as required by the rationalist approach, but still broader, more strategic and innovative as well as more comprehensive than the incrementalist approach because it is less likely to be limited to familiar alternatives. In summary, mixed-scanning is an adaptive strategy that seeks to make the best possible use of partial knowledge rather than proceeding blindly with no knowledge at all.

2.9 Summary

A review of the literature about the usefulness of OBB reveals that there are still questions about the claimed benefits of OBB in practice. No empirical evidence in the literature sought the perceptions of public officials about the consequences of using OBB in practice within the public sector. One of the claimed benefits of OBB is to provide superior output performance information to users for enhancing their rational budget allocation decisions. However, there is a lack of empirical evidence and research conducted by independent researchers about the usefulness of performance information in public sector budget papers from the users perspective. As stated in Section 1.7.1, this study has adopted the decision usefulness model reflected in the Statement of Accounting Concepts to examine the usefulness of performance information. In the next chapter, literature relating to the accounting conceptual framework and user needs' studies will be reviewed.

CHAPTER 3

DECISION-USEFULNESS MODEL

3.1 Introduction

Currently there is a very limited research investigating the usefulness of information in the government budget papers. Thus the relevant literature in this chapter will be concerned with financial reporting in general, both in respect of the private and the public sector. As previously discussed, there are no reporting requirements or accounting conceptual framework that is directly and legitimately applied to budgeting, in particular output performance information in budget papers. Therefore, whilst the Statements of Accounting Concepts were written with respect to general purpose financial reporting without legitimate application to budgets, this study applied SAC2 and SAC3 as frameworks to examine the purpose of the use of budget papers and the qualitative characteristics of information in budget papers.

The literature review in this chapter comprises three parts. As discussed in Section 1.7.1, this study applied the decision-usefulness model reflected in the Statements of Accounting Concepts as a theoretical framework for a discussion of the usefulness of information in budget papers. Therefore, in the first part of the chapter, the concepts of the Australian Accounting Conceptual Framework, especially SAC2 and SAC3 are discussed. Survey evidence internationally will also be provided regarding the objective of general purpose reporting and the qualitative characteristics of information which should be possessed by external financial reports. In the second part, decision-usefulness studies will be reviewed, including empirical studies of user needs both in the private and public sectors. In the last part, empirical studies of factors that are likely to affect the perceived usefulness and the use of financial reporting are considered.

3.2 The Australian Accounting Conceptual Framework

As part of the ongoing development of the accounting conceptual framework in Australia, at least four Statements of Accounting Concepts were issued. These covered general purpose financial reporting, the report entity, the objectives of financial reporting, the qualitative characteristics of financial reporting, and the recognition of the elements of financial statements (AARF 1990a, b, c, 1995). In Australia, the conceptual

framework for general purpose financial reporting applies to both the private sector and public sector. The conceptual framework identifies users of financial reports and is based on the view that information provided by external reporting should be useful and assist report users. Consequently, the Australian conceptual framework has adopted decision usefulness as the objective of financial reporting (Stanton 1997).

3.2.1 Objectives of External Reporting

In Australia, *The Statement of Accounting Concepts 2 "Objective of General Purpose Financial Reporting"* (AARF 1990b), identified the purpose of financial reporting, the users of general purpose financial reports, the common information needs of such users, and the broad types of information relevant to user needs. According to this Statement, the objectives of general purpose financial reporting were:

> to provide "relevant and reliable information" (para.11); to enable " managements and governing bodies to discharge their accountability" to the users of the report (para.14 and 27); and to assist report users to make and evaluate "decisions about the allocation of scarce resources"(para.26).

The Statement identified three categories of primary user groups of general purpose financial reporting: resource providers; recipients of goods and services; and parties performing a review or oversight function. Moreover, a further category of user was identified as management and governing bodies (AARF 1990b, para.20). Sutcliffe (1985) reviewed the empirical evidence from other countries for the Australian Accounting Research Foundation. It appears that the accounting conceptual frameworks for other countries are quite similar in terms of the objectives of financial reporting, the basic attributes of qualitative characteristics of information, the categories of users as well as the information needs of users.

As for the broad types of information relevant to user needs, SAC2 confirmed that, in relation to non-business entities, not only financial measures of performance but also non-financial measures of performance were essential to assess thoroughly whether those entities had achieved their objectives (AARF 1990b), as cited below:

> "Non-financial measures of performance may also be relevant to users for the purposes identified, particularly in relation to non-business entities. The absence of a profit or rate of return objective for these entities means that financial measures of performance are unlikely to be sufficient to assess fully the extent to which those entities have achieved their objectives, which typically include social as well as financial dimensions" (AARF 1990b, para.30).

Empirical studies have examined the purpose of financial reporting and determined whether financial reporting satisfies its objectives in both the private sector (Pankoff and Virgil 1970; Epstein 1975; Anderson and Epstein 1996) and the public sector (Henderson and Scherer 1986; Butterworth et al 1989; Alijarde 1997; Coy et al 1997).

In terms of private sector reporting, an agreed major purpose of financial reporting in the United States, Australia, and New Zealand is to facilitate investment decisions (Epstein 1975; Anderson and Epstein 1996). However, several studies have not found much support for the assertion that accounting information and corporate annual reports were highly useful for investment decision making to security analysts (Pankoff and Virgil 1970) and to corporate shareholders (Epstein 1975).

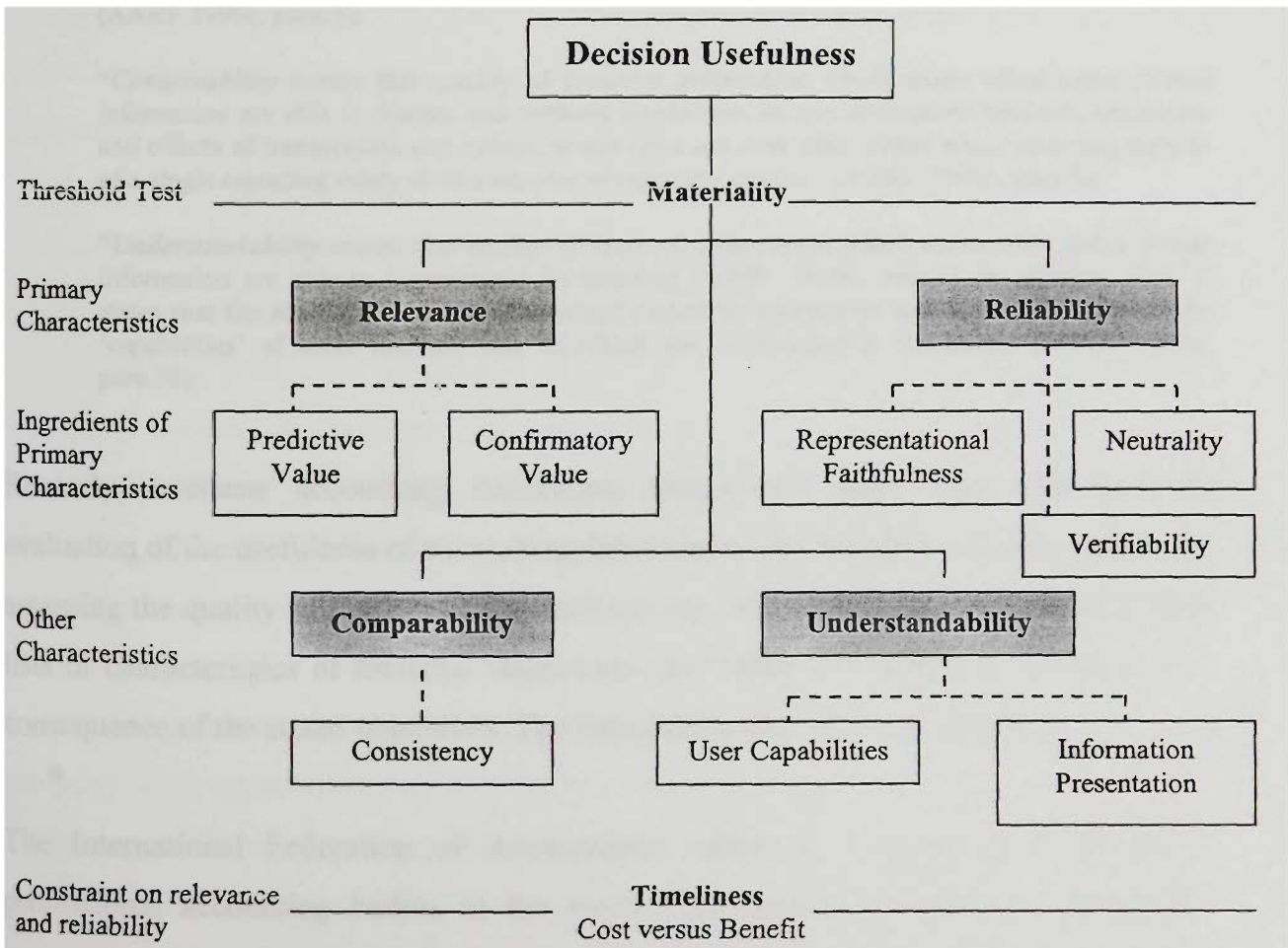
With regard to public sector reporting, both decision making and accountability were the main objectives of financial reporting. Alijarde (1997), in a study of Spanish local government financial directors and public auditors, found that both decision making and accountability were the main objectives of Spanish local financial reporting. In addition, Coy et al (1997) concluded from their review of the literature on the purpose of public sector reporting, that the main objective of external reporting, prior to 1985, was decision making. Then, since 1985, accountability has been identified as the main objective of reporting. On the other hand, Butterworth et al (1989) investigated the degree to which the reports satisfied the objectives of financial reporting. The result suggested that local government financial reports did not meet the objective of financial reporting in assisting the British local authorities to make decisions. In Australia, Henderson and Scherer (1986, p.9) found that the South Australian parliamentarians used the government department financial statements mainly:

> "1. to satisfy themselves that public moneys are correctly spent;
> 2. to determine the extent of resources available for use in departments;
> 3. to establish changes in the levels of resources used in departments;
> 4. to determine the costs of services provided by departments; and
> 5. to provide information about departments for use in debates."

3.2.2 Qualitative Characteristics of Financial Information

The Statement of Accounting Concepts 3 "Qualitative Characteristics of Financial Information" (AARF 1990c), is concerned with prescribing qualitative characteristics for the information contained in financial reports so that they will enhance the usefulness to users of those reports. The Australian Accounting Research Foundation developed a prescriptive framework of the qualitative characteristics of financial information necessary for meeting the objectives of general purpose financial reporting, as prescribed in SAC2 (AARF 1990b). The primary qualitative characteristics of financial reporting as prescribed in SAC3 are identified as relevance and reliability. Other qualitative characteristics are comparability and understandability. Figure 3.1 shows a diagram of qualitative characteristics and how these characteristics are related to each other based on the descriptive framework in SAC3.

Figure 3.1: A Hierarchy of Qualitative Characteristics Based on SAC3



Source: This diagram was graphically adapted from FASB (1980, p.15). However all content in the diagram is solely based on the descriptive framework in SAC3.

Figure 3.1 illustrates that information is considered to be relevant if it influences decisions relating to the allocation of scarce resources. Information is considered to be reliable if it faithfully represents the entity's transactions and events (para.16). In addition, for information to be reliable, it should be free from bias (be neutral) (para.21) and free from undue error (para.22). SAC3 also states that information should be comparable at one time and over time as well as between entities (para.31-35); be understandable (para.36-38); and be produced in a timely manner (para.39-41).

The definitions of qualitative characteristics provided in SAC3 are as follows:

> "***Relevance*** means that quality of financial information which exists when that information influences decisions by users about the allocation of scarce resources by: helping them form predictions about the outcomes of past, present or future events; and/or confirming or correcting their past evaluations; and which enables users to assess the rendering of accountability by preparers" (AARF 1990c, para.5);
>
> "***Reliability*** means that quality of financial information which exists when that information can be depended upon to represent faithfully, and without bias or undue error, the transactions or events that either it purports to represent or could reasonably be expected to represent" (AARF 1990c, para.5);
>
> "***Comparability*** means that quality of financial information which exists when users of that information are able to discern and evaluate similarities in, and differences between, the nature and effects of transactions and events, at one time and over time, either when assessing aspects of a single reporting entity or of a number of reporting entities" (AARF 1990c, para.5);
>
> "***Understandability*** means that quality of financial information which exists when users of that information are able to comprehend its meaning (AARF 1990c, para.5). In addition, SAC 3 states that the ability of users to understand financial information will depend in part on the 'capabilities' of users and the way in which the information is displayed" (AARF 1990c, para.36).

Recently, overseas accounting conceptual frameworks have also addressed the evaluation of the usefulness of accounting information and sought to identify criteria for assessing the quality and utility of financial reports. All conceptual frameworks provide lists of characteristics of financial statements (see Table 3.1) which, they claim, are a consequence of the stated objectives. The lists closely resemble one another.

The International Federation of Accountants, which is a grouping of the major professional accounting bodies in the world, has recently offered an international perspective. According to the International Accounting Standards Committee (IASC), qualitative characteristics are the attributes that make the information provided in financial statements useful to users. In the conceptual framework of the IASC, the International Federation of Accountants (IFAC) and the New Zealand Society of

Accountants (NZSA), four principal qualitative characteristics are identified: understandability, relevance, reliability and comparability (NZSA 1993; IASC 1994; IFAC 2000). On the other hand, in Australia, the AARF considers that there are only two primary qualitative characteristics which are relevance and reliability. SAC3 does not rank either characteristic above the other (AARF 1990c).

In Canada and the United States, qualitative characteristics for the private sector are divided into primary qualities (relevance and reliability) and secondary qualities (comparability and consistency) (FASB 1980; ASAC 1987). Furthermore, there are other conceptual framework projects for the public sector published in the United States. The American Institute of Certified Public Accountants (AICPA) produced the Objective of Financial Statements and listed qualitative characteristics as understandability, relevance, reliability, neutrality, comparability, and consistency to satisfy user needs (AICPA 1973). In addition, the Governmental Accounting Standards Board (GASB) stated that information in financial reporting must have these basic characteristics: understandability, reliability, relevance, timeliness, consistency, and comparability (GASB 1987).

In the United Kingdom, qualitative characteristics are divided into primary qualities (relevance and reliability) and secondary qualities (comparability and understandability) (ASB 1991). Further, for the private sector, the Corporate Report of the Accounting Standards Steering Committee, Institute of Chartered Accountants in England and Wales (ICAEW) (1975) identified the following seven qualitative characteristics as desirable for the fulfillment of the decision-usefulness objective: relevance; understandability; reliability; completeness; objectivity; comparability; and timeliness.

In summary, overall the elements of qualitative characteristics for each country and the meaning of the terminology are very similar. Except for the United States and Canada, understandability does not mean understandability of information but means user-specific quality as defined by the Financial Accounting Standards Board (FASB 1980) and the Accounting Standards Authority of Canada (ASAC 1987). However, for each country, qualitative characteristics might be classified into different groups and the degree of importance of qualitative characteristics might be somewhat different as summarised in Table 3.1.

Table 3.1: Summary of the Qualitative Characteristics of Information from Various Countries

Qualitative Characteristics	Relevance	Reliability	Comparability	Understandability	Other Characteristics	Constraints on Relevant and Reliable Information
AARF (Australia) (1990c) The Australian Accounting Research Foundation	X (Primary Characteristic) - Predictive Value - Confirmatory Value	X (Primary Characteristic) - Faithful Representation (free from bias or neutral) - Prudence - Verifiability	X - Consistency - Users are informed with policies employed and changes as well as effects of changes)	X - Users' Capabilities - Presentation of Information	X - Materiality (Threshold Test) - Substance over form	X - Timeliness - Costs versus Benefits
AICPA (USA) (1973) American Institute of Certified Public Accountants	X	X - Freedom from bias - Neutrality, fairness	X - Consistency	X	X - Materiality - Form and Substance	
ASAC (Canada) (1987) The Accounting Standards Authority of Canada	X (Primary Quality) comprise of: - Predictive Value - Feedback Value - Timeliness	X (Primary Quality) comprise of: - Representational Faithfulness (Freedom from bias, Completeness) - Verifiability (Objectivity, Consensus) - Neutrality (Secondary Quality)	X (Secondary Quality) - Consistency	X (User-Specific Quality)	X - Conservatism (an accounting convention; not a quality of accounting information)	X - Materiality (Threshold for Recognition) - Costs and Benefits (Pervasive Constraint)
ASB (UK) (1991) Accounting Standards Board	X (Primary Characteristic) - Predictive Value - Confirmatory Value - Choice of Aspect	X (Primary Characteristic) - Faithful Representation (Valid Description and Measurement) - Substance - Neutrality - Prudence - Completeness	X (Secondary Characteristic) - Consistency - Compliance with Accounting Standards - Disclosure (users are informed with accounting policies)	X (Secondary Characteristic) - Users' Abilities - Presentation of Information	X - Materiality (Threshold Quality) - True and Fair View	X - Balance between Qualitative Characteristics - Timeliness (Trade-Offs in relation to relevant and reliability information) - Balance between Benefit and Cost

Qualitative Characteristics	Relevance	Reliability	Comparability	Understandability	Other Characteristics	Constraints on Relevant and Reliable Information
FASB (USA) (1980) The Financial Accounting Standards Board	X (Primary Quality) comprise of: - Predictive Value - Feedback Value - Timeliness	X (Primary Quality) comprise of: - Representational Faithfulness (Freedom from bias, Completeness) - Verifiability (Consensus, Objectivity) - Neutrality (Secondary Quality)	X (Secondary Quality) - Consistency	X (User-Specific Quality)	X - Conservatism (an accounting convention; not a quality of accounting information)	X - Materiality (Threshold for Recognition) - Costs and Benefits (Pervasive Constraint)
GASB (USA) (1987) Governmental Accounting Standards Board	X	X - Verificable - Free from bias - Faithfully represent - Comprehensive - Materiality	X	X	X - Timeliness - Consistency	
IASC (International) (1994) The International Accounting Standards Committee	X (Principal Qualitative Characteristic) - Materiality	X (Principal Qualitative Characteristic) - Faithful Representation - Substance Over Form - Neutrality - Prudence - Completeness	X (Principal Qualitative Characteristic) - Consistency	X (Principal Qualitative Characteristic)	X True and Fair View/ Fair Presentation	X - Timeliness - Balance between Benefit and Cost - Balance between Qualitative Characteristics
ICAEW (UK) (1975) The Institute of Chartered Accountants in England and Wales	X	X	X	X	X - Completeness - Objectiveness (Unbiased) - Timeliness	

Qualitative Characteristics	Relevance	Reliability	Comparability	Understandability	Other Characteristics	Constraints on Relevant and Reliable Information
IFAC (International) (2000) The International Federation of Accountants	X (Principal Qualitative Characteristic) - Materiality	X (Principal Qualitative Characteristic) - Faithful Representation - Substance Over Form - Neutrality - Prudence - Completeness	X (Principal Qualitative Characteristic)	X (Principal Qualitative Characteristic)	Qualitative characteristics based on the ISAC framework	X - Timeliness - Balance between Benefit and Cost - Balance between Qualitative Characteristics
NZSA (New Zealand) (1993) New Zealand Society of Accountants	X (Principal Characteristic) - Predictive Value - Feedback Value - Timeliness	X (Principal Characteristic) - Representational Faithfulness - Verifiability - Neutrality	X (Principal Characteristic) - Consistency - Users are informed with policies employed and changes as well as effects of changes	X (Principal Characteristic) - Users' Capabilities		X **Influences on Qualitative Characteristics** - Balance between Qualitative Characteristics - Balance between Benefit and Cost - Materiality - Prudence (or Conservatism)
People's Republic of China Accounting Standard (China) (2001)	X	X	X - Consistency	X - Clarity (clear and concise)	X - Objectivity (truthfulness) - Timeliness	

Sources:

AARF (1990c) = The Australian Accounting Research Foundation, Statement of Accounting Concepts 3, Qualitative Characteristics of Financial Information, pp.4-15, August.
AICPA (1973) = American Institute of Certified Public Accountants, Objectives of Financial Statements, Qualitative Characteristics of Reporting, pp.57-60, October.
ASAC (1987) = The Accounting Standards Authority of Canada, Conceptual Framework for Financial Reporting, Qualitative Characteristics of Accounting Information, pp.1-13, April.
ASB (1991) = The Accounting Standards Board, United Kingdom, The Objectives of Financial Statements and the Qualitative Characteristics of Financial Information, Exposure Draft Statement of Principles, pp.10-18, July.
FASB (1980) = The Financial Accounting Standards Board, Statement of Financial Accounting Concepts No. 2, Qualitative Characteristics of Accounting Information, pp.1-73, May.
GASB (1987) = Governmental Accounting Standards Board, Concepts Statement No. 1, Objectives of Financial Reporting, Characteristics of Information in Financial Reporting, pp.22-24, May.
IASC (1994) = The International Accounting Standards Committee, International Accounting Standards 1994, Framework for the Preparation and Presentation of Financial Statements, pp.42-46.
ICAEW (1975) = The Institute of Chartered Accountants in England and Wales, The Corporate Report, the Objective of Corporate Reports, pp.28-31, July.
IFAC (2000) = The International Federation of Accountants, International Public Sector Accounting Standard 1, Qualitative Characteristics of Financial Reporting, pp.52-55, May.
NZSA (1993) = New Zealand Society of Accountants, Statement of Concepts for General Purpose Financial Reporting, Qualitative Characteristics, pp.6-10, June.
People's Republic of China Accounting Standard (2001), Accounting Standards for Business Enterprises, pp.65-67.

3.2.2.1 Empirical Research: Qualitative Characteristics of Information

In order to provide information that will be useful to users for making and evaluating decisions about the allocation of scarce resources, the financial information reported must possess certain characteristics or qualities. A number of publications and studies both in the private and public sectors have agreed upon the same qualitative characteristics of information as prescribed in SAC3. The consensus is that information in financial reports should be reported in a form that is reliable, understandable by users, relevant to their needs, pass a materiality test, be capable of comparison (including consistency) and be presented in a timely basis (Stamp 1982; Jones et al 1985; Carnegie 1990; Sutcliffe et al 1991; Epstein and Pava 1993; Sadhu and Langfield-Smith 1993; Micallef et al 1994; Anderson and Epstein 1996; Davidson et al 1996; Coy et al 1997; AARF 1998; Jonas and Blanchet 2000; Carlin and Guthrie 2001a).

Most user needs' studies have used a survey questionnaire and incorporated qualitative characteristics of information into their survey instruments (Stanga 1980; Joyce et al 1982; Stamp 1982; Jones et al 1985; Duncan and Moores 1988; Smith 1996; Coy et al 1997). In New Zealand, Coy et al (1997) found understandability, feedback value and comparability over time to be the most important qualities to recipients of annual reports. Further, recipients found that annual reports fell short in respect of decision usefulness. In the United Kingdom, Smith (1996) studied the preference for trade-off of qualitative characteristics in accounting disclosures and found a strong preference for reliability, objectivity and relevance in the perceived importance of the different qualities. Stanga (1980) and Duncan and Moores (1988) also addressed the issue of a trade-off between relevance and reliability and found a positive association between the two characteristics.

In Canada, Stamp (1982) conducted a research study for the Canadian Institute of Chartered Accountants which included a list of twenty qualitative characteristics as a basis for assessing the importance of each criterion to members of the Accounting Standards Committee. The ranking of results identified relevance as the most important, and conservatism as the least important of the 20 items listed.

In the United States, Joyce et al (1982) conducted an empirical study with a group of American policy makers. They found little agreement on the ranking importance of qualitative characteristics for different issues. Furthermore, there was scarcely any common meaning of the same qualitative characteristic across different accounting issues. In 1985, Jones et al (1985) conducted a user need study using a survey questionnaire for the Governmental Accounting Standards Board. They found that a majority of the users perceived that timeliness was an important characteristic (90%); consistency in reporting from year to year was useful (94%); and comparability of data among governmental jurisdictions was important (83%). However, several written comments questioned the ability to make accurate comparisons among governments. In the private sector, Anderson and Epstein (1996) found that the difficulty in understanding corporate annual reports, the lack of timeliness, and a doubt about the reliability of information, led to a perceived lack of usefulness of an annual report to individual investors.

In Australia, several studies, mostly undertaken on the behalf of the Australian Accounting Research Foundation, have also incorporated qualitative characteristics of information into their survey instruments (Carnegie 1990; Sutcliffe et al 1991; Sadhu and Langfield-Smith 1993; Micallef et al 1994; Coy et al 1997; AARF 1998; Clark 1999). These studies have focused on user needs in order to improve the decision usefulness of financial reporting, in particular to annual reports.

3.3 User Needs' Studies

In the view of the *decision-usefulness* model, the quality of financial reporting is determined considering the usefulness of the information to the users. Research into the needs of users has been prolific since the early 1970s, in particular for private sector financial reporting. Most decision-usefulness researchers have attempted to determine the relevance and usefulness of business and government reporting. Some studies have looked at the information needs of a single user group, while others have performed a comparison of needs of more than one user. Usually, an approach dealing with the quality of accounting principles and financial reporting has also been discussed in the context of *user needs*. There have been at least two approaches to examine information needs and the role of financial reports in providing useful information. One approach is

to examine the importance of items in financial reporting to prime user groups. Another approach is to study user information needs.

Professional bodies have recommended that financial reporting could be improved by focusing on user needs. As a normative objective for financial reporting, the meeting of user needs has been widely accepted as the objective of financial reporting both in the private sector (ICAEW 1975; FASB 1980; ASB 1991) and in the public sector (AICPA 1973; GASB 1987; AARF 1990b; NZSA 1993; IFAC 2000). User needs' studies both in the private sector and public sector based on the decision-usefulness model will be reviewed in Sections 3.3.1 and 3.3.2, respectively.

3.3.1 Private Sector User Needs' Studies

Earlier studies examining user needs and the use of accounting information have employed postal questionnaire surveys to assess the relative importance of accounting information in annual reports (Baker and Haslem 1973; Buzby 1974; Chandra 1974; Chang and Most 1985; Chambers and Clarke 1986). Several studies have compared the perceived decision usefulness of accounting information and the perceived information needs of different user groups (Benjamin and Stanga 1977; Chang and Most 1985; Harding and McKinnon 1997). A number of studies have examined how private shareholders use external financial reports including their understanding of annual reports and the usefulness of annual reports (Epstein 1975; Lee and Tweedie 1975a, 1977; Chenhall and Juchau 1977; Anderson 1981; Anderson and Epstein 1996). In addition, many empirical studies have attempted to measure the *perceived usefulness* of information in external reporting (Pankoff and Virgil 1970; Chandra 1974; Gallagher 1974; Larcker and Lessig 1980; Griffin 1982; Carnegie 1990). These user needs' studies have employed a postal questionnaire survey in their studies.

On the other hand, several studies have used interviews as an instrument to examine user needs and the usefulness of the annual report (Lee and Tweedie 1981; Day 1986; Mendoza and Bescos 2001). Furthermore, a questionnaire may have been followed up by the use of structured interviews (Lee and Tweedie 1977). Day (1986), Previts and Bricker (1994), and Herrmann and Thomas (1997) employed content analysis to investigate the use of and usefulness to users of the information contained in annual reports and segment reports. In summary, the research method used most frequently has

been the postal questionnaire seeking information about user attitudes. Other methods such as structured or unstructured interviews, case studies and content analysis have appeared less frequently.

A number of user needs' studies have examined the usefulness of particular annual report items including financial and non-financial items. In the United States, financial statements such as the income statement and the balance sheet are generally reported to be more useful to individual investors than the narrative portions of the annual report such as the president's letter, footnote, and the auditor's report (Epstein 1975; Chang and Most 1985; Epstein and Pava 1993; Anderson and Epstein 1996). In terms of the financial information, the results reported by Anderson and Epstein (1996) are consistent with earlier studies of Epstein (1975), Lee and Tweedie (1975b), and Chang and Most (1985), where across all countries (Australia, New Zealand and United States) the profit and loss statement was ranked the most useful and important item in corporate annual reports for making investment decisions.

In summary, the results of research about the perceived usefulness of the information and the needs of financial report users are often contradictory. Most results have been obtained in the context of corporate annual reports. Epstein (1975) and Anderson and Epstein (1996) reported that financial statements were of little value (or at least are little used) in making decisions, whereas Pankoff and Virgil (1970) and Most and Chang (1979) reported the opposite.

Table 3.2 compares the range of countries in which private sector user needs' research has been undertaken, the research methods, the user group researched as well as the response rate, particularly from the questionnaire approach.

Table 3.2: Empirical Research Studies into Private Sector User Needs and the Usefulness of External Financial Reporting

Year	Author (s)	Country	Main Research Method	User Group Researched	Number of Participants	Response Rate
1970	Pankoff and Virgil	USA	Laboratory experiment	Security analysts	8	Not given
1973	Baker and Haslem	USA	Postal - Attitude questionnaire	Private shareholders (individual investors)	851	52.0%
1974	Chandra	USA	Postal - Attitude questionnaire	Preparer (Certified Public Accountants- CPAs) Users (Chartered financial analysts - CFAs)	318 180	53.0% 45.0%
1974	Buzby	USA	Postal - Attitude questionnaire content analysis	Financial analysts Corporate annual reports	131 88	26.2%
1974	Gallagher	USA	Postal - Attitude questionnaire	Managers from a medium size firm	72	70.0%
1975	Epstein	USA	Postal - Attitude questionnaire	Individual investors	432	24.5%
1975a	Lee and Tweedie	UK	Postal - Attitude questionnaire	Private shareholders (individual investors)	374	23.5%
1980	Larcker and Lessig	USA	- Focused group interviews (pilot study) - Survey attitude questionnaire	- Senior executives of major corporations - Business school faculty and graduate students	5 29	100%
1977	Benjamin and Stangta	USA	Postal - Attitude questionnaire	Chartered Financial Analysts Commercial Bank loan officers	207 208	35.0% 35.0%
1977	Chenhall and Juchau	Australia	Postal - Attitude questionnaire	Private shareholders	476	46.0%
1977	Lee and Tweedie	UK	Structured Interview (main study) Postal questionnaire (pilot study)	Private shareholders Private shareholders	301 374	15.7% 23.5%
1981	Anderson	Australia	Postal - Attitude questionnaire	Institutional investors	188	63.1%

Year	Author (s)	Country	Main Research Method	User Group Researched	Number of Participants	Response Rate
1981	Lee and Tweedie	UK	Structured Interview	Institutional investors	136	49.0%
				Stockbrokers	95	22.0%
1985	Chang and Most	UK, USA and New Zealand	Postal - Attitude questionnaire	Individual investors (UK)	113	11.3%
				Institutional investors (UK)	84	31.0%
				Financial analysts (UK)	76	23.4%
				Individual investors (USA)	736	26.9%
				Institutional investors (USA)	165	34.5%
				Financial analysts (USA)	123	33.3%
				Individual investors (NZ)	85	28.3%
				Institutional investors (NZ)	63	37.3%
				Financial analysts (NZ)	62	43.4%
1986	Chambers and Clarke	Australia	Postal questionnaire	Qualified accountants	585	41.2%
1986	Day (ICAEW)	UK	Interview/Case study Protocal analysis/content analysis	Stockbrokers	15	83.0%
1990	Carnegie	Australia (AARF)	Survey questionnaire 1. User s of corporate financial report survey	- Users in stockbroking, trade banking, life insurance activities, financial journalism etc. of 300 largest publicly-listed Australian companies and trusts	194	64.7%
			2.Interim financial summaries questionnaire	- 300 largest publicly-listed Australian companies and trusts	198	66%

Year	Author (s)	Country	Main Research Method	User Group Researched	Number of Participants	Response Rate
1993	Epstein and Pava	USA (across 50 states)	Postal - Attitude questionnaire	Individual investors (shareholders)	246	10.4%
1994	Previts and Bricker	USA	Content analysis	sell side analyst company reports	479	
1996	Anderson and Epstein	USA, Australia and New Zealand	Postal - Attitude questionnaire	Shareholders(USA) Shareholders (Aus) Shareholders(NZ)	246 436 251	10.4% 18.5% 25.1%
1997	Herrmann and Thomas	USA	Content analysis	FASB's Exposure Draft, relative to the requirements under Financial Reporting for Segment of a Business Enterprise (SFAS) No. 14, on the qualitative characteristics of segment information		
1999	McEwen and Hunton	USA	Experiment	Financial analysts	60	not given
2001	Mendoza and Bescos	France	Interviews by questionnaire	Managers	120	not given

3.3.2 Public Sector User Needs' Studies

Previous research concerned with public sector accounting has been limited (Broadbent and Guthrie 1992; Pallot 1992; Cameron and Guthrie 1993). Currently there is little research investigating user needs and the usefulness of information in government budget papers. The usefulness of information within government budget documents, especially budget papers, has been given little attention by the researchers. Most comments relating to information contained in government budget papers has been provided by government bodies such as the Joint Committee of Public Accounts and Audit (2001); the Public Accounts and Estimates Committee (1998, 1999, 2000, 2001, 2002, 2003), and the Auditor-General Victoria (2001a, b, 2003a, 2004). The lack of independent evaluation reduces the value of any information which could contribute to the debate on the issue of the usefulness of budget papers. Nevertheless, user needs' study is view as an accepted approach to public sector financial reporting (Jones et al 1985; Carlson 1986; Federal Government Reporting Study (FGRS) 1986; Henderson and Scherer 1986; Ives 1987; Daniels and Daniels 1991; Ingram and Robbins 1992; Lapsley 1992; Hay 1994; Engstrom and Esmond-Kiger 1997; Clark 1999).

Most prior studies have examined user needs of performance information or the usefulness of government annual reports separating for different user groups (Jones et al 1985; FGRS 1986). In the United States, Jones et al (1985) explored the users of government financial reports and user needs at state and local government level by interviewing a small number of users and then developing a questionnaire. Jones et al (1985) found that the perceived usefulness of efficiency and effectiveness measures was different between the user groups. The FGRS (1986) also found that each user group had different information needs. Ingram and Robbins (1992) replicated a portion of the user needs survey conducted by Jones et al (1985) to elicit subject responses about the relative usefulness of items in municipal government annual reports. Findings from the Ingram and Robbins (1992) survey about the rank of the usefulness of information are consistent with those of Jones et al (1985) and led to the conclusion that the results of the Jones et al (1985) survey appeared to be robust as to the choice of instrument and subject.

Furthermore, Adams et al (1989) compared the perceived information needs of the preparers and the users of financial statements of not-for-profit organisations focusing on accounting for contributed services. The results of Adams et al (1989) revealed that both preparers and users were interested in the disclosure of non-monetary information rather than the dollar values assigned to contributed services.

Few studies in the accounting literature have focused on the usefulness of information in public sector financial reporting. Patton (1978) and Alijarde (1997) examined the perceived usefulness of information to the users of local governmental financial reports, while Hay (1988) examined those of the users of state and local government reports. Several studies have been conducted to determine the effect of report formats on the usefulness of government financial reports (Patton 1978; Gaffney 1986; Daniels and Daniels 1991). Gaffney (1986) and Daniels and Daniels (1991) measured the perceived usefulness of the different municipal financial report formats (consolidated versus fund-type accounting statements) using postal questionnaires developed by Larcker and Lessig (1980). The results of Gaffney (1986) suggested that the perceived overall usefulness of county financial statements is quite low. However, the results of Daniels and Daniels (1991) indicated that the information contained in municipal financial statements was necessary and useful but not sufficient to evaluate the financial condition of a municipality.

Arguments about the use and usefulness of public sector financial reports have been observed in several studies. In general, most studies found that there were relatively few users of public sector financial reports (Gaffney 1986; Butterworth et al 1989; Patton 1992). Gaffney (1986) found that there was a low level of public interest in the financial statements of United States counties while Butterworth et al (1989) found the same result for British local authorities. Patton (1992) observed that governmental financial reports were not actually used by very many people.

On the other hand, some studies supported the view that government financial reports were used (FGRS 1986; Henderson and Scherer 1986). The FGRS (1986) reported that many individuals used information in the federal government financial reports. Henderson and Scherer (1986) reported that South Australian parliamentarians used the government department financial statements for a variety of purposes. To improve the

usefulness of governmental financial reports, a study by Hay (1988) suggested changes in disclosure standards by reducing the length and sharpening the focus of disclosure standards covered by the auditor's report.

3.3.3 User Needs' Studies of Performance Information

The issue of non-use of government financial reports, as discussed above, has raised questions about the quality of information contained in government financial reports. Currently, there exists considerable management literature on performance measurement and performance information from a management perspective. This research focuses on the issues of the implementation and the internal use of performance measurement within organisations. Therefore, it does not enhance understanding of the usefulness and the quality of performance information within external reporting from the user's perspective. Recently, little research has examined the quality of performance information within external reporting from the user's perspective. Some researchers examined the quality of performance information in annual reports (Pendlebury et al 1994; Courtis 1998; Clark 1999; Walker 2002).

Many accounting researchers have used content analysis in their studies of: governmental annual reports (Boyne and Law 1991; Cameron and Guthrie 1993; Hyndman and Anderson 1995, 1998; Thompson 1995); parliamentary debates on bills and authoritative professional pronouncements (Hay 1994); the Statement of Financial Accounting Concepts (Hudack and McAllister 1994); qualitative characteristics of segment information relative to the requirements under Financial Reporting for Segments of a Business Enterprise (Herrmann and Thomas 1997); public health projects (Wilson and Thomson 1999); and non-financial information in government budget papers (Carlin and Guthrie 2001a). However, most of the prior content analysis studies have their limitations because they have focused on the number and type of performance indicators rather than the quality of the information. Whilst previous research addressed the issue of comparative data, it examined the quality of performance information in annual reports (for example, Boyne and Law 1991).

Schrader (1995), in an experimental study, examined the decision usefulness and the utility of performance information contained in service efforts and accomplishments reports. The results from the study of Schrader (1995) supported the inclusion of

performance indicators as part of traditional financial reports because they provided useful incremental information to users in the assessments of economy, efficiency, effectiveness, and the overall performance of government entities.

A review of the literature both overseas and in Australia illustrates that very few studies have examined the quality of performance information contained in government budget papers (for example, Carlin and Guthrie 2001a). Carlin and Guthrie (2001a) employed content analysis to examine the quality of performance information in the Victorian budget papers over the three year period (1999/00, 2000/01 and 2001/02). They found the high instability of performance measures in Victoria budget papers over the three year period, as a result of a high growth rate in the total number of performance indicators, a high novelty rate and a low survival rate.

Nevertheless, using content analysis to examine the quality of performance information is different from that of seeking the views of the users. Currently, there is scant research into user needs of performance information in government budget papers, especially the quality of performance information in government budget papers from a user's perspective. In Australia, whilst several studies have been undertaken on behalf of the Australian Accounting Research Foundation regarding the reporting of performance information from the user needs' perspective, these studies examined performance information in government department annual reports (Sutcliffe 1985; Sutcliffe et al 1991; Micallef et al 1994). In general, very few user needs' studies of public sector financial reporting have been conducted in Australia (Henderson and Scherer 1986; Carnegie 1990; Clark 1999). Further, these studies focused on the needs of users of the annual reports of government departments. Prior studies, as summarised in Table 3.3, have examined users or the usefulness of financial reporting in the context of public sector annual reports. To the best of the author's knowledge, no empirical users needs' study of budget papers, examining whether information in the budget papers meets the needs of users as proposed by SAC2 and possess qualitative characteristic of information according to SAC3, is publicly available.

Table 3.3: Empirical Research Studies into Public Sector User Needs and the Usefulness of External Financial Reporting

Year	Author (s)	Country	Main Research Method	User Group Researched	Number of Participants	Response Rate
1978	Patton	USA Local Level	Experimental postal questionnaire	- Municipal finance officials - non-city officials	Overall 129	27.0%
1985	Jones et al	USA (GASB) State and Local Governments	Face-to-face interview Postal - Attitude questionnaire	Three user groups: - Citizen group - Legislative and oversight officials - Investors and creditors Preparers and auditors	Not given (Interview) 69 (questionnaire) 66 (questionnaire) 66 (questionnaire) 139 (questionnaire)	Not given Not given
1986	Carlson	USA Municipal	Postal survey questionnaire	- Texas citizens	241	60.3%
1986	The Federal Government Reporting Study (FGRS)	USA Canada (Federal Level)	Structure Interview	Six user groups: - Legislators - Citizens, media, policy analysts, other level of governments - Government planners and managers - Economists - Corporate users - Lenders, security dealers and their advisors	Overall 125 (USA) Overall 131 (Canada)	Not given Not given
1986	Gaffney	USA Local Government	Experiment postal questionnaire	Constituent group: - Civic associations - Parent-teacher association - Others such as taxpayer and citizen	58	52.7%
1986	Henderson and Scherer	Australia (SA) Department	Postal survey questionnaire	South Australian Parliamentarians	41	60%
1987	Ives	USA State and Local Governments	Survey questionnaire	Three user groups: - Citizen group - Legislative and oversight officials - Investors and creditors Preparers of government financial reports	Overall 200 (for three groups) 140	Not given Not given

Year	Author (s)	Country	Main Research Method	User Group Researched	Number of Participants	Response Rate
1988	Hay	USA (GASB) State and Local	Face-to-face interview	- Citizen group - Legislative and oversight officials - Investors and creditors	5 7 16	Not given
1989	Adam et al	USA (FASB) Not-for-Profit Organisations	Postal - Attitude questionnaire	- Preparers of not-for-profit organisations - Users (e.g. donors, lenders, oversight bodies, regulators)	752 79	Not given 46%
1990	Carnegie	Australia (AARF) Federal, State, Local, and Department	Survey questionnaire - Timing of report (reporting lags) questionnaire	- Commonwealth Authorities and Departments - State and Northern Territory Authorities and Departments - Local Governments	32 67 60	88.9% 79.8% 100%
1991	Daniels and Daniels	USA Local Government	Postal - Attitude questionnaire	- Citizen group - Investors and creditors - Municipal Legislators - Oversight officials	34 21 21 6	85% 91% 50% 75%
1992	Ingram and Robbins	USA Local Level	Postal - Attitude questionnaire	Municipal financial analysts	195	32%
1995	Schrader	USA State Government	Experiment postal questionnaire	Certified Internal Auditors in Florida state government	75	49.7%
1994	Hay	New Zealand Department	- Interviews - Document/content analysis (Parliamentary debates on the public finance bill, Authoritative professional pronouncement, submissions etc.)	- Public sector accounting practitioners and standard setters (Treasury and Audit office officials) - Parliamentarians	Overall 35	Not given
1997	Alijarde	Spain Local Level	Postal - Attitude questionnaire	- Finance directors of Spanish local governments - Public auditors	Not given	Not given
1997	Coy et al	New Zealand Education Institutions	Postal - Attitude questionnaire	Annual report recipients identified from reply cards	260	56%
1999	Clark	Australia (Vic) Department	Survey questionnaire	Annual report recipients who received departmental annual reports	414	Not given

3.4 Factors Affecting the Perceived Usefulness and the Use of Financial Reporting

To the best of the author's knowledge, there exist no previous studies testing the relationship and investigating factors that affect the perceived usefulness of information particular to budget papers. Most studies have examined factors affecting the usefulness of financial reports, in particular private sector annual reports. Consequently, literature in this section is documented relating to factors that influence the perceived usefulness of information in the context of financial reports.

In previous accounting and public budgeting studies, with consensus, several factors have been found to significantly affect the perceived usefulness of financial reporting. These factors which need to be considered are: the reading pattern or *readership* (e.g. read thoroughly or cursorily) (Epstein 1975; Lee and Tweedie 1981); *comprehension difficulties* (Anderson and Epstein 1996); and *personal characteristics* such as age (Lee and Tweedie 1975b; Epstein and Pava 1993), gender (Reed 1986; Chung and Monroe 1998), level of education and college major (Baker and Haslem 1973; Yunker 1990; Lee 1997), experience or occupation (Griffin 1982; Chang and Most 1985), training (Alijarde 1997; Mendoza and Bescos 2001) and position and number of years in the current position (Jreisat 1990;Vora 1992).

3.4.1 Empirical Research: Reading Pattern or Readership

Several studies identified that reading pattern or readership (thorough reading or cursory reading) of users of financial reporting was associated with the perceived usefulness of information in financial reporting (Epstein 1975; Lee and Tweedie 1975b, 1976, 1981; Anderson 1981; Epstein and Pava 1993; Anderson and Epstein 1996).

In the United States, Epstein (1975) examined the shareholders' readership and use of corporate annual reports as well as the shareholders' difficulty in understanding annual report items, shareholders' investment goals, and the effect of sophistication on the use of the annual report. Epstein (1975) investigated whether or not corporate shareholders were reading corporate annual reports and found the items in the annual report useful for decision-making. Based on the overall average readership of the various items of the annual report and the overall average usefulness of the items, the items which were read more thoroughly tended to be the more useful ones, although the average usefulness

rank of an item was somewhat below its average readership rank. In fact, the items in the annual report were actually useful to those corporate shareholders who read them.

Moreover, Epstein (1975) found that the relationship between readership and usefulness of corporate annual reports seemed to divide into two groups. The first group consisted of those financial items where the relationship between readership and usefulness was strong: balance sheet, footnotes, income statement, and funds flow. The second group consisted of those non-financial items where the relationship was weak: the president's letter and the essay and pictorial on operations. However the auditor's report fitted into neither. In addition, Epstein (1975) found the auditor's report to be the least read item in the annual report, a finding confirmed by surveys conducted by Lee and Tweedie (1975b) and Anderson and Epstein (1996).

Anderson and Epstein (1996) found that investors in Australia read the narrative and pictorial items more and also found these more useful, indicating that their focus was greater on the less financially based items. Furthermore, in the case of Australia and New Zealand, the chairman's statement was read more thoroughly than the financial statement items. On the other hand, American investors read the profit and loss statements more thoroughly than the non-financial items. In addition, Anderson and Epstein (1996) concluded that there was a statistical association between readership and the usefulness of both financial and non-financial statement items for investors across the United States, Australia, and New Zealand. However, the directions of causality in the relationship between readership and usefulness could not be ascertained from this study. While careful readership may result in greater perceived usefulness, it may be that only those investors who find items in annual report useful take the time to read them. Hence, it is uncertain if readership results in perceived usefulness, or if perceived usefulness determines readership.

Anderson (1981) in Australia and Lee and Tweedie (1981) in the United Kingdom, have also conducted a similar survey to Epstein (1975) except for institutional investors and stockbrokers. Anderson (1981) found that most institutional investors (79%) read the income statement thoroughly. Lee and Tweedie (1981) found that the income statement was read thoroughly by 91% of respondents, briefly by 7%, and not at all by 2% (the balance sheet was relatively similarly read).

3.4.2 Empirical Research: Comprehension Difficulties

Research into the communication of financial information has raised further questions of whether users need more education in how to use financial reports and also whether the profession needs to think more carefully about the terms used in financial statements. Most user need studies in the private sector found that financial reporting was not useful to users because they had difficulty understanding the reports (Epstein 1975; Lee and Tweedie 1981; Anderson and Epstein 1996).

Anderson and Epstein (1996) explained that the lack of usefulness of annual reports compared with other sources of information occurred because annual reports were too difficult to understand and did not contain information that was useful for investment decisions. In addition, Anderson and Epstein (1996) suggested that investors who understood information in financial reporting tended to find the information more useful for decision-making than the other investors. Lee and Tweedie (1981), in a study of institutional investors, revealed a surprisingly low understanding of technical accounting terms. The users' perception of their own understanding was high but their answers to specific questions revealed some basic misconceptions of technical terms. Epstein (1975) also found that shareholders did not find the annual report useful for investment decision-making because they had difficulty understanding the financial sections.

Several studies examined whether users of corporate annual reports understood the information contained in annual reports (Epstein 1975; Lee and Tweedie 1976, 1977, 1981; Epstein and Pava 1993; Anderson and Epstein 1996). All of the studies found a relationship between comprehension difficulty and the usefulness of annual reports. Epstein (1975) found that the narrative and pictorial on operations was the least difficult for the shareholder to understand and the footnotes were the most difficult. Moreover, Epstein (1975) concluded that the annual report did not satisfy user needs. The data was either too complex in presentation or irrelevant, in the shareholder's view, to the investment decision.

In Australia, Anderson and Epstein (1996) found that the Chairman's address was the least difficult item to understand in the annual report. This would explain why it was read more thoroughly. Slightly more than 70% of Australian investors reported that annual report was either *very useful* or *of moderate use*. The evidence shows that, in part, the United States investors use annual reports more because they have less difficulty in understanding them. It was evident that financial statements were found more difficult to understand due to a higher proportion of respondents lacking accounting or finance education, training or job experience.

3.4.3 Empirical Research: Personal Characteristics of Users

The decision usefulness of accounting information is affected by the characteristics of the users who must judge what information is useful to the particular decision being made as well as affected by the decision maker's capacity to process the information (AARF 1990c; Reither 1997; Chung and Monroe 1998). According to SAC3, "the concept of understandability requires a judgment about the "capabilities" of users". As a result, personal characteristics could affect the understandability of users and the perceived usefulness of financial reporting. Therefore, understanding the personal characteristics of users has important implications for the design and content of financial reporting, including budget papers.

In previous accounting and public budgeting studies, personal characteristics of users have been found to significantly affect the *perceived usefulness* of the information in financial reporting (Baker and Haslem 1973; Epstein 1975; Lee and Tweedie 1975a, b; Chang and Most 1985; Jones et al 1985; Reed 1986; Anderson and Epstein 1996; Smith 1996; Alijarde 1997; Mendoza and Bescos 2001) as well as affect *human information processing* (Lee and Staffeldt 1976; Yunker 1990; Lee 1991, 1997; Reither 1997; Chung and Monroe 1998). Several personal characteristics which need to be considered are: (a) age; (b) gender; (c) education; (d) experience or occupation; (e) training; and (f) position and number of years in the current position.

(a) Age

Several studies incorporated age of the private sector investors in their postal questionnaire to predict the usefulness of financial statements. However, the results were inconclusive. While Epstein and Pava (1993) and Anderson and Epstein (1996)

found a significant relationship between age and the perceived usefulness of financial statements, Chang and Most (1985) and Epstein (1975) found the opposite result. Anderson and Epstein (1996) found that, in Australia, older investors tended to use both the financial and non-financial statements more than other investors. Furthermore, Anderson and Epstein found that, for New Zealand investors, the only annual report item related to an investor's age was the chairman's address.

(b) Gender

For gender difference, Lee and Tweedie (1975b) and Reed (1986) found that gender difference affected the perceived importance of items in annual reports as well as the decision making process. Chung and Monroe (1998) found that males and females processed information differently. They concluded that males tended to be selective information processors and encoded fewer details than did females. Usually, males focused on a single cue or cues with a single inference. On the other hand, females tended to be comprehensive and detailed processors by processing all or most of the available information.

(c) Education

A number of studies incorporated education as an explanatory variable of the perceived usefulness of financial statements and performance information. Many studies found that there was a relationship between these two variables (Baker and Haslem 1973; Epstein 1975; Chang and Most 1985; Reed 1986; Jreisat 1990; Anderson and Epstein 1996).

Anderson and Epstein (1996) found that an investor's level of education was positively associated with the usefulness of the footnotes' section of the annual report in the United States and the cash flow statement in Australia. Anderson and Epstein (1996) also found that those investors who had formal education in a finance related field tended to use financial statements more than other investors. Chang and Most (1985) found that investors' views on the importance of corporate annual report items were highly correlated with a college major. Likewise, Lee and Tweedie (1981) found that investment analysts and investors with an accounting qualification seemed to have the best understanding of financial statements. Epstein (1975) found that formal education in accounting or finance seemed to affect the level of usefulness of some of the more

technical items in annual reports. Furthermore, Baker and Haslem (1973) found that the investment information used was influenced by the knowledge and background of the person performing the analysis.

In the public sector, Reed (1986) also found that education and personal perceptions of the severity of local crime affected the perceived usefulness of performance information and the decision making process. Several public budgeting studies examining state budget officers also found that budgetary practice and the use of performance information and analysis depended on the capabilities of users in relation to the level of education and the academic discipline (Yunker 1990; Lee 1991, 1997). Lee (1997) found that budget officers with master degrees in public administration most likely made more use of program information and analysis.

On the other hand, several studies found no relationship between the education of users and the perceived usefulness and the use of information. Anderson and Epstein (1996) found no relationships between the perceived usefulness of various parts of the annual report and investors' level of education in New Zealand. Smith (1996) also found no significant difference in preference percentages or ranks of the usefulness of items in annual reports between two sets of users with different education. Jreisat (1990), in a study of local budgeting and finance administrators in Florida, found no significant relationships between personal characteristics (including academic degrees and college majors) and the use of productivity measurement information in the budget process. Likewise, Lee and Staffeldt (1976), in their study of state budget office staff, found no significant relationships between educational characteristics (including levels of education and academic disciplines) and budgetary practice (including the use of program effectiveness analysis and productivity analysis in decision making).

(d) Experience or Occupation

Anderson and Epstein (1996) found that the perceived usefulness of the financial statement was a function of experience for investors in the United States. Those American investors who had a job in a finance related field tended to use financial statements more thoroughly than did other investors. In contrast, no statistically significant relationships were indicated for the Australian and New Zealand investors. Furthermore, Chang and Most (1985) found that the American investors' views on the

importance of corporate annual report items were highly correlated with occupation. However, for investors in the United Kingdom and New Zealand, there were significant differences confirming the United States' results in respect to occupation. Reed (1986) also found that work experience of public budget officers and auditors could affect the perceived usefulness of non-monetary performance information and decision making. In addition, Griffin (1982) concluded that users' needs were specific and related to each job, decision-making task, or environment.

In the United Kingdom, Lee and Tweedie (1977) found a distinction between private shareholders who had no experience of accounting and those who had such a background in terms of their needs and their perceived usefulness of information. In addition, Lee and Tweedie (1975a) found that shareholders employed in occupations related to accounting as well as investment or financial management field believed that they understood reported information better than those in other occupations.

(e) Training

Mendoza and Bescos (2001) found that managers with a finance background or who held a management accounting or financial controller position, were globally more satisfied with the information available than those without training in finance or management and who did not hold management accounting responsibilities. In Spain, Alijarde (1997) found that the lack of accounting training of potential users of the information reduced the usefulness of financial reporting enormously. Anderson and Epstein (1996) found that investors with previous training or experience in business were slightly more likely to read the auditor's report than those investors without such experience. Chang and Most (1985) found that American investors' views on the importance of corporate annual report items were highly correlated with their amount of formal investment training. However, for investors in the United Kingdom and New Zealand, there were significant differences confirming the United States results in respect to formal investment training. Furthermore, several researchers supported the finding that managers or budget officers should have appropriate training in order to better sort information and perform tasks related to program measurement, monitoring and evaluation (Lee 1991; McKinnon and Bruns 1992; Mendoza and Bescos 2001).

On the other hand, Chambers and Clarke (1986) found that accountants who had training did not respond differently from non-accountants about the use of accounting terms, use of certain prices and price-based calculations, and ideas about wealth and change in wealth.

(f) Position and number of years in the current position

Few studies have examined the impact of position held in the organisation and the number of years in the current position on the use and usefulness of information. Vora (1992) examined the usage of the fifteen productivity and performance measures at three levels of management (top, middle, and first) in private companies. The results of Vora (1992) indicated that managers used all fifteen types of measures. However, the usage rate and the pattern of usage in the choice of specific measures varied greatly between the different levels of management. The usage rate of all fifteen types of measures decreased from top to middle to first level of management. Jreisat (1990), in a survey of Florida government finance and budget officers, examining the use of productivity measurement and new techniques of budgeting found no significant relationships between the number of years in the current position and the use of the productivity measures information.

3.5 Summary

A review of literature about the usefulness and user needs of budget papers revealed a considerable lack of knowledge in this area. Further, there was a dearth of literature examining the quality of performance information from the users perspective, especially in budget papers. A review of research literature illustrated that most studies examined performance information in annual reports. As there is a lack in the study of government budget papers, the literature review in this chapter therefore has been mostly limited to the usefulness of financial reporting, in particular, the annual reports both in the private and the public sector. Nevertheless, the preceding literature review has provided a useful basis for the development of a conceptual framework for this study to assess the usefulness of information in budget papers. The conceptual framework, research propositions and research methodology used to conduct this study are discussed in the next chapter.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

In this chapter the conceptual framework including the operationalisation of variables, the research propositions, and the research methodology are described. The justification of the research method, in particular the mail survey and the content analysis employed by this research, is discussed. For both the mail survey and the content analysis, information is provided about the population, the validity and the reliability analysis of the research instruments, the data collection and the data analysis procedures.

4.2 Conceptual Framework for Assessing Perceptions about OBB

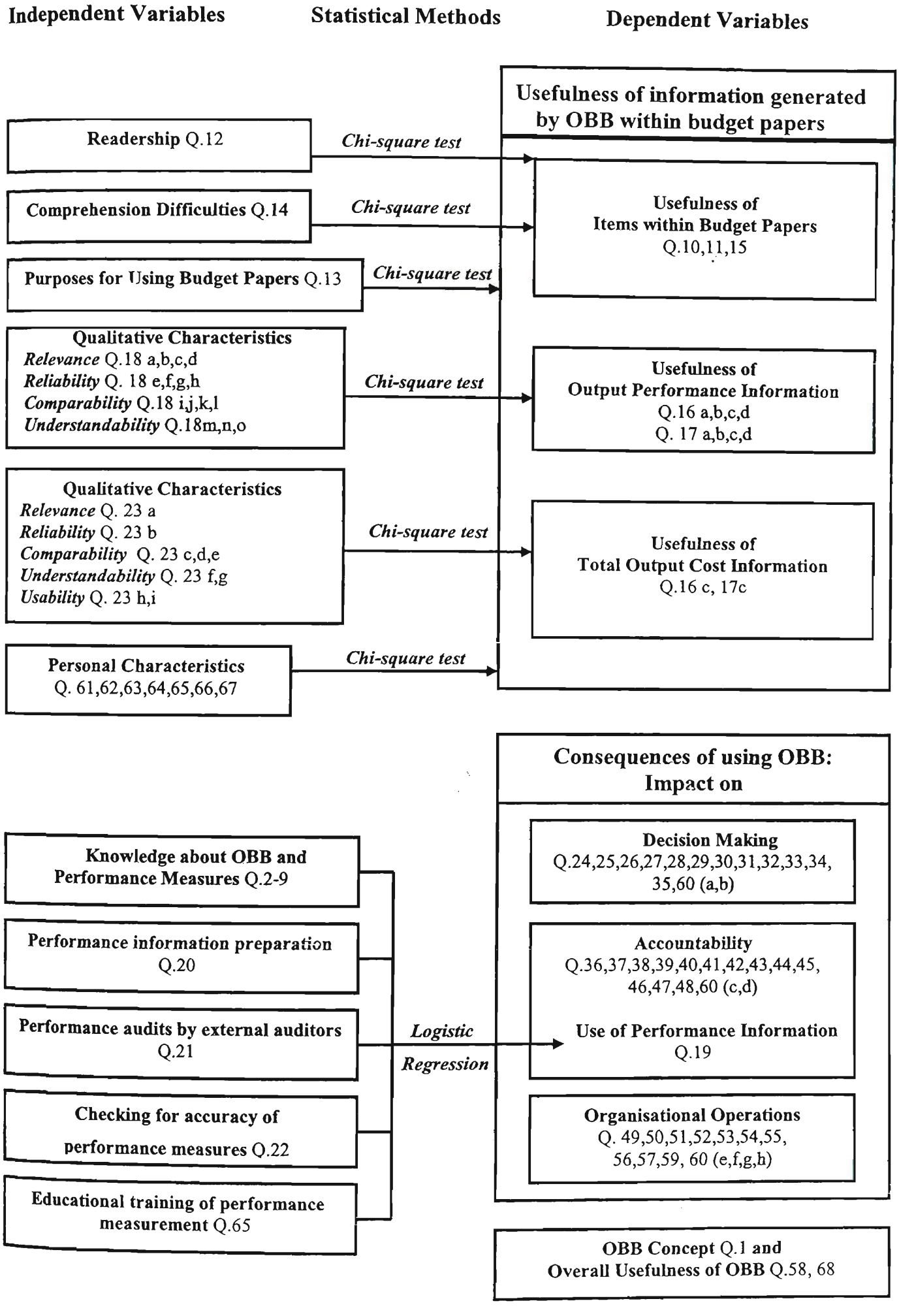
In the present study, the conceptual framework (Figure 4.1) was developed for assessing perceptions about the usefulness of OBB in terms of the usefulness of information generated by OBB within government budget papers and the consequences of using OBB in government departments.

The descriptions and dimensions of each concept according to the conceptual framework in Figure 4.1, are outlined as follows.

The ***usefulness variable measures*** for the purpose of this study include the following dimensions:

1. the frequency of use of budget papers;
2. the usefulness of seven items within budget papers: Treasurer's speech; financial statements; statistical performance information; descriptive explanation of outputs; descriptive contribution of outputs to department objectives; descriptive contribution of outputs to government outcomes; and output cost information;
3. the frequency of use of four types of performance measures: quality measures; quantity measures; cost measures; and timeliness measures; and
4. the usefulness of four types of performance measures: quality measures; quantity measures; cost measures; and timeliness measures.

Figure 4.1: Conceptual Framework for Assessing Perceptions about OBB



Items representing the concept of usefulness of information were developed by modifying questions from previous studies such as those of Epstein (1975), Larcker and Lessig (1980), Anderson and Epstein (1996) and Clark (1999) about the usefulness of information and annual reports.

The concept *Knowledge about OBB and Performance Measures* is based on the definitions of terminologies used for Output Based Budgeting provided by Australian authoritative bodies, as identified in Chapter 1: Sections 1.7.2 and 1.8 and Chapter 3: Section 3.2.1. Specifically, Questions 2 and 3 in the OBB survey questionnaire (see Appendix 1) were developed from the definitions provided by the Victorian Department of Treasury and Finance (1997b). Questions 4 and 5 were developed from the definitions provided by the Steering Committee for the Review of Commonwealth/ State Service Provision (1999). Questions 6 and 7 were developed from the definitions provided by the Commonwealth Department of Finance and Administration (1998). Finally, Question 9 was developed from the definitions provided by the Australian Accounting Research Foundation (1990b).

The concept *purposes for using budget paper* is based on the purposes identified in SAC2 (AARF 1990b), including the following dimensions: making decisions about the allocation of resources; evaluating decisions about the allocation of resources; and accountability.

The concept *Qualitative Characteristics of Information* is based on the characteristics identified in SAC3 (AARF 1990c), including the following dimensions: relevance, reliability, comparability, and understandability. Furthermore, another dimension of characteristics of information is usability derived from the previous study of Larcker and Lessig (1980).

The concept *Consequences of Using OBB* is investigated in three dimensions as follows: the impact on decision making; the impact on accountability; and the impact on organisational operations. This concept is based on the output budgeting system concept provided by the treasuries of the Australian states and territories as well as the literature review about other budgetary systems in Chapter 2. Items representing this concept were developed on the basis of treasury guides about OBB (e.g. Western Australia

Treasury Department 1996a, b; VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Queensland Treasury 1998b) or modified from prior studies of Macleod (1971), Dean (1986b), Bellamy and Kluvers (1995); Kluvers (2001a), Melkers and Willoughby (2001), and Willoughby and Melkers (2001) about public budgeting systems based upon the literature noted in Chapter 2.

The ***dependent variables*** for this study include:

1. the usefulness of information generated by OBB within budget papers, specifically, the usefulness of items within budget papers; the usefulness of output performance information; and the usefulness of total output cost information;
2. the consequences of using OBB in Victorian government departments, specifically, the impact of OBB on the decision making; the impact of OBB on accountability; and the impact of OBB on organisational operations; and
3. the use of performance information.

The ***independent variables*** influencing each dependent variable are as follows:

1. For the dependent variable *the usefulness of items within budget papers*, the independent variables are readership, comprehension difficulties, purposes for using the budget papers (as proposed by SAC2), and personal characteristics.
2. For the dependent variables *the usefulness of output performance information* and *the usefulness of total output cost information*, the independent variables are purposes for using the budget papers (as proposed by SAC2), qualitative characteristics of the information (as proposed by SAC3), and personal characteristics.
3. For the dependent variable *the use of performance information*, the independent variables are knowledge about OBB and performance measures, performance information preparation, performance audits by external auditors, checking for accuracy of performance measures, and the educational training of performance measurement.

The variables *readership*; *comprehension difficulties*, and *personal characteristics* (age, gender, highest level of education, accounting background, performance measures training, duration in current or similar job, and area of responsibility or principal task) were included in the conceptual framework as being independent variables for this study based on the significant relationship found in the literature review as described in Section 3.4 (e.g. Epstein 1975; Lee and Tweedie 1975b; Epstein and Pava 1993).

Many factors may influence the perceived usefulness of information to users. In order to identify a set of comprehensive and significant items that represent each concept, a thorough examination of concepts was undertaken in the Australian treasuries guides to implement output budgeting and management of the six states and two territories, the accounting conceptual frameworks of various countries, including the Australian Statements of Accounting Concepts, and journals, as well as conference papers relating to OBB. Consequently, the independent variables and dimensions of each concept examined in the present study were those suggested by the existing literature review, the Australian treasuries guidelines, and some observations.

4.3 Propositions

As previously discussed, the two main research questions according to the aims of this study for assessing the usefulness of OBB were as follows.

Research Question 1: How useful is the information generated by OBB within the Victorian budget papers?

Research Question 2: What have been the consequences of using OBB in Victorian government departments?

To answer these two research questions, six propositions were developed for this study as outlined below.

4.3.1 Propositions for Research Question 1

The usefulness of information generated by OBB is investigated in three areas: the usefulness of items within budget papers; the usefulness of output performance information; and the usefulness of total output cost information. Three propositions were developed for Research Question 1, based on the proposed conceptual model presented in Figure 4.1.

According to the literature review in Chapter 3: Section 3.4, the perceived usefulness of financial reporting was found to be statistically correlated with several factors, such as *readership* (Epstein 1975; Anderson and Epstein 1996), *comprehension difficulties* (Epstein 1975; Lee and Tweedie 1981; Epstein and Pava 1993; Anderson and Epstein

1996), and *personal characteristics* (Baker and Haslem 1973; Lee and Tweedie 1975b; Chang and Most 1985; Jones et al 1985; Reed 1986; Anderson and Epstein 1996). Therefore, it is expected in this study that there is a relationship between usefulness variables and the following variables: readership; comprehension difficulties; purposes for using the budget papers; qualitative characteristics of information; and personal characteristics of users. This leads to the following proposition.

Proposition 1

There is a relationship between the usefulness of budget papers, in particular the frequency of use of budget papers and the usefulness of items within the budget papers, and:

(a) the readership;

(b) the comprehensiosn difficulties;

(c) the purposes for using the budget papers; and

(d) the personal characteristics of the users.

As mentioned earlier in Section 1.7.1, the Australian conceptual framework, including SAC2 and SAC3, is based primarily on the decision-usefulness model. Particularly, SAC2 is based on the principle that if the nature of the users and their purposes for using the financial report is known, it is possible to provide information that better meets the needs of those users. Consequently, this may lead to users being more satisfied and perceiving the information provided as more useful. Therefore, it is expected in this study that there is a relationship between the perceived usefulness of information and (a) the personal characteristics of users and (b) the purposes for using budget papers.

Furthermore, SAC3 is also based on the same assumption and further emphasises that information possessing certain qualitative characteristics will satisfy the needs of users and enhance the usefulness of information to users. Therefore, it is expected in this study that there is a relationship between the perceived usefulness of information and the qualitative characteristics of information. For this study, emphasis is placed on investigating the usefulness of performance information to users in terms of the qualitative characteristics proposed by SAC3. Performance information covers government activities and can be used to assess the performance of the government in an era of increasing accountability, an objective of this study.

Consequently, Proposition 2 was developed to investigate the usefulness of performance information in budget papers. Additionally, Proposition 3 was created to examine the usefulness of the total output cost information in budget papers. These two propositions are specified below.

Proposition 2

There is a relationship between the usefulness of output performance information and:

(a) the purposes for using the budget papers;

(b) the qualitative characteristics of performance information; and

(c) the personal characteristics of the users.

Proposition 3

There is a relationship between the usefulness of total output cost information and:

(a) the purposes for using the budget papers;

(b) the qualitative characteristics and usability of total output cost information; and

(c) the personal characteristics of the users.

4.3.2 Propositions for Research Question 2

The consequences of using OBB were investigated in three areas: the impact of OBB on decision making; accountability; and organisational operations. Answers to Research Question 2 were found by testing three propositions by means of using the findings from this study to determine whether the propositions were supported by the data.

4.3.2.1 The Impact of OBB on Decision Making

Many advocates of OBB claim that OBB will help governments to improve management information and provide better performance information to aid rational decision making (Pallot and Ball 1996; Western Australia Treasury Department 1996b, 2000; McTaggart 1997; VDTF 1997b, c; Trenorden 2001). Further, Boston et al (1996) stated that distinguishing purchase and ownership interests of the government, as well as the requirements of output financial reporting, resulted in facilitating the allocation of resources into key priority areas. Other advocates claimed that OBB systems facilitated output costing which would be used for rational budget allocations and lead to better resource allocation decisions (Holmes and Wileman 1995; VDTF 1997b; Commonwealth Department of Finance and Administration 1998).

Nevertheless, the critical question arises as to whether OBB will encounter some of the same problems as previous budgetary systems such as program budgeting. Wildavsky (1975) argued that information provided by program budgeting was often irrelevant to managers. As a result, managers could not use that information for decision making. Simpkins (1998) also shared the same view of the provision of non-useful information for decision making of the previous New Zealand budgetary system. Boston et al (1996) argued that the allocation of costs to departmental outputs had been particularly difficult. As a result, the cost information might not be useful for decision making. Recently, Olson et al (2001) also questioned whether the information reported in the new public financial management system was trustworthy, useful and used for decision making. Another argument is concerned with the problem of the impossibility of a rational comprehensive approach to decision making (Lindblom 1959; Wildavsky 1975). Therefore, whether the use of OBB will overcome these problems and has impact on decision making needs to be investigated. The fourth proposition is stated as follows.

Proposition 4

OBB has an Impact on Decision Making.

4.3.2.2 The Impact of OBB on Accountability

It was claimed that the pre-existing system of accountability was inadequate or lacked transparency (Guthrie 1998; Simpkins 1998). Therefore, OBB focused on the presentation of information on an output basis and was introduced to overcome or at least minimise the accountability and transparency problem. Proponents of OBB claimed that it would encourage greater accountability by governments (VDTF 1992a; OECD 1997b; Queensland Treasury 1998b; Western Australia Treasury Department 2000). Boston et al (1996) supported the view that the departmental reports based on output specification (in terms of quantity, quality, cost, location, and time); the clarification of departmental responsibilities; and the new model of performance reporting helped to hold managers accountable. Furthermore, the quantifiable nature of outputs made managers amenable to expenditure cutting and to contracting out. In addition, distinguishing purchase and ownership interests of the government and the requirement of output reporting would help the government to improve the transparency of governmental activities.

Nevertheless, Knight and Wiltshire (1977) argued that the inclusion of performance data in the budget document led to the danger of the automatic acceptance of the worth of a particular departmental activity. They discussed the difficulty in formulating data that accurately reflected an agency's output and activities, and the problem of the quality of performance. Several authors agreed that performance audits as well as careful and periodical reviews of performance data were essential if performance data were to be of any value in enhancing accountability (Babunakis 1976; Knight and Wiltshire 1977; Pallot and Ball 1996; Kluvers 2001a). Further, Knight and Wiltshire (1977) indicated that the inclusion of statistics and textual comment in budget papers led to the over-burdening of the documents with doubtful figures in assessing the value of departmental activities. Mascarenhas (1996) also found that public officials did not have time to make use of performance information. Given the controversy over the impact of OBB on accountability, the fifth proposition was created to examine these issues as follows.

Proposition 5

The use of OBB enhances accountability.

Furthermore, several authors supported the view that the use of performance measures in the public sector would enhance accountability of the government (VDTF 1997b; Kloot 1999; Commonwealth Department of Finance and Administration 2000; Kluvers 2001b). Therefore, the use of performance information and factors influencing the use of performance information by public officials in Victorian government departments are investigated in this study. A proposition was generated to examine factors affecting the use of performance information as follows.

The use of performance information generated by OBB is significantly related to:

(a) knowledge about OBB and performance measures;

(b) performance information preparation;

(c) performance audits by external auditors;

(d) checking for accuracy of performance measures; and

(e) the educational training of performance measurement.

4.3.2.3 The Impact of OBB on Organisational Operations

Many advocates of OBB claimed that OBB systems could assist organisational improvement by linking budget and performance over time; improving the effectiveness of resource allocation; increasing the understanding of government operations and the outputs to be produced; reducing duplicative activities; and improving responsiveness to customers (Holmes and Wileman 1995; South Australia Department of Treasury and Finance 1997b; VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Queensland Treasury 1998b; Campos and Pradhan 1999; Western Australia Treasury Department 2000). Therefore, it is expected that the use of the OBB in the public sector will help governments to improve their organisational operations. This leads to the following proposition.

Proposition 6

OBB has a positive impact on organisational operations.

4.4 Research Methods

Combined research methods including mail survey questionnaires and content analysis were used as the basic methods for collecting data in order to develop the conceptual analysis of the usefulness of OBB. Many authors agree that each data collection method has some biases (Nachmias and Nachmias 1996; Punch 1998; Blaikie 2000). Therefore, the use of a combination of methods is likely to reduce the biases and increase the validity and reliability of research data (Nachmias and Nachmias 1996; Sekaran 2000). If the findings from the different data collection methods are consistent, the internal validity of those findings is increased. This study therefore employed triangulation to overcome the biases that stem from use of a single method.

For this study, a quantitative survey questionnaire was used as the main method to answer the research questions, while a content analysis method was employed as a supplementary method to check and extend some results of the survey questionnaire findings. Other research methods were not appropriate for this study because they did not meet the objective of the present study or they might have been difficult to implement.

The participant observation method was considered to be an inappropriate method for this study because it was unlikely or impossible that the researcher would be allowed to observe or participate in the budgetary negotiations and decision making of government departments. Furthermore, according to the aim of this study, the researcher did not intend to develop a theory from an observation but aimed to substantiate existing theory by investigating the gap between the normative and descriptive theories or between the theory and practice (i.e. budget theory versus budget practice or qualitative characteristics of information based on SAC3 versus perceived quality of information). Grounded theory is more appropriate to use for the construction of theory rather than for the verification of theory. Therefore, grounded theory was not appropriate for this study.

4.5 Survey

The survey method was the most appropriate method for this study because it provided a straightforward method with which to measure user perceptions. According to the literature review in Section 3.3, the research method used most frequently in the user need studies was the postal questionnaire seeking information about user attitudes. Other methods such as structured or unstructured interviews, case studies and content analysis appeared less frequently. Most researchers of public budgeting (Jreisat 1990; Lee 1997; Kluvers 2001a; Melkers and Willoughby 2001) and government financial reporting (Henderson and Scherer 1986; Adam et al 1989; Carnegie 1990; Ingram and Robbins 1992; Coy et al 1997) used the mail survey method in their studies.

There are three methods of gathering data by using a survey: mail (including electronic mail and web based) questionnaires; personal interview; and telephone interview (Jones 1996; Nachmais and Nachmais 1996). The telephone interview has limitations on interview length and the complexity of the question. The personal interview faces the problem of interviewer bias, high cost because of travel tasks and it is time consuming (Cooper and Emory 1995). For the present study, a mail survey questionnaire seemed to be the most appropriate method of gathering data in preference to a personal or telephone interview for a number of reasons.

First, the population of this study consisted of hard-to-reach and very busy people with limited free time (i.e. Department Secretaries and Chief Executive Officers). Those hard-to-reach participants were best contacted by mail because an envelope can be addressed to a particular individual. Participants can reply at length to survey questionnaires at their own convenience (Cooper and Emory 1995; Nachmais and Nachmais 1996; Zikmund 1997; Sekaran 2000). Second, a mail survey can reach a large number of people with a minimum of cost and minimal staff involvement (Cooper and Emory 1995; Johnson 2002). Third, a mail survey can obtain responses to an extensive and relatively long questionnaire as employed by this study. Fourth, the questionnaires in this study might include some sensitive questions. A mail survey is perceived as an impersonal survey method and assures a higher degree of anonymity than other survey methods. Therefore, a mail survey can encourage participants to reply and give honest responses to sensitive questions (Cooper and Emory 1995; Nachmais and Nachmais 1996; Johnson 2002). Finally, the absence of the interviewer means that there is no interviewer bias that results from the personal characteristics of interviewers and variability in their skills (Nachmais and Nachmais 1996).

Nevertheless, the absence of the interviewer in the mail survey may have disadvantages because there is no interviewer to probe for additional information or clarify an ambiguous answer. Thus, questions and instructions must be clear-cut, simple, and straightforward (Zikmund 1997). Otherwise respondents must use their own interpretations of what the questions mean, which may be wrong. As a result, each respondent might attach a different personal meaning to each question. Moreover, respondents usually examine questionnaires before answering so that they can skip questions or come back to them later. This may bias the responses. Furthermore, questions may be biased towards the ideas of the researcher. By structuring questions in the questionnaires, the respondents may be manipulated to give responses for which the researcher is searching (Jones 1996). In some situations, respondents may think that there is a preferred answer for the question, thus they do not respond honestly to the question (Babbie 2001). Finally, conducting a mail survey needs to have accurate and up-to-date mailing lists which might be difficult to obtain.

Despite the limitations, a mail survey was used for the purpose of the present study with precautions to minimise bias in designing the survey questionnaires; employing survey procedure; selecting the population to whom the questionnaire was sent; analysing the responses; and drawing conclusions from the findings. In addition, the OBB questionnaire used in this study was pilot tested to ensure the suitability of the questions. Furthermore, to assure the validity of results from the survey questionnaires with a small population size, effort was devoted to ensuring an adequate response rate to the OBB questionnaire. Several techniques were used to increase the response rate as follows: limiting the questionnaire length; providing prepaid reply envelopes; sending two follow-up mails; ensuring anonymity; using a cover letter to convince respondents of their significant contributions to the success of the study; and offering a complimentary copy of the results.

In summary, this study employed a mail survey to investigate the perceptions of respondents about the usefulness of OBB. In the next sections, population, questionnaire design, reliability and validity of the survey instruments, survey procedure and data analysis technique are discussed.

4.5.1 Population and Samples

To achieve the aims of this study, the population was identified as Victorian public officials who worked for Victorian government departments in areas related to output budgeting and management during the budget year 2002/03 and who were the users of the 2002/03 Victorian budget papers. After considering the Victorian government directory, it was found that many of the public officials were not the recipients of budget papers. Therefore, the population was restricted to those public officials, who met both of the following criteria:

1. public officials, whose names were listed in the 2002/03 Victorian government directory and who worked for government departments in the area of output budgeting and management, such as finance, budgeting, accounting, policy and planning, and performance review or evaluation; and

2. public officials who held positions identified in the budget papers recipient list as being: secretaries; deputy secretaries; executive directors; directors; chief financial officers; chief planning officers; and managers of Victorian government departments.

In summary, the population consisted of users of the Victorian budget papers who worked for Victorian government departments in the area related to OBB. This was to ensure that respondents were familiar with the topic under investigation relating to both the usefulness of information within the Victorian budget papers and the consequences of OBB in government departments. Due to the specific characteristics of the population, a combination of two databases was used to obtain the mailing list and total population of this study.

First, the database for the population of the Victorian public officials who worked for the nine departments during the budget year 2002/03 (during the period when this research was conducted) was obtained from the 2002/03 Victorian government directory. This database was used because the Victorian government directory was the most comprehensive, reliable and up-to-date directory of Victorian department public officials. Furthermore, the directory was publicly available and provided names, positions, addresses, telephone numbers and e-mail addresses of Victorian public officials who worked in the budget year 2002/03. This contact information, especially names of the potential participants, enabled the researcher to send questionnaires to particular individuals by indicating their names, positions and addresses on the envelopes.

Second, the database for the population of the users of the 2002/03 Victorian budget papers was obtained from the budget paper recipient list provided by the VDTF. It was important to obtain the recipient list from the VDTF because it was the government department responsible for the production and distribution of the Victorian budget papers to all recipients including all Victorian government departments. Specifically, the population and criteria of the recipients of the 2002/03 Victorian budget papers were obtained from the officer responsible for the recipient list of the Victorian budget papers. The names and contact addresses of the participants from the budget papers recipient list according to the criteria provided by the VDTF were obtained from the 2002/03 Victorian government directory and publicly available information from all nine Victorian government departments websites through the Internet.

After some time spent identifying the total population, especially for the recipients of budget papers across nine Victorian government departments, it was determined that there were 213 public officials who met the criteria of being the population of this study. Due to the relatively small population, this study therefore surveyed the entire population thereby providing data that was not only accurate but also precise (Zikmund 1997). The questionnaire was addressed to 213 particular individuals. Four questionnaires were undelivered and returned to the sender by the post office. This effectively reduced the population survey size to 209.

4.5.1.1 Identifying the Users of the Budget Papers in this Study

A review of prior studies shows that at least three methods have been employed to identify and survey users of public sector general purpose financial reports, in particular, of government annual reports: self identification by user volunteers; third party identification of users (i.e. preparers); and users in the recipient list of financial reports.

The first method aims to identify actual users of government financial reports by means of placing a questionnaire in annual reports held in public libraries (Butterworth et al 1989) or inserting a card in annual reports distributed by the institutions (Coy et al 1997) and then, waiting for users to self-identify and return the card to the researcher. Those who return a card are then surveyed. There are several reasons why this method was not appropriate for this study. First, this method was impossible to employ for this study because the 2002/03 Victorian budget papers had already been distributed to the recipients by the VDTF in May 2002 prior to undertaking the survey for this study which was conducted in November 2002. Therefore, the researcher could not place the questionnaire in budget papers when they were distributed. Furthermore, it is unlikely that the researcher would have been allowed to insert cards or questionnaires in the budget papers when they were distributed. The researcher informally made a request to the VDTF to distribute the questionnaire to people on its mailing list on the researcher's behalf without providing the mailing list to the researcher. The researcher also undertook to be responsible for all expenses of mailing out the survey questionnaires including the prepaid reply envelopes. However, the VDTF was reluctant to distribute the questionnaire on the researcher's behalf. Finally, as this method relies on respondent

volunteers to self-identify it cannot be regarded as capturing a comprehensive set of all users.

The second method of identifying users is by means of seeking the views of senior internal members of government departments or account preparers (Atamian and Ganguli 1991; Jones and Puglisi 1997). The problem with this approach is that it relies on the judgments of the third party, thereby limiting the validity of any findings or conclusions drawn.

The third method of identifying and surveying users of public sector general purpose financial reports is to survey users on the actual recipient list of annual reports by government authorities (Jones and Puglisi 1997). This study employed the third method to identify users by relying on the researcher's inspection of the actual lists of recipients of budget papers because it provided several advantages. First, relying on the recipient list was considered to be a more objective and reliable source of information because it was not dependent on those recipients responding to identify themselves, thus there was less chance of missing information. Second, this method considered the data of actual recipients rather than third party judgments, which relied on the perceptions of report preparers or senior internal members in the organisation. Finally, according to de Vaus (2002) it is common for mail surveys to use particular lists to obtain the population or sample frame. This study therefore identified users of the Victorian budget papers as persons, who were in the actual lists of budget paper recipients provided by the VDTF.

Nevertheless, there are at least two identifiable limitations when relying on recipient lists to identify users. First, not all recipients who receive budget papers will actually use the budget papers. Second, there may be other actual users of budget papers, who gain access to budget papers from other sources rather than directly receiving budget papers from the VDTF, for example, borrowing budget papers from a library or getting budget papers via the Internet. However, it should be noted that although there may be other users of budget papers, it is likely that public officials are the prime users of budget papers rather than external users. Despite these limitations, this study relied on a recipient list to identify users of budget papers because the aims and population of this study focused mainly on users of the budget papers, who were public officials.

Therefore, using a recipient list was considered to be sufficient and appropriate in providing a comprehensive and objective list of public official users of budget papers.

4.5.2 Questionnaire Design

According to the aims of the present study, the questionnaire was designed to measure: (1) perceptions of budget paper users on the usefulness of items and performance information generated by OBB within the budget papers; and (2) perceptions of public officials on the consequences of using OBB in the public sector. The questionnaire (see Appendix 1) consisted of 68 questions within four Sections printed in a six-page booklet on pale colored paper. The details of each section are described as follows.

Section A (Questions 1-9) was designed to evaluate general knowledge and understanding of OBB and performance measures by public officials who were users of budget papers.

Section B (Questions 10-23) was designed to assess perceptions on the usefulness of information generated by OBB. Questions in this section were devised and divided amongst four main concepts. First, Questions 10-15 were designed to assess perceptions on the usefulness of items within the Victorian budget papers. Second, Questions 16-18 were designed to assess perceptions on the usefulness of output performance information. Third, Questions 19-22 were designed to assess the extent to which performance measures were used. Fourth, Question 23 was designed to assess perceptions on the usefulness of total output cost information.

Section C (Questions 24-58) was designed to examine the consequences of using OBB in the public sector. Questions in this section were developed and divided amongst three main concepts. First, Questions 24-35 were designed to assess perceptions about the impact of OBB on decision making. Second, Questions 36-48 were designed to assess perceptions about the impact of OBB on accountability. Third, Questions 49-58 were designed to assess perceptions about the impact of OBB on organisational operations. Question 59 sought information about various problems since the implementation of OBB. Question 60 was intended to measure the degree of effectiveness of using OBB.

Finally, *Section D (Questions 61-67)* was concerned with personal information about participants and Question 68 involved opinions about the best alternative of implementing OBB. Table 4.1 summarises variables and questions in the OBB questionnaire for each concept according to the conceptual framework, Figure 4.1.

Table 4.1: Questions in the OBB Questionnaire Classified by Concept

Variables in the OBB Questionnaire	Question(s)
Usefulness of information generated by OBB within budget papers	
OBB concept and overall usefulness of OBB	1,58, 68
Knowledge about OBB and performance measures	2 - 9
Readership	12
Purposes for using budget papers	13
Comprehension difficulties	14
Usefulness of items within budget papers	10,11,15
Usefulness of output performance information	16 a,b,c,d 17 a,b,c,d
Usefulness of total output costing information	16 c, 17c
Qualitative characteristics	18 and 23
Use of performance information	19
Performance information preparation and performance audit	20,21,22
Consequences of using OBB: Impact on	
Decision making	24,25,26,27,28,29,30,31, 32,33,34,35,60 (a,b)
Accountability	36,37,38,39,40,41,42,43, 44,45,46,47,48,60 (c,d)
Organisational operations	49,50,51,52,53,54,55, 56,57, 59, 60 (e,f,g,h)
Personal Characteristics	61,62,63,64,65,66,67

4.5.2.1 Development of Questionnaire Items

An extensive search of the literature in the area of output budgeting and users of government financial reporting revealed that there has been very limited research, particularly in respect of budget papers and the consequences of using OBB in Australia. No existing questionnaire was found to be directly applicable, specifically addressing all issues focused on by this study.

Even though some previous studies focused on testing the relationship between the usefulness of information in financial reports and the readership as well as the comprehension difficulties (e.g. Epstein 1975; and Anderson and Epstein 1996), these studies focused on testing the relationship of those variables within private sector annual reports. None of the studies examined budget papers and addressed the issue of

the relationship between the usefulness of information and the qualitative characteristics of the information as well as the purposes of using the financial reports.

Furthermore, some previous studies addressed the issues of the consequences of using other budgetary systems, such as performance based budgeting (Willoughby and Melkers 2000) and program budgeting (Kluvers 2001a). However, the studies did not focus on output based budgeting systems and did not focus on the departmental level. Consequently, some questionnaire items were developed or modified from previous studies. Otherwise, additional questions were developed as suitable to use in the present study based on well defined existing theoretical framework and concepts.

4.5.2.2 Format of Questions

Most questions in the questionnaire were shown in closed form, in which the respondents were offered a choice of alternative replies. There are a number of advantages in using closed questions. First, they are easy to use and enable respondents to complete the questionnaire quickly, thus they might attract the interest of respondents in answering the questionnaire. Second, there is less chance of losing data due to indecipherable handwriting or unique spelling (Johnson 2002). Third, quantification of the answers is straightforward (Oppenheim 1966). Fourth, closed questions enable more questions to be asked within a given length of time. Finally, closed questions allow respondents to classify themselves into the categories provided. Nevertheless, using closed questions is at the expense of not providing relevant data or limiting freedom of choice to the respondents, hence loss of expressiveness.

The use of open questions was minimised for reasons of coding and comparability. A few questions used dichotomous scales and categorical scales supplemented with "other" as a category option at the end of the question. The majority of questions in the questionnaire used a Likert-type scale. Rating scales are commonly used for attitude scales because they facilitate comprehension of responses (Zikmund 1997; Sekaran 2000; Johnson 2002), and have been used in similar studies (Epstein 1975; Anderson and Epstein 1996). A rating scale was used rather than a ranking format because rating is less time consuming and easier to perform, especially for long lists of items. A matrix format was used in a number of questions to enable comparability of responses to different questions and to enable respondents to complete the questionnaire quickly.

Nevertheless, the disadvantage of rating is that it is possible that different respondents might interpret the scale differently. For the preent study, the advantages of using a rating scale and a matrix format were judged to outweigh the potential disadvantages.

To enable systematic measurement, the five point Likert scale was consistently used in most questions to elicit the perception of the respondents. It has been recommended that, when using a rating scale asking for the level of agreement, researchers should provide an undecided category for respondents (Nachmias and Nachmias 1996; Sekaran 2000; Johnson 2002). Therefore, most questions asked respondents to rate the extent of their agreement or disagreement using a five point Likert scale anchored at 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree.

4.5.3 Pilot-testing

The purpose of the pilot testing was to confirm the clarity and content validity of the questionnaire. This process aimed to ensure that the questions would be understood by respondents and would include relevant data. A pilot cover letter (see Appendix 2) was used to explain the aims of the research and to request comments with a view to amending the questionnaire in regard to the format, the instructions, the content, and the time required to complete the questionnaire. The pilot questionnaire was first pre-tested with research professionals, English language academics, and university colleagues to comment on the difficulties of wording, the format and instructions of the questionnaire. In late October 2002, a pilot cover letter together with a questionnaire was sent to eight selected people, who had extensive experience in the public sector, especially in the area of government financial reporting and the Victorian budgeting system. Six respondents commented on the pilot questionnaire. Specifically, the pilot questionnaire was tested in Victoria by two professorial academics in public budgeting and accounting; three academics and practitioners in economics, accounting, and performance measurement who had extensive experience working in the public sector (e.g. who used to be a Victorian department head or public official); and one public budgetary official currently working at the VDTF. Overall, the results of the pilot testing confirmed that the time required to complete the questionnaire was reasonable; the questions were clear and understandable; the instructions were easy to understand; and the questions were suitable for the intended participants. After considering all of the comments of those participants, modifications to the questionnaires were minimal.

4.5.4 Validity of the Questionnaire

To ensure that the questionnaire used in the present study accurately and adequately represented the meanings of concepts, content and construct validity tests of the questionnaire were performed.

4.5.4.1 Content Validity

The content validity of the questionnaire was tested by using a pilot testing of the questionnaire as described earlier. The results of the pilot testing confirmed that the questionnaire was valid and suitable as an instrument for measuring the perceptions of public officials who had experience with OBB and who were users of the budget papers. There was agreement amongst professionals and practitioners that the measures used in the questionnaire were accurately represented and that they adequately covered the concepts that had been defined as the relevant dimensions. The questionnaire appeared to measure the concepts that it was expected to measure. As stated earlier in this chapter, the questionnaire items were developed based upon well defined and accepted definitions of each concept from the literature review, i.e. the treasury guidelines and the statements of accounting concepts described in Chapters 2 and 3. Therefore, the questionnaire was also considered to be theoretically valid. In summary, the review of content validity confirmed that the construct was theoretically meaningful. However, due to the subjective nature of content validity, it was perceived as not being a sufficient measure of validity. Therefore, this study tested the construct validity of the measuring instrument by using the statistical tools of factor analysis.

4.5.4.2 Construct Validity

For this study, the construct validity of the instrument was tested using factor analysis, which has been used extensively by researchers in developing and evaluating scales (Cooper and Emory 1995; Dixon 2001; Pallant 2001). The reason for using factor analysis was its ability to assess the degree to which items were measuring the same concepts or dimensions and enabling the assessment of the factorial validity of the questions (Bryman and Cramer 2001). Specifically, factor analysis is a multivariate technique that can confirm the dimensions of a concept and identify which items are most appropriate for each dimension (Hair et al 1998; Sekaran 2000).

Before considering the use of factor analysis, the data of this study was tested to ensure that the assumptions underlying the application of factor analysis were not violated. Dixon (2001) discussed two assumptions underlying the application of factor analysis. First, the data should be non-dichotomous and interval scaled, or data that the researcher has specifically decided to treat as interval such as Likert type scale data. Second, data should be approximately normally distributed. The data for this study were tested for the normality of distribution. The results of the skewness and kurtosis statistics of data in this study, indicated that all items relating to the qualitative characteristics of performance and total output cost information were normally distributed. Consequently, the assumptions of factor analysis were not violated because the data were in the Likert scale form and normally distributed. Therefore, the data were appropriate for factor analysis.

Two further main issues needed to be investigated in order to ensure that the data were suitable for using factor analysis: the sufficiency of the sample size and the appropriate factorability of the data (Bryman and Cramer 2001; Pallant 2001). The reliability of the factors resulting from a factor analysis depends on the size of the sample. Although there is no consensus on how large a sample should be, there is a common agreement that there should be more participants (cases) than variables (items) and the larger the sample size the better (Pallant 2001).

Hair et al (1998) recommended that factor analysis should not be used for a sample of fewer than 50 observations. Nevertheless, most authors suggest a minimum sample size of 100 (Gorsuch 1983; Tabachnick and Fidell 1996; Hair et al 1998). However, Tabachnick and Fidell (1996) suggest at least 300 cases for factor analysis. Some authors were concerned with the ratio of cases to items rather than the overall sample size. Nunnally (1978) and Hair et al (1998) suggested that a ratio of 10 cases for each item would be a more acceptable sample size for factor analysis in order to generalize the sample to a wider population. Nevertheless, most authors propose a minimum of five cases per item with no fewer than 100 cases per analysis (Gorsuch 1983; Tabachnick and Fidell 1996; Hair et al 1998). A minimum ratio of five cases per item was used as a cut-off point for evaluating the adequacy of the sample size for this study.

Data relating to the qualitative characteristics of information as well as the consequences of using OBB were checked for the sample size sufficiency. For the concept relating to qualitative characteristics of performance information, there were 93 respondents and 15 items, representing a ratio of 6.2 cases per item. For the concept related to qualitative characteristics of total output cost information, there were 93 respondents and nine items, representing a ratio of 10.3 cases per item. According to Gorsuch (1983) and Hair et al (1998) the total number of 93 respondents of this study might be perceived as insufficient because it was less than 100. However, the sample size was above 50 responses and very close to the minimum requirement of 100 responses. Furthermore, the ratios of cases per item were above the minimum threshold of five cases per item. Therefore, the data of this study relating to the qualitative characteristics of information reasonably met the minimum acceptable level of sample size in terms of cases per item and hence were suitable for factor analysis.

In respect to another main concept related to the consequences of using OBB, there were 93 respondents and 41 items, representing a ratio of 2.27 cases per item. The data of this concept did not meet the minimum ratio of five cases per item and would prohibit reliable factor analysis. The sample deficiency could increase the chances of overfitting the data, hence deriving factors that were sample specific with little generalisability. Therefore, the concept of consequences of using OBB was not tested for the construct validity using factor analysis. However, it was tested for content validity and reliability of the construct.

The second issue concerned the appropriate factorability of the data. Factor analysis is based on correlations among the items. If there are no significant correlations among items, the data are inappropriate for factor analysis. To assess the factorability of the data, two statistical tests are frequently used: Bartlett's Test of Sphericity (Hair et al 1998; Dixon 2001; Pallant 2001; Coakes and Steed 2003) and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Dixon 2001; Pallant 2001; de Vaus 2002; Coakes and Steed 2003). The use of factor analysis is considered appropriate if Bartlett's test of sphericity is significant with the value of Bartlett's test less than 0.05 ($p<0.05$) and the KMO measure of sampling adequacy is greater than 0.7 (Dixon 2001; de Vaus 2002). With the significant value of Bartlett's test, the hypothesis that the correlation matrix is an identity matrix can be rejected, thus factorability is assumed.

In other words, there are significant correlations among items. Therefore, the data are suitable for factor analysis.

The results in Table 4.2 revealed that the data of this study had both the significant values of Bartlett's test and the acceptable values of KMO at 0.776 and 0.750 for the qualitative characteristics of performance information and total output cost information, respectively. Consequently, the data were appropriate for the use of factor analysis.

Table 4.2: KMO and Bartlett's Test of the Qualitative Characteristics of Performance Information and Total Output Cost Information

Results	Qualitative Characteristics of	
	Performance Information	Total Output Cost Information
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.776	.750
Bartlett's Test of Sphericity		
Approx. Chi-square	600.690	314.783
df	105	36
Sig.	0.000	0.000
Source: Data from survey questionnaire Section B	Question 18	Question 23

This study employed principal components analysis rather than principal axis factoring analysis for factor extraction because it is simpler mathematically; easier to interpret; and less complicated but provides a good solution for confirming the correct number of factors (Hair et al 1998; Pallant 2001). The aims of using factor analysis were to confirm the dimensions of the construct and most importantly to check whether measures constructed for each dimension were correctly grouped and met the expected concepts as theorized. This study used a prior criterion as a method to select the number of factors to extract because it is appropriate to use under the circumstance that the researcher already knows how many factors to extract before undertaking the factor analysis (Hair et al 1998). Specifically, for the concept relating to the qualitative characteristics of performance information, there were four factors to be extracted based on the concepts in SAC3 with the number of variables being 15. For the concept relating to the qualitative characteristics of total output cost information, there were five factors to be extracted, based on the concepts in SAC3 and previous studies, with the number of variables being nine. According to Hair et al (1998), using eigenvalues as a criterion for selecting the number of factors is most reliable when the number of variables is between 20 and 50. As the number of factors to extract for each concept of

the quality of information was already known and the number of variables was less than 20, a prior criterion was appropriate to use in identifying the number of factors to extract for this study.

Further, varimax rotation, the most widely used orthogonal approach (Pallant 2001; de Vaus 2002; Coakes and Steed 2003) was employed in clarifying which variables belonged to which factors; giving a clearer separation of the factors; reducing the number of complex variables; and identifying the variables that were the most representative of the factors (e.g. those with the highest factor loading).

Factor loadings indicate the degree of the correlation between the variable and the factor, with higher loading making the variable representative of the factor. Although there is no absolute rule as to how high a factor loading should be before a variable is considered to be loaded on a factor, there is a common agreement that factor loading should not be below 0.30 (Hair et al 1998; de Vaus 2002). As a rule of thumb, "factor loadings greater than .30 are considered to meet the minimal level; loadings of .40 are considered more important; and if the loadings are .50 or greater, they are considered practically significant" (Hair et al 1998, p.111).

For the purposes of the interpretation of the rotated factor, the factor loading of at least 0.40 is considered to be of significant value for the present study. In the case that a variable loads more than one factor, the factor with higher loadings is retained because it is considered more important and has greater influence in representing a factor. However, a factor that has a slightly lower factor loading can be retained if the researcher has prior knowledge of theory, suggesting that the factor with a slightly lower factor loading would logically be representative of the dimension and is in fact more reliable than the highest loading factor (Hair et al 1998). For this study a factor with a slightly lower factor loading could be retained only when it logically represented the dimension based on SAC3, the previous studies, or the results of the content validity from the pilot testing.

4.5.4.3 Results of the Factor Analysis

Factor analysis was performed to test the construct validity of the main concepts about the qualitative characteristics of performance information and total output cost information because the data met the requirements for using factor analysis as described earlier.

The 15 items of the qualitative characteristics of the performance information concept were tested for construct validity by using principal components factor analysis. Principal components analysis revealed that there were four factors with eigenvalues exceeding one, explaining 37.4%, 13.0%, 10.0% and 7.6% of the variance, respectively. If all four factors were retained, 68.0% of the variance would be explained. These significant four factors conformed to the expected four factors of relevance, reliability, comparability and understandability based on SAC3.

To assist the interpretation of the four factors, varimax rotation was performed. The rotated solution (see Table 4.3) revealed that all 15 items had factor loadings above 0.4, hence were considered to be of significant value. However, there were three complex variables, which had significant factor loadings on two factors for each variable: item 18E (the information is a good presentation of the facts without bias); item 18I (the information enables me to compare performance of an entity over different years); and item 18L (the presentation of the information is consistent over time).

In regard to items 18E and 18I, the factors with higher factor loadings were retained. These factors met the common requirement as having the higher factor loadings and logically represented the meaning of dimensions according to the theoretical concept of SAC3. Regarding item 18L, the factor with slightly lower factor loading was retained because it logically represented the meaning of the *comparability* dimension according to the SAC3 theoretical concepts. Specifically, item 18E had a higher factor loading on factor 3 (reliability) than that of factor 1 (understandability). Therefore, item 18E was classified into factor 3, representing the reliability dimension. In addition, item 18I had a higher factor loading on factor 4 (comparability) than that of factor 1 (understandability). Therefore, item 18I was classified into factor 4, representing the comparability dimension. Regarding item 18L, the slightly lower factor loading on

factor 4 representing the comparability dimension was retained, because of the logic of the question based on the theoretical concept of SAC3.

Table 4.3: Rotated Component Matrix[a] for Qualitative Characteristics of Performance Information

	Component			
	1 Understandability	2 Relevance	3 Reliability	4 Comparability
QPI_18A		.491		
QPI_18B		.700		
QPI_18C		.878		
QPI_18D		.905		
QPI_18E	.470		.513*	
QPI_18F			.602	
QPI_18G			.813	
QPI_18H			.785	
QPI_18I	.539			.544*
QPI_18J				.789
QPI_18K				.854
QPI_18L			.447	.412*
QPI_18M	.869			
QPI_18N	.799			
QPI_18O	.766			

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.
* significant factors that were retained to represent the variables (items)

In summary, the interpretation of the 15 items with four factors conformed to the theoretical concept of SAC3. *Understandability* items were loaded strongly on factor 1, *relevance* items were loaded strongly on factor 2; *reliability* items were loaded on factor 3; and *comparability* items were loaded on factor 4. The results of this analysis supported the use of relevance items, reliability items, comparability items, and understandability items as separate scales.

The nine items of the qualitative characteristics of the total output cost information concept were also tested for construct validity by using a principal components analysis. As stated earlier, this study used a prior criterion to select the number of factors to extract based on the theoretical concepts of SAC3 and previous studies. Five factors were extracted for the qualitative characteristics of total output cost information: relevance; reliability, comparability; understandability; and usability. The principal components analysis revealed that if all five factors were retained, 86.1% of the variance would be explained. To assist the interpretation of the five factors, a varimax

rotation was performed. The rotated solution (see Table 4.4) revealed that all nine items had factor loadings above 0.6, hence they were considered to have a practically significant value.

However, there were three complex variables, which had significant factor loadings on two factors for each variable: item 23C (the information enables me to compare output costs of an entity over different years); item 23E (the information enables me to compare output costs of government departments against private sector counterparts); and item 23F (the information is presented in an understandable format). Conforming to the common rule, all factors with higher factor loadings and logically representing the meanings of dimensions were retained. As a result, the factors with higher factor loadings of the items 23C, 23E, and 23F were retained, representing the dimensions of *comparability* and *understandability* according to the SAC3 theoretical concepts. Specifically, item 23C had a higher factor loading on factor 2 (comparability) than that of factor 1 (understandability). Therefore, item 23C was classified into factor 2, representing the comparability dimension. Item 23E had a higher factor loading on factor 2 (comparability) than that of factor 4 (relevance). Therefore, item 23E was classified into factor 2, representing the comparability dimension. Finally, item 23F had a higher factor loading on factor 1 (understandability) than that of factor 5 (reliability). Therefore, item 23F was classified into factor 1, representing the understandability dimension.

Table 4.4: Rotated Component Matrix[a] for the Qualitative Characteristics of Total Output Cost Information

	Component				
	1 Understandability	2 Comparability	3 Usability	4 Relevance	5 Reliability
QC_23A				.853	
QC_23B					.864
QC_23C	.595	.666*			
QC_23D		.877			
QC_23E		.648*		.487	
QC_23F	.692*				.476
QC_23G	.840				
QC_23H			.861		
QC_23I			.820		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 10 iterations.
Component Matrix: 5 components extracted.
* significant factors that were retained to represent the variables (items)

In summary, the interpretation of the nine items with five factors conformed to the theoretical concepts of SAC3 and previous studies. *Understandability* items were loaded strongly on factor 1; *comparability* items were loaded strongly on factor 2; *usability* items were loaded strongly on factor 3; *relevance* items were loaded strongly on factor 4; and *reliability* items were loaded strongly on factor 5. The results of this analysis supported the use of relevance items, reliability items, comparability items, understandability items, and usability items as separate scales.

4.5.5 Reliability Analysis of the Questionnaire Items

Before carrying out statistical tests, the research instrument was tested for reliability. Reliability of the multi-item measures rather than single item measures of the key variables in the questionnaire was tested by using Cronbach's alpha coefficient, the most commonly used method to assess the internal consistency or homogeneity among items (Cooper and Emory 1995; Bryman 2001). Cronbach's alpha coefficient was selected to assess the reliability of the questionnaire items because it could estimate the internal consistency of an instrument containing items that did not have right or wrong marking schemes (no binary answer) and it could be used for questionnaire items using Likert scales (Black 1999).

The present study used an alpha coefficient to measure the degree to which instrument items were homogeneous and reflected the same underlying construct. The value of an alpha coefficient can range from zero (no internal consistency) to one (complete internal consistency). Several authors recommend that an alpha value of at least 0.70 should be considered acceptable as the minimum estimation of reliability for basic research (Nunnally 1978; Pallant 2001; de Vaus 2002). Moreover, Sekaran (2000, p.312) suggested that "The closer the reliability coefficient gets to 1.0, the better. In general, reliabilities less than .60 are considered to be poor, those in the .7 range, acceptable, and those over .8 good."

A high alpha coefficient indicates that the items capture the construct and share in the common core of the construct. In the case of the present research, alpha coefficients were calculated for the multi-item measures of the major constructs of the qualitative characteristics of information including the dimensions of relevance, reliability, comparability, understandability and usability as well as the consequences of using OBB, including the dimensions of impact on decision making, accountability and organisational operations. Table 4.5 presents the reliability results of Cronbach's alpha coefficient for key variables used in this study.

Table 4.5: Reliability Results

Variables and Dimensions	Number of Cases	Reliability Coefficients (Cronbach's alpha)*
Qualitative Characteristics of Output Performance Information		
- Relevance (Question 18 a-d; 4 items)	88	0.7936
- Reliability (Question 18 e-h; 4 items)	82	0.7565
- Comparability (Question 18 i-l; 4 items)	86	0.7378
- Understandability (Question 18 m-o; 3 items)	89	0.8977
Qualitative Characteristics of Total Output Cost Information**		
- Comparability (Question 23 c-e; 3 items)	85	0.7016
- Understandability (Question 23 f-g; 2 items)	87	0.8731
- Usability (Question 23 h-i; 2 items)	87	0.7869
Consequences of Using OBB		
- Impact on decision making (Question 24-34, 60a-b; 13 items)	85	0.8949
- Impact on accountability (Question 36-48, 60c-d; 15 items)	85	0.8338
- Impact on organisational operations (Question 49-57, 60e-h; 13 items)	88	0.8081

* The conventional value = 0.7

** Cronbach's alpha coefficient is used to measure the reliability of one concept that comprises multi-item measures rather than single-item measures (de Vaus 2002). Thus, Cronbach's alpha coefficients were not calculated for relevance and reliability dimensions of the qualitative characteristics of the total output cost information, using single-item measures.

All of Cronbach's alpha coefficient values for the present study were quite high, at an acceptable level, with the values ranging from 0.70 to 0.89. Therefore, according to Sekaran (2000), the internal consistency reliability of the measures used in this study could be considered to be acceptable. This was to confirm that each dimension of the key variables was likely to measure a single factor.

4.5.6 Ethical Considerations

Before conducting the mail questionnaire survey, this research was approved by the Human Research Ethics Committee of Victoria University in October 2002. A covering letter and a reply paid envelope were attached to each mail-out questionnaire. The aim

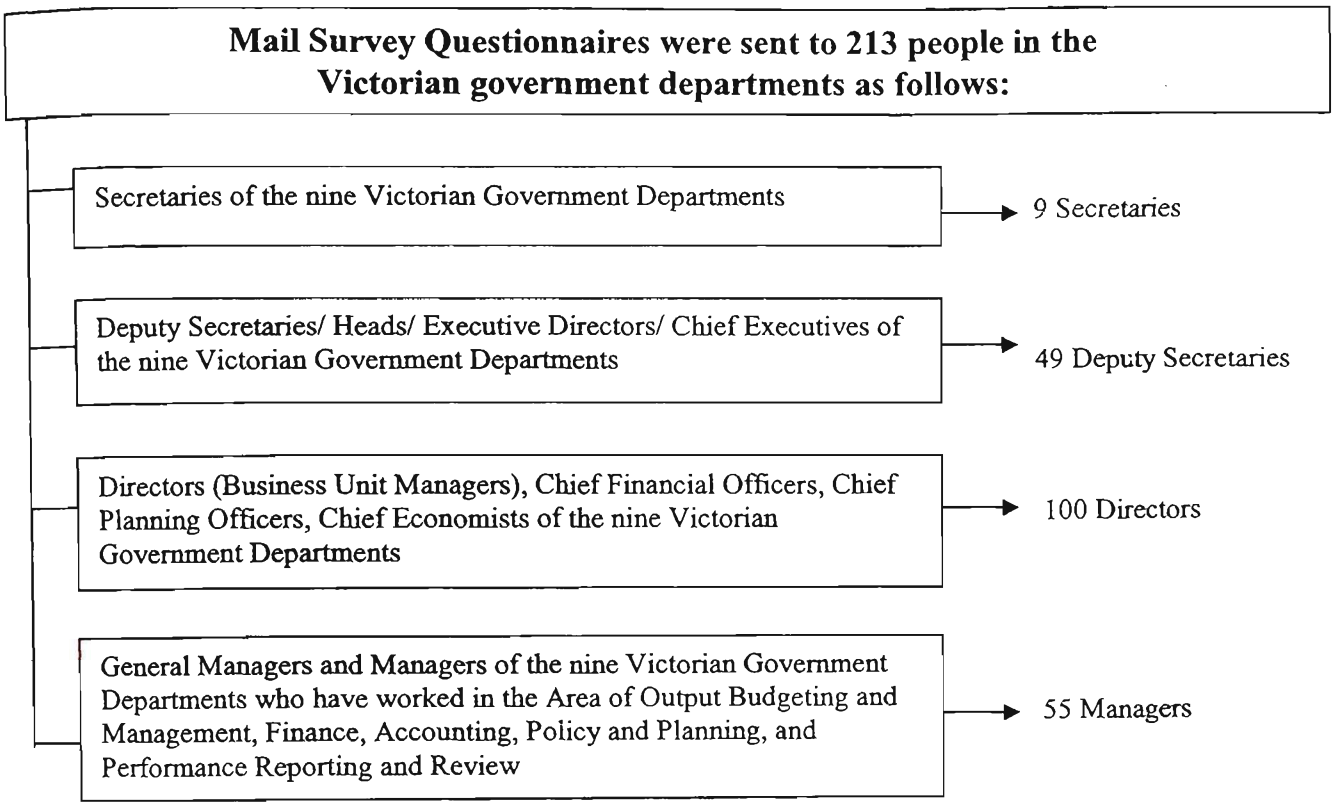
of the covering letter was to: invite and encourage respondents to participate in the research; explain the purposes and the benefits of the research; assure the anonymity of responses; explain the definition of OBB; and provide contact details for those who had any queries regarding the research project, or would like to receive a copy of the summary of the survey results.

To ensure the anonymity of the responses, this research undertook several confidential strategies. First, all questionnaires and prepaid reply envelopes provided to all participants were not assigned an individual identification number. Second, respondents were not required to provide their names in the questionnaires. Third, completed questionnaires were kept in a secure place under the control of the Victoria Graduate School of Business. Only the researcher and supervisors could access the data. Finally, the results of this study were reported in aggregated form so that individual responses could not be recognised. There were three main reasons of assuring anonymity: first, to improve the quality and honesty of responses, especially on sensitive issues; second, to encourage participation in the research hence improving the representativeness of the sample; and third, to protect the privacy of respondents.

4.5.7 Survey Procedures

In late November 2002, the first questionnaire along with a covering letter (see Appendix 3) and a prepaid reply envelope (addressed directly to the researcher) were sent to 213 public officials across the nine Victorian government departments. The distribution of questionnaires is presented diagrammatically in Figure 4.2. The questionnaires were sent to all of the individuals with specific names and titles on the envelopes. This procedure was done to ensure that the participants would be the persons who were on the recipient list of the 2002/03 budget papers and to facilitate the follow-up procedure. According to Wallace and Cooke (1990), a follow-up procedure is a way of weakening the resistance of potential non-respondents and three or more mailings of a questionnaire should be used. The present study, therefore, employed the three mailing procedure of the questionnaires for collecting the mail survey data in an effort to ensure an adequate response rate to the OBB questionnaire.

Figure 4.2: Diagrammatic Demonstration of Questionnaire Distribution



Sources: Developed from information provided by the Victorian Department of Treasury and Finance and the Victorian Government Directory 2002/2003 (Information Victoria 2002).
Note: Only 209 questionnaires were successfully delivered.

As the returned questionnaires could not be identified with a respondent, three weeks after the initial mail out, another copy of the questionnaire and a prepaid reply envelope along with a letter thanking those who had responded, and reminding those who had not responded, were sent to all of the individuals in the first mailing list, regardless of whether they had replied or not. Approximately, 10 people confirmed that they had already returned the questionnaires and requested a summary of the survey results. Thus they were excluded from the follow-up mailing list. Due to the summer holiday and the reorganisation of the government department structures after the second mailing, the third reminder letter along with a further copy of the questionnaire and a prepaid reply envelope was deferred and sent to the non-respondents approximately nine weeks after the initial mail out.

Significantly, the questionnaires were printed in a different color for the first, second, and third mail-outs. The completed questionnaires were date stamped and assigned an identification number serially upon receipt. The purpose of this was to facilitate the classification of the responses into early (first mail) responses and late (follow-up)

responses, thus it enabled the statistical testing of the non-response bias. The results of the non-response bias are discussed in Section 5.3.

4.5.8 Problems with Data Collection

In accordance with the aims of this research, the population of this research was drawn from the recipient list of the Victorian budget papers. Contact was made with several staff members, who were responsible for the recipient list of the 2002/03 Victorian budget papers at the VDTF. After waiting for around a month with several attempts to access the mailing list of the recipients of the budget papers, advice was received that the VDTF could not make the mailing list available for the survey because providing the mailing list, including personal information, such as names and addresses, would breach the Privacy Act. Nevertheless, the VDTF provided specific positions and criteria of the recipients of the 2002/03 Victorian budget papers to the researcher. As a result, the researcher could identify the population for this study but without specific personal information. There was the disadvantage in not having access to the full mailing list, meaning that there may have been some potential participants excluded from the population of this study. However, the specific positions of public officials and broad categories of the recipients of the 2002/03 Victorian budget papers were known, thus this limitation was minimised.

The second problem was to get the names and postal addresses of all public officials, who were on the recipient list of the 2002/03 budget papers identified by the VDTF. Contact was made with the staff working at Information Victoria (the Victorian government bookshop). It was recommended that the Victorian government directory was the most comprehensive and up-to-date database of public department officials. Moreover, it provided names, titles, and contact addresses of public officials across the nine departments. Therefore, the Victorian government directory was used to overcome this problem. To ensure the accuracy of the mailing lists used in this study, the names, positions and postal addresses of all participants on the list from the Victorian government directory were also checked for accuracy directly with staff members working in each Victorian government department via e-mail enquiries and phone calls. As a result, a number of positions and addresses were updated before mailing out the questionnaire.

The third problem was related to the reorganisation of Victorian government departments following the election in November 2002. During the first mail out nine Victorian departments existed. However, during the first follow-up mail out, ten Victorian departments were in existence. As a result of the departmental restructuring, a number of public officials in the population changed their addresses or positions either within or across government departments. As the researcher had indicated the names of all participants on the envelopes when mailing out the questionnaire, the researcher could follow up the same person. This procedure helped overcome the duplicative and redundancy problem of respondents and ensured that the population in this study was constant. However, to overcome this problem, the researcher had to make phone calls; search updated information (i.e. positions and addresses) through each government department website; and send e-mails to all government departments to find out, who had moved, and where they moved in order to update the follow-up mailing information.

In summary, the follow-up questionnaires were sent only to the same people who were specified in the first mailing list as holding the position in 2002/03. New people who moved and held positions listed as the recipients of budget papers were excluded from the follow-up mail because they were not considered to be recipients of the budget papers in the year 2002/03 at the time this study was conducted.

4.5.9 Data Processing and Analysis

All returned questionnaires were checked for completeness including missing values, ambiguity, and inconsistency of responses. The responses were checked to ensure that all the key variables needed for the analysis were included in the questionnaires. This research followed the recommendation of Sekaran (2000) in that the questionnaires containing 25% or more unanswered items of the total items in the questionnaire were excluded from the database for analysis. In regard to the incomplete questionnaires that contained less than 25% unanswered items, the blank responses were treated as missing values by the computer program. Moreover, when a respondent provided multiple responses to particular questions, they were assigned as missing data or where appropriate they were categorised into a code representing combinations of responses. Specifically, multiple responses of the Likert-type scale items were treated as missing values when entering the data. After entering all responses of the 93 questionnaires into

the Statistical Package for the Social Sciences (SPSS) data file, the accuracy of the data entry and coding was manually and visually rechecked by comparing all data in the SPSS database to the original responses in the questionnaire. One error in coding the data was found and then corrected. As a result, no error was found after manually checking the accuracy of the whole data entry again for a second time.

As stated earlier, the key concepts in the questionnaire were tested for reliability of questionnaire items by using Cronbach's alpha coefficient. The validity of the questionnaire items in respect to the qualitative characteristics of information was tested by using Factor Analysis. Three statistical techniques were used to analyse survey questionnaire data depending on the aims and propositions: univariate analysis; bivariate analysis; and multivariate analysis.

First, the univariate analysis was performed for all questions contained in the questionnaire to describe the statistical characteristics of single variables. Descriptive statistics used in this thesis include frequencies, percentages, cumulative percentages, mean score values, and standard deviation. Responses from the "other" category of the open question were coded and grouped into broad categories and reported showing the frequency of occurrence. Frequency distributions and percentage analysis were used to describe the data in order to evaluate whether Propositions 4, 5, and 6 relating to the consequences of using OBB were supported by the survey data.

Second, this study employed bivariate (cross-tabulation) analysis. Pearson's Chi-square test was used to determine any statistically significant relationship between any two variables, which were nominal or ordinal scales. Specifically, cross-tabulation analysis was used to test Propositions 1, 2, and 3 to determine whether there were any relationships between the usefulness dependent variables and each of independent variables such as readership, comprehensiosn difficulties, purposes for using the budget papers, qualitative characteristics of information, and personal characteristics. Also, where appropriate, cross-tabulation analysis was frequently used to support the discussion for Propositions 4, 5, and 6 relating to the consequences of using OBB.

Pearson's Chi-square test at the 0.05 level of significance was chosen because it is commonly used in social science research (Siegel and Castellan 1988; Johnson 2002). For the present study, if the probability of the Pearson's Chi-square statistic were less than 0.05, then the hypothesis that the two variables were independent would be rejected. Therefore, it was possible that a relationship existed between the variables in the two questions.

Pearson's Chi-square is a test designed to evaluate whether the difference between observed frequencies and expected frequencies is statistically significant. Pearson's Chi-square test of significance was calculated for all of the cross-tabulations. However, cross-tabulations were not reported if the degree of freedom was greater than one, and more than 20% of the expected frequencies were smaller than five, or when any expected frequency was less than one because of the inappropriateness of the Chi-square test under these circumstances (Cooper and Emory 1995).

For the present study, survey data on the five point Likert scale revealed that the responses were generally distributed towards the *agree*, *undecided*, and *disagree* categories, with a very small number of responses distributed towards the *strongly agree* and *strongly disagree* categories. Therefore, in many cases less than 20% of the expected frequencies were smaller than five, rendering Pearson's Chi-square test inappropriate. To increase the expected frequencies in order to meet the assumptions of the Chi-square test, this study therefore combined the adjacent two categories before performing the cross-tabulation analysis as suggested by Cooper and Emory (1995) and Miller et al (2002). As a result, data in the highest two adjacent categories and the lowest two adjacent categories on the five point Likert scale were collapsed to become three categories before performing the cross-tabulations. Therefore, the results of the cross-tabulation analysis provided in this study were based on collapsing the highest and lowest two categories.

In summary, the non-parametric statistical method, in particular the Chi-square test was appropriate to use for testing propositions of this study relating to the usefulness of information for a number of reasons. First, this study did not make an assumption of a normal distribution of the whole survey data and the population size of the study was quite small. Therefore, a non-parametric statistical method was appropriate to use in

these circumstances (Siegel and Castellan 1988; Zikmund 1997; Norusis 1998). Second, the survey data used to test the bivariate relationship are nominal or ordinal scales, which satisfy the assumption of Pearson's Chi-square test. Specifically, the bivariate analysis rather than multivariate analysis was appropriated and used for testing Propositions 1-3 because the dependent variables for the present study were treated as non-dichotomous ordinal scales which did not satisfy the assumptions of using multivariate analysis such as multiple regression and logistic regression. Particularly, whilst the multiple regression requires dependent variables to be an interval scale or ratio scale (Zikmund 1997), the logistic regression requires dichotomous non-metric dependent variable (Munro 2001). Therefore, it is appropriate for the present study to use bivariate analysis rather than multivariate analysis for testing Propositions 1-3 to identify associations between two variables. Finally, prior studies examining factors that influenced the usefulness of financial reporting also used the Chi-square test to identify relationships between variables (Epstein 1975; Lee and Tweedie 1977; Epstein and Pava 1993).

Third, multivariate analysis was used when determining statistically significant relationships of more than two variables. This study applied two types of multivariate statistical methods: factor analysis and logistic regression. Factor analysis was used to test the validity of items in the questionnaire by confirming the theoretical factor structure underlying a set of measures. Logistic regression analysis was used to identify possible factors that could explain the dependent variable for Proposition 5. Logistic regression is similar to multiple regression but allows for the use of a dichotomous non-metric dependent variable (Hosmer and Lemeshow 1989; Norusis 1994; Hair et al 1998; Tower 1998). For the present study, the logistic regression was used to identify possible factors that could predict the use of performance information because there were more than two independent variables of interest, and the data were dichotomous and non-metric.

The overall goodness of fit of the model was determined by using a Chi-square statistic at the 0.05 level of significance. The overall goodness of fit of the logistic model can be assessed through a Chi-square and the Hosmer-Lemeshow statistics (Hair et al 1998; Hosmer and Lemeshow 2000; Munro 2001). A Chi-square test for a change in the log likelihood (-2LL) value from the base model is comparable to the overall F test in

multiple regression. The Hosmer-Lemeshow value measures the correspondence of the actual and predicted values of the dependent variable. Therefore, a smaller difference in the observed and predicted classification would indicate a better model fit. The Hosmer-Lemeshow measure shows non-significance, indicating no difference in the distribution of the actual and predicted dependent values.

As a result, a non-significant value of the Hosmer-Lemeshow statistic test indicates that the model being tested is robust (Hair et al 1998). Logistic regression predicts the probability of an event occurring. For the model to determine which independent variables significantly predict the outcomes of the dependent variable, it is required that the total correct percentage is above 50% (Tower 1998). Finally, the Wald statistic can be used to assess the significance of estimated coefficients (Kleinbaum 1994; Hair et al 1998; Munro 2001). For the present study, if the estimated coefficients were statistically significant at the 0.05 level, the individual variables were significant and were interpreted.

In summary, logistic regression was appropriate to use in this study for several reasons. First, the dependent variable was dichotomous and non-metric. Second, the independent variables were nominal or categorical. According to Munro (2001), in logistic regression, whilst the dependent variable is categorical or dichotomous, the independent variables may be at any level of measurement from nominal to ratio. Therefore, the data of this study met the requirements of logistic regression. Third, logistic regression can operate categorical independent variables easily, while in discriminant analysis the use of dummy variables causes problems with the variance or covariance equalities (Hair et al 1998). Finally, logistic regression is a multivariate analysis that can be used to test more than one independent variable at the same time. Consequently, it accomplished the aim of the study to identify possible factors that could influence the use of performance information.

4.6 Content Analysis

Although the use of a mail survey would have been adequate to answer research questions for this study, content analysis of budget papers was also used as a supplementary method. Content analysis was used to assist the researcher to better understand how performance information in the budget papers was presented over a

period of time and why respondents had particular points of view regarding the *comparability* characteristic of performance information. A mail survey is limited in explaining this aspect.

Content analysis was appropriate for use for this study because it provided a number of advantages. First, content analysis of documents does not involve collecting new data, thus it saves time and cost. Data to be analysed for the purpose of this study come from reliable government documents that are publicly available at no-cost. Second, collecting data from documents is convenient because it does not require the cooperation of individual participants and can be done at anytime. Further, there is no requirement for a large research staff (Babbie 2001). Third, documents are non-reactive, thus content analysis seldom has an effect on the subjects being studied and does not rely on the memory of participants or interviewers, while questionnaires and interviewing are subject to this deficiency (Caulley 1983; Babbie 2001). Further, Jones (1996) stated that due to the lack of obtrusiveness into the processes or phenomena of interest, content analysis is usually not confounded by biases that emerge when someone is aware of being a participant in research. Therefore, content analysis is a good supplementary method to survey methodology. Fourth, the availability of data overtime enables the researcher to employ a longitudinal research design and determine the trends of data over time (Nachmais and Nachmais 1996; Babbie 2001). As a result, researchers can track changes in frequency over time by using content analysis. One of the aims of the present study was to examine the *comparability* qualitative characteristic of information over time. Thus, content analysis of documents was an appropriate method for this purpose. Fifth, Nachmais and Nachmais (1996) claimed that secondary data used to perform content analysis if reliable and accurate, would provide opportunities for replication. Bryman (2001) stated that the coding scheme and the sampling procedures of content analysis could be clearly set out so that replications and follow-up studies were feasible. Finally, content analysis is easier to use to repeat a portion of the study than are other research methods (Babbie 2001).

However, major criticisms of content analysis as a research method include a lack of generalisability; being too reliant on the researcher's subjective interpretations; being affected by the researcher's bias; and being incapable of replication by subsequent researchers (de Vaus 2002; Johnson 2002). Despite the limitations of content analysis, it

was appropriate to employ because it enabled the development of a longitudinal analysis over two years which was one of the aims of this study. To minimise bias and enhance both validity and inter-rater reliability of the content analysis results, precautions were taken through designing the content analysis procedure as will be discussed in Section 4.6.5. Furthermore, due to time constraints; budget restrictions; and the availability of staff, the content analysis method was an appropriate method to use in this study to supplement the survey findings. The population for the content analysis is discussed in the next section.

4.6.1 Population and Samples

The aim of the content analysis was to examine the *comparability* characteristic of performance information from the users perspective over time. In particular, the content analysis was performed on the corresponding year and with the same Victorian government departments on which the survey was conducted, so that the results of the survey could be compared with the results of the content analysis.

Cameron and Guthrie (1993) identified two main types of content analysis: static (at one point in time), and longitudinal (over time). Several researchers have employed a longitudinal content analysis approach (Boyne and Law 1991; Cameron and Guthrie 1993; Hyndman and Anderson 1998; Carlin and Guthrie 2001a) or a static content analysis approach (Thompson 1995).

For the present study, a longitudinal content analysis of the Victorian budget papers was undertaken over a two year period of 2001/02 and 2002/03. The 2002/03 Victorian budget papers were selected for a content analysis in order to be consistent with the survey questionnaire which was used to investigate the usefulness of performance information in the 2002/03 Victorian budget papers. Additionally, the previous year of 2001/02 was selected as the base year for a content analysis instead of the year 2003/04 for two reasons. First, at the time when the survey was conducted, the 2003/04 Victorian budget papers were not published. Second, the respondents completed the questionnaire about the *comparability* characteristic of performance information by considering the year 2002/03 compared to the previous year of 2001/02 rather than the year ahead of 2003/04.

Eight and nine government departments appeared in the 2001/02 and 2002/03 Victorian budget papers, respectively. Therefore, the population for content analysis was defined as all performance measures of the eight Victorian departments in the 2001/02 Victorian budget papers and those of the nine Victorian departments in the 2002/03 Victorian budget papers. To ensure the validity or generalisability of the findings, this study analysed the entire population of performance measures of the nine Victorian government departments in order to be consistent with the survey which was conducted in the nine departments. All performance measures of the Victorian government departments in the 2001/02 and 2002/03 Victorian budget papers were analysed for the consistency of the presentation of performance measures over a two year period.

The database of performance measures for all the Victorian departments was obtained from the 2001/02 and 2002/03 Victorian Budget Papers No. 3 (Budget Estimates). Budget Paper No. 3 was used for content analysis because it contained output performance information for all Victorian government departments. Further, the results of the content analysis of performance information in Budget Paper No. 3 were able to be compared to the survey results which investigated the quality of performance information contained in the 2002/03 Victorian Budget Paper No.3 from a user's perspective.

For the present study, only the *comparability* qualitative characteristic of information was selected to perform content analysis for two reasons. First, from the users' perspectives, the *comparability* characteristic is more objective when performing content analysis compared to other qualitative characteristics, namely relevance, reliability and understandability. The *relevance* characteristic relies upon the perceptions and individual judgements of the users of budget papers. As a result, the *relevance* characteristic is subjective to a particular person and might differ for different users and in different decision making situations. Therefore, it is not possible to objectively know whether the performance measure is relevant to the needs of the user. If the content analysis is undertaken, the *relevance* characteristic has to be judged from the researcher's perspective rather than the user's perspective.

Similarly, it is difficult to objectively evaluate the quality of the *reliability* characteristic from the user's perspective. This occurs because in most cases preparers of information rather than users have knowledge about whether or not there had been a changed basis of calculation, whether information contained deliberate misstatements, or whether material information was omitted.

Likewise, the *understandability* characteristic relies upon personal characteristics of the users of budget papers such as educational background and training. Thus, the understandability characteristic is subjective to a particular person and might differ in a variety of users depending on their personal characteristics. In summary, the relevance, reliability and understandability characteristics are suitable for content analysis from the researcher's perspective, rather than from the user's perspective.

Therefore, the content analysis was only performed for the *comparability* qualitative characteristic because of the subjectivity of the other qualitative characteristics, that is, relevance, reliability and understandability. In particular, the comparability characteristic of information over time is more objective for content analysis from the user's perspective because it is possible to observe whether or not the performance information has been displayed in a consistent manner.

Moreover, the survey data of this study revealed that about nearly half (48.3%) of the respondents *strongly disagreed* or *disagreed* that the presentation of the performance information in the 2002/03 budget papers was consistent over time. Overall, *comparability* was the qualitative characteristic that least satisfied budget papers users, with the lowest mean score of 2.88 on a scale of 1 to 5 compared to other qualitative characteristics (see Table 5.17).

In order to provide performance information that better meets the needs of users and better assists users to make and evaluate decisions, the issue of why users had a particular negative perception regarding the *comparability* characteristic was further investigated in this study. Therefore, a longitudinal content analysis was employed as a supplemental method to triangulate with the survey result and to further understand why respondents had a particular negative point of view regarding the inconsistency of the presentation of performance information over time.

In summary, due to the survey questionnaire data depending solely on the user's perception of the quality of performance information, the content analysis method, which depends on the researcher's observation and evaluation, was also undertaken to validate whether the presentation of the performance information in the 2002/03 was comparable over time.

4.6.2 The Development of Content Analysis Worksheets

Three main types of the content analysis worksheets were designed and developed to evaluate the consistency of the presentation of performance measures over a two year period of 2001/02 and 2002/03. The first worksheet, *Summary of Departmental Performance Measure Counts in the Victorian Budget Papers* (see Table 7.2), was designed to investigate the volume of performance measures data over a two year period. This was to provide an overall impression or the trend of the total number of performance measures in the 2001/02 and 2002/03 Victorian budget papers. This worksheet comprised four main parts: department name; number of performance measures in the 2001/02 and 2002/03 Victorian budget papers; change in total number of performance measures; and percentage change in total number of performance measures.

The second worksheet, *Departmental New Performance Measure Counts in the Victorian Budget Papers* (see Table 7.1), was designed to examine the number of new performance measures resulting from two content analysis methods: the manifest content analysis and the latent content analysis. This worksheet comprised nine main parts: department name; total number of performance measures (excluding cost measures); number of new measures (nm) as shown under categories of "2000-01 Actual" and "2001-02 Target"; percentage of new measures (manifest content analysis); number of new measures (latent content analysis); percentage of new measures (latent content analysis); number of agreed new measures; percentage of agreed new measures; number of differences between manifest and latent new measures; and percentage of difference between manifest and latent new measures.

The last type of content analysis worksheet, *Departmental Performance Measure Counts in the Victorian Budget Papers* (see Appendix 4), separating each of the nine Victorian government departments, was designed to further investigate whether the

existing performance measures were deleted or replaced by new measures. The purpose of this worksheet was to provide an evaluation of the quality of the comparability characteristic of performance information over time. The worksheet comprised eight main parts: output name; number of performance measures in the 2001/02 Victorian budget papers; number of performance measures in the 2002/03 Victorian budget papers; number of withdrawn measures; number of unchanged measures; number of new measures; survival rate; and novelty rate. A data summary results table of the survival rate and novelty rate of nine departments was also developed, as reported in Table 7.3.

The purpose of using a standard worksheet to perform content analysis was to guard against the selective perception of content, thus enhancing the reliability of the analysis. The standard worksheet for performing content analysis was based on the 2002/03 departmental structures and outputs. In some cases, an output from 2001/02 was renamed but its performance measures, including their unit of measure information remained the same. In this case, the name of the output appearing in the 2002/03 budget papers was used in the worksheets.

Each output in the budget papers always has *Total Output Cost* as a cost performance measure. Specifically, *Total Output Cost* is the only one cost performance measure of each output, which is reported as the same item every year. For this study, the content analysis focused on the survival and novelty rate of performance measures. As the number and underlying meaning of the cost measure would be unchanged over time, the cost measure was excluded from the calculations of the survival, and novelty rate. Specifically, the cost measure of each output was excluded from the standard worksheet *Departmental Performance Measure Counts in the Victorian Budget Papers*. The content analysis did not include the number of the *Total Output Cost* measures in the calculations of the survival and novelty rates, as this would have skewed the survival and novelty rate results. The inclusion of the number of unchanged cost measures in the calculations of the survival and novelty rates, would lead to higher survival rates and lower novelty rates. Consequently, three types of performance measures appeared in the worksheet: quality; quantity; and timeliness. The novelty and survival rates were calculated according to the number of these three performance measures.

4.6.3 Problems in Developing the Content Analysis Worksheets

There were several problems in developing a standardised worksheet for content analysis. First, there was a reorganisation of Victorian government departments, as described earlier in Section 1.14. Second, some outputs, which contained a number of performance measures, were transferred between departments. The details of those outputs transferred between departments will be discussed in Section 7.3.1. Third, some outputs were renamed or restructured within the same department. Finally, some outputs were deleted entirely from the 2002/03 budget papers. Where this occurred, content analysis worksheets also included the original outputs that appeared in the 2001/02 budget. This was done so that the total number of performance measures for the year 2001/02 could be accurately calculated.

4.6.4 Content Analysis Procedures

Nachmias and Nachmias (1996) indicated that content analysis involved two processes: specification of the content characteristics to be analysed; and application of rules to identify and record these characteristics when they appeared in the materials being analysed. Further, Berelson (1952) and Holsti (1969) suggested that content analysis should comprise two qualities: objectivity and being systematic. Objectivity means that rules are clearly identified to classify the material into categories (Bryman 2001). Being systematic means that the application of the rules and the inclusion or exclusion of content are done in a consistent manner so that bias is suppressed (Nachmias and Nachmias 1996; Bryman 2001). As a result of having these two qualities, anyone employing the same category system and rules should arrive at the same results and conclusions (Krippendorff 1980; Jones 1996; Nachmias and Nachmias 1996; Blaikie 2000; Bryman 2001; Johnson 2002).

For this study, the content analysis procedure was designed to ensure that researcher bias was minimised. Blank standard worksheets, the categories, and rules to perform content analysis were clearly developed. The content analysis procedure was objectively constructed by setting rules for coding three categories of performance measures: new measures, unchanged measures, and withdrawn measures. These rules are discussed in Section 4.6.7. For the present study, blank standard worksheets were developed and completed by the author. The same standard worksheets and instructions were sent to another researcher to independently complete. After two researchers read the

performance information in the Victorian budget papers, they independently recorded the frequency of each category according to the rules. The content analysis results of the two independent researchers were compared. When differences in the results were found, they were discussed, judged and reconciled by a third independent researcher.

In performing content analysis, coding activities, including creating categories and assigning data to the categories, is the important part of the content analysis procedure because it is a process in which data is systematically organised and classified. Bryman (2001) stated that if the coding scheme was clearly defined, replications and follow-up studies were feasible.

Babbie (2001) suggested two coding techniques for content analysis: manifest content coding and latent content coding. Babbie defined *manifest content* as the visible or surface content of a communication. Further, he suggested that the investigator could, for example, determine the manifest content by simply counting the number of times that the word appeared. Measuring the manifest content has the advantage of ease and reliability in coding. Moreover, the reader would know precisely how the content was measured. However, Babbie (2001) argued that measuring only manifest content would have a disadvantage in terms of validity because the underlying meaning of messages or the *latent content* of the communication was not considered.

Berelson (1952, p.18) described content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of a communication." This definition reveals that Berelson emphasised measuring manifest content. Holsti (1969, p.14) referred to content analysis as "any technique for making inferences by systematically and objectively identifying specified characteristics of messages". Holsti referred to specified characteristics without reference to manifest content. Therefore, content analysis can be conducted in terms of latent content. Whilst measuring *latent content* has an advantage in terms of validity because the underlying meaning of communications is better captured, it has a disadvantage in terms of specificity and reliability in coding (Babbie 2001). Several authors agree that there is a trade-off between reliability and validity (McKinnon 1988; Cooper and Emory 1995; Babbie 2001).

To minimise the threats to reliability and validity in this study, both latent and manifest content analyses were performed for the classification of new performance measures. The *latent content analysis* was performed on the counterparts of the nine Victorian departments by comparing the underlying meaning of each performance measure in the 2001/02 and 2002/03 Victoria Budget Paper No.3. The purposes of measuring latent content were to: (1) evaluate whether performance measures in the 2002/03 Victorian budget papers, were new measures compared to those of the 2001/02 budget papers counterparts; and (2) identify how many performance measures in the 2001/02 budget papers, were withdrawn or carried on to appear in the 2002/03 budget papers. After analysing the latent content, performance measures were classified into three categories and were coded as: new measures; unchanged measures; or withdrawn measures. Subsequently, the number of performance measures which were classified by the latent content analysis were counted for each of the three categories of all nine Victorian departments.

The *manifest content analysis* was also undertaken by simply counting the number of new performance measures which were indicated as "nm" or "new measure" and which appeared under both categories of "2000-01 Actual" and "2001-02 Target" in the 2002/03 budget papers of the nine Victorian departments. Additionally, the total performance measures in the 2001/02 and 2002/03 budget papers of the nine Victorian departments were counted. The results of the manifest and latent content analyses relating to the total number of the new performance measures were compared and discussed to identify whether there was a difference in the number of new performance measures resulting from the two coding approaches. The results of both the manifest and latent analyses regarding the total number of new performance measures are reported in Table 7.1. It should be noted that whilst both the manifest and latent content analyses were performed to evaluate the number of new performance measures, the novelty rate and the survival rate were calculated based on the number of performance measures identified by the *latent content* analysis.

4.6.5 Reliability and Validity

Unlike a survey questionnaire, content analysis does not allow statistical tests for validity and reliability in the same way as a survey instrument. McKinnon (1988) suggested that it was possible to minimise threats to validity and reliability through the

research design of the content analysis. To minimise the subjective bias of the coders, many authors recommend having more than one independent coder review the same material, apply the same coding instructions to the same set of data, independently code and categorise the same set of data, and finally compare their subjective experiences of coding (Krippendorff 1980; Jones 1996; Nachmias and Nachmias 1996; Ryan and Martyn 1996; Blaikie 2000; Bryman 2001; Johnson 2002). A reliable procedure should provide the same results regardless of who is doing the analysis.

If the coders are well trained and the operational definitions of category are clear, the coders should have a high rate of agreement in their coding of the materials. Johnson (2002) referred to this process as *inter-rater reliability*, stating that a high rate of agreement would provide credibility. Consequently, if agreement is achieved among coders or judges regarding the assignment of data to categories, reliability is assured. Similarly, Krippendorff (1980) referred to the term *reproducibility* as *inter-coder reliability*, *intersubjective agreement*, or the *consensus* achieved among observers. As bias can easily occur in the content analysis process, inter-rater reliability is important and should be considered when performing a content analysis. This is to ensure that unintentional biases are minimised in the categorisation process. Neimark (1983) also supported the view that tests of the *inter-subjectivity* of the coding scheme were very important for assessing the reliability of the content analysis method.

Krippendorff (1980) stated that reliability could be considered in terms of stability, reproducibility, or accuracy. *Reproducibility* means that a process can be recreated under varying circumstances using two or more independent coders. Further, Krippendorff (1980) and Babbie (2001) suggested that replication could be a solution to the problem of validity in social research. Nevertheless, Krippendorff (1980) stated that communication among coders introduced errors because communication frequently influenced coding toward higher agreement. Consequently the lack of independence is likely to make data appear more reliable than they are.

McKinnon (1988) also supported that having both researchers work independently was a strong counter to observer bias. To minimise the researcher's subjectivity, several researchers of the previous studies performed content analysis in different ways. Boyne and Law (1991) and Cameron and Guthrie (1993) collaboratively worked with

colleagues. Hudack and McAllister (1994) and Ryan and Martyn (1996) used two independent coders to perform the same content analysis. Data were independently examined and coded by the two researchers following the same coding instructions. Hyndman and Anderson (1995) used three independent individuals who separately conducted the same content analysis prior to discussing and agreeing on the final results.

In summary, several precautions were undertaken in the content analysis design of the present study in order to ensure the reliability and validity of the content analysis instrument and findings. First, this study was concerned about the use of approaches such as merely counting the frequency of the presence of particular terms such as "nm" or "new measure" in order to achieve reliability. Therefore, the *latent content* or the underlying meaning of performance measure was also analysed to determine the number of new performance measures.

Second, this study was concerned about the use of interpretation by those doing the latent coding in content analysis. In fact, it is almost impossible to create coding instructions that do not involve some interpretation on the part of coders. Bryman (2001) suggested that this problem was likely to occur when the aim was to code latent rather than manifest content. This study therefore used two independent coders and one judge in the content analysis process to ensure the reliability of the coding. This approach had the advantage of strengthening reliability by reducing the effect of the researcher's own judgement in the content analysis process, reducing the likelihood of errors in the classification, and diminishing bias from the communication.

Third, content analysis was only performed for the *comparability* characteristic of information because its aspects were more objective and observable from a budget paper user's perspective than that of other qualitative characteristics. Fourth, this study performed content analysis on the entire population of performance measures of all nine Victorian government departments. Therefore, this study minimised the problem of generalisability of the samples to the population. Consequently, the validity of results was assured. Fifth, this study established precise rules to classify performance measures into categories. Therefore, the rules could be objectively and systematically applied. As a result, the categories could be used reliably. Finally, the calculation of the novelty rate

and the survival rate were performed to make the discussion regarding the consistency of performance information more objective. These processes enabled the same results and conclusions to be reproduced because the researchers focused on the same issue and the statistical formula used to calculate the novelty rate and survival rate were precisely and objectively applied.

4.6.6 Inter-rater Reliability Results

Jones (1996) and Ryan and Martyn (1996) suggest that a high agreement of the results of the content analysis from different researchers indicates that the reliability of an instrument is high. For the present study, there were no major differences in categorising the data between the two researchers. The inter-rater discrepancy rate between the two researchers was trivial at a low level of disagreement of 4.0%. To ensure the reliability of the final coding result, the third researcher discussed and judged the observations that differed between the two independent coders. This process resulted in a reconciliation of all differences between the coders. The results of the initial differences in coding between two researchers are reported in Table 4.6. Additionally, after two researchers used the same instructions and standard worksheets to perform the content analysis, there was a high degree of agreement about the relative frequency of occurrence of the performance measures in each category. This ensured that the coding scheme and categories used in this study were well defined. Therefore, the reliability and validity of the content analysis instrument and the results of this study could be considered to be high.

Table 4.6: Inter-rater Reliability Results

Departments	Discrepancy in Number of Latent Performance Measures between Two Researchers (Pairs)	Total Pairs of Performance Measures	Inter-rater Discrepancy Rate (Percent)
1. Department of Education and Training	1	39	2.56
2. Department of Human Services	1	134	0.75
3. Department of Infrastructure	6	106	5.66
4. Department of Innovation, Industry and Regional Development	1	59	1.69
5. Department of Justice	4	124	3.23
6. Department of Natural Resources and Environment	9	99	9.09
7. Department of Premier and Cabinet	0	45	0.00
8. Department of Tourism, Sport and the Commonwealth Games	1	15	6.67
9. Department of Treasury and Finance	5	81	6.17
Total	**28**	**702**	**3.99**

4.6.7 Rules for Performing the Content Analysis

When comparing the latent content of performance measures between two years, a number of rules were applied to classify performance measures into the three categories. Specifically, a comparison of performance measures in the 2002/03 Victorian budget papers to those of the 2001/02 Victorian budget papers was performed based on a number of rules as follows:

1. If the underlying meanings of a performance measure remained *unchanged* and had the *same* unit of measure, it was considered to be unchanged. Thus, no new or withdrawn performance measures were recorded.
2. If the underlying meanings of a performance measure remained *unchanged* but its unit of measure had *changed*, one new and one withdrawn performance measure was recorded.
3. If the underlying meanings of a performance measure had been *altered*, one new and one withdrawn performance measure was recorded. These alterations included either the time frames or the scope of the underlying meanings.
4. If a performance measure had been *separated* into two or more performance measures where each contained a *separate unit* of measure and statistical information (such as actuals, targets, and expected outcomes), one withdrawn performance measure was recorded and one new performance measure for each of the recently created performance measures was recorded.
5. In some cases, performance measures had been created by *combining* two or more performance measures from the previous year, and now allowed for only one performance measure with *one unit* of measure and statistical information (such as actuals, targets, and expected outcomes). In these cases, one new performance measure was recorded, and a withdrawn performance measure was recorded for each of the two or more performance measures which had been combined.
6. In some cases, a performance measure was made up of an existing performance measure from the previous year with its unit of measure *unchanged*, but had one or more further components of performance measure added to it with a requirement for a *separate unit* of measure information. In these cases, one new performance measure for each additional component was recorded, and one performance measure was deemed to be unchanged.

7. If a performance measure had been *shifted* to a different type of performance measure (e.g. quantity, quality or timeliness), but remained in the same output, no new or withdrawn performance measures were recorded and these performance measures were recorded as being unchanged.
8. In the case of an output being *renamed*, if the items of different outputs were exactly the same, with the same statistical figure corresponding between two years, the two outputs were combined and performance measures were analysed under the aggregated heading of the 2002/03 budget papers. If two or more outputs had been *combined*, but maintained the same performance measures, no new or withdrawn performance measures were recorded.
9. The total number of performance measures for each year was calculated by counting performance measures that contained the unit of measure and statistical information (such as actuals, targets, and expected outcomes). Therefore, items within one performance measure were included in the calculation of the total number of performance measures *only if* they had their own unit of measure and statistical information. Similarly, a single performance item that contained more than one unit of measure and statistical information was counted separately according to the number of units of measures present.

4.6.8 Data Processing and Analysis

Each performance measure was coded and noted in the hard copy of the 2001/02 and 2002/03 Victorian budget papers before entering the coded data into the Excel software program. The coded data of new measures, unchanged measures and withdrawn measures were rechecked for the detection of any possible errors. After entering all the coded data into the Excel worksheets, the accuracy of the data entry and the statistical formula inside each cell of all worksheets was also rechecked. As a result, no error was found after checking the accuracy of the whole data entry and statistical formula.

In the present study, the analysis focused on non-financial performance information and the comparability characteristic of performance information over time. Three statistical formula were calculated to facilitate the discussion of the content analysis data: the percentage change in the total number of performance measures; the survival rate; and the novelty rate.

The absolute number of performance measures was counted for the two year period: the budget years 2001/02 and 2002/03. Additionally, the percentage change of performance measures was calculated by using the following formula:

% Change in Total Number of performance measures

= Change in total number of performance measures between the year 2001/02 and 2002/03 x 100

Total number of performance measures in the 2001/02 budget papers

Note: **Change in Total Number of Performance Measures**
= Number of performance measures in the 2002/03 budget papers – Number of performance measures in the 2001/02 budget papers

Due to the fact that existing performance measures could be eliminated and replaced by new measures, the absolute number count of the quantity of performance measures alone would not provide sufficient insight into the quality of the comparability characteristic of performance information over time. Therefore, calculations of the survival rate and novelty rate as proposed by Carlin and Guthrie (2001a) were performed in order to provide a detailed picture of the consistency of performance measures reported over the two year period. A stable and useful performance measure reporting should provide a high survival rate and a low novelty rate, assuming that the performance measures published in the report accurately corresponded to the fundamental activities of organisations.

Carlin and Guthrie (2001a) explained the survival rate as follows:

> "survival rate quantifies the propensity of performance indicators to persist through several reporting cycles." (p. 21)

The aim of this aspect of the study was to investigate how many performance measures in the 2001/02 Victorian budget papers survived to be reported in the 2002/03 Victorian budget papers. Specifically, survival rates for 2002/03 were calculated using 2001/02 as the base year. Thus, the survival rate was calculated by dividing the number of unchanged performance measures by the total number of performance measures of the base year 2001/02. The statistical formula for the calculation of the survival rate is expressed as follows:

Survival Rate (%)

$$= \frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$$

Carlin and Guthrie (2001a) further described the novelty rate as follows:

> "novelty rate measures the proportion of each year's performance indicators which have been newly introduced relative to the reported set of indicators for a given base year." (p. 21)

To be consistent with the survey instrument which was based on the budget year 2002/03, this study investigated how many new performance measures were initiated and reported in the 2002/03 Victorian budget papers, compared with those in the 2001/02 budget papers. The novelty rate was, therefore, calculated using the number of new performance measures of the year 2002/03 compared with those of the year 2001/02 divided by the total number of performance measures of the year 2002/03. The statistical formula for the calculation of novelty rate is as follows:

Novelty Rate (%)

$$= \frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$$

Note: Number of new measures was derived from the latent content analysis

As stated earlier, for the present study, the inter-rater discrepancy rate was calculated to assess inter-rater reliability by considering differences in the content analysis results between the two researchers. These differences included the difference in the results of (1) latent content analysis of performance measures in the classification of performance measures into three categories: new measure, unchanged measure, and withdrawn measure and (2) manifest content analysis in counting the number of performance measures. The inter-rater discrepancy rate is calculated as follows:

Inter-rater Discrepancy Rate (%)

$$= \frac{\text{Number of pairs difference in the content analysis results between the two researchers}}{\text{Total pairs of the performance measures (excluding cost measures)}} \times 100$$

4.7 Summary

In this chapter, the research methodology and propositions used for this research were described. Multiple data collection methods including a mail survey questionnaire and content analysis used in this research were outlined. The quantitative data collected from a mail survey questionnaire was analysed using the SPSS program. Content analysis was performed to performance measure data collected from the 2001/02 and 2002/03 Victorian Budget Paper No.3 (Budget Estimates) using the Excel software program. The problems of data collection, as well as the validity and reliability of both questionnaire and content analysis instruments were also discussed. In the data analysis section, the purposes of statistical techniques used in this study were reviewed. The next chapter presents the univariate results, findings and discussions relating to the data obtained from the mail survey questionnaire.

CHAPTER 5

UNIVARIATE SURVEY FINDINGS

5.1 Introduction

In this chapter the response rate and the result of non-response bias from the OBB questionnaires will be discussed. A univariate analysis of the survey data is presented describing the respondent profiles; knowledge of respondents about OBB and performance measures; the usefulness of information in the 2002/03 Victorian budget papers; and the consequences of using OBB in the public sector.

5.2 Response Rate

In computing response rates, Babbie (1990) suggested to exclude all questionnaires that could not be delivered to prospective respondents. From a total of 213 questionnaires distributed to staff within the nine Victorian government departments, four questionnaires were undelivered and returned to sender by the post office. This effectively reduced the population survey size to 209. Nearly half of the distributed questionnaires (94 questionnaires) were completed and returned after three mailings, representing a response rate of 45.0%. The number of responses of the three mailings was as follows: the first mailing provided 57 responses, representing 60.6% of the returned questionnaires; the second mailing provided 22 responses, representing 23.4% of the returned questionnaires; and the third mailing provided 15 responses, representing 16.0% of the returned questionnaires. One incomplete questionnaire contained unanswered items representing more than 25% of the total items in the questionnaire and could not be used for testing propositions of this research. Therefore, it was excluded from the data for analysis. As a result, there were 93 valid responses for the final data analysis.

A review of the survey literature revealed that there were concerns about the percentage response rate for a mail survey. The important argument about achieving a high response rate is that there is less chance of a significant response bias in a high response rate than in a low response rate (Babbie 2001). A further question concerned the nature of an acceptable and adequate percentage response rate for a mail survey. Oppenheim (1966) regarded figures of 40% to 60% response rates as typical. Zikmund (1997) considered a 15% response rate to be a low response rate and that 80% to 90% response

rates were seldom achieved. Sekaran (2000) suggested that a 30% response rate for mail questionnaires was considered acceptable. Furthermore, Zikmund (1997) and Babbie (2001) recommended that a response rate of 50% for a mail survey could be considered reliable and adequate for analysis and reporting. In addition, Oppenheim (1966) and Zikmund (1997) recommended that a mail survey could also be considered reliable if it was demonstrated that the non-respondents could be similar to the respondents.

The response rate of 45.0% achieved by the present study was considered to be acceptable for a mail survey according to the views presented by Oppenheim (1966) and Sekaran (2000). Furthermore, the response rate of 45.0% is in an acceptable range and is not too different from the response rates of mail surveys for government financial report users (Adam et al 1989 (46%); Ingram and Robbins 1992 (32%); Schrader 1995 (49.7%); and Coy et al 1997 (56%)); and public officials' attitudes toward budgeting system and performance measures (Poister and Streib 1989 (42%); Wang 1999b (40%); Melkers and Willoughby 2001 (48.5%), Willoughby and Milkers 2001 (37%)).

5.3 Non-Response Bias

An investigation of whether or not respondents to the questionnaires differed from non-respondents was undertaken in order to ensure that the respondents were representative of the population of this study and determine if the mail survey could be considered reliable. Oppenheim (1966) suggested a method to examine non-response bias by means of comparing early respondents with late respondents in terms of their answers to the questionnaires. The common method used to examine non-response bias is to compare results between respondents to a first mailing and respondents to a follow-up mailing by using the Chi-square statistic (Epstein 1975; Anderson and Epstein 1996; Borgia and Coyner 1996; National Survey of America's Families (NSAF) 1999).

To examine non-response bias, with the assumption that the late respondents were more likely to be similar to non-respondents (Oppenheim 1966), a comparison of all responses between respondents to the first mailing and respondents to two follow-up mailings was performed to determine if there was any significant difference between the respondents of the first and follow-up mailings. Chi-square tests of significance were conducted at the 0.01 level to compare all responses from the first and two follow-up mailings in order to ensure that the findings from the samples represented the

population of interest. Pearson's Chi-square test at 0.01 level of significance was used to examine non-response bias in order to be 99% certain that sample results were not due to chance.

Overall, the evidence showed that the early responses did not differ significantly from the late responses. In fact, early and late responses were very similar. The only question on which the Chi-square test detected a statistically significant difference between the two groups was in asking whether or not a corrective action had been taken in an organisation when there was a variance between budgeted and actual performance measures. There were no other significant differences related to any of the demographic questions or any of the main questions concerning readership, comprehension difficulties, purposes of using budget papers, the usefulness of information in the budget paper, and other questions relating to the consequences of using OBB in the public sector. With the minor difference as noted earlier and the view that there was no important non-response bias, the responses to the three mailings could be reasonably combined. As a result, the 93 valid responses were considered to be representative of the population of this study. Therefore, it was concluded with some confidence that the results of this study had generalisability.

5.4 Univariate Analysis of the Survey Questionnaires

Tables, where appropriate, contain the frequency (the upper figure) and percentages (the lower figure) of responses to the OBB survey questionnaire. The number of responses to each question is presented as the frequency. Due to variability in the number of responses to each question, the percentages were calculated, based on the number of responses to the question instead of on the total valid respondents to the survey. Where appropriate, data from the five point scale were collapsed to observe if this made a difference to the results of the responses. If the collapsed scale made a difference to the findings, the difference was reported. Further, the mean scores and standard deviations are also provided in most Tables.

5.4.1 *Profiles of Respondents*

The profiles of respondents are reported in Table 5.1. Most respondents (71.7%) were male and slightly more than one-quarter (28.3%) of respondents were female. Respondents tended to be in the age group 40-49 years (41.3%), followed by the age group 50-59 years (31.5%). Only 5.4% of the respondents were outside the age range of 30 to 59 years. The highest level of education that most respondents had achieved was a bachelors degree (51.6%), followed by a masters degree (35.5%). A small proportion of respondents had a doctoral degree (3.2%); TAFE certificate (2.2%); and secondary school (1.1%), as their highest level of education. Other educational qualifications that 6.5% of the respondents achieved as their highest level of qualification were: diploma; graduate diploma; post graduate diploma; CPA and post graduate fellowships. About half (53.8%) of the respondents had completed formal study in accounting. Two-thirds (67.4%) of the respondents reported having formal educational training with performance measures.

Approximately three-quarters (77.5%) of the respondents have been in their current or similar jobs for at least two years. Just over one-third (35.5%) of the respondents reported being in their current or similar jobs for 2-5 years, followed by the durations of 5-10 years (22.6%). Nearly one-fifth (19.4%) of the respondents reported being in their current or similar jobs over 10 years.

Two-fifths (40.9%) of the respondents have had their responsibility or principal tasks in the finance, budget and accounting area, followed by the policy and planning area (29%). Nearly, one-tenth (8.6%) of the respondents have had their principal tasks in performance review and evaluation. Furthermore, one-fifth (21.5%) of the respondents reported having their responsibility or principal tasks in other areas such as management (7.5%), finance and administration (3.2%), a combination of three areas: finance; policy planning; and performance review (3.2%), and a combination of two areas: finance; and performance review and reporting (2.2%).

Table 5.1 Profiles of Respondents

Respondent Characteristics	Categories	Frequency	Percent
Gender	Male	66	71.7
	Female	26	28.3
	Total	92	100.0
Age	Under 30 years	4	4.3
	30-39	20	21.7
	40-49	38	41.3
	50-59	29	31.5
	60 and above	1	1.1
	Total	92	100.0
Highest Level of Education	Primary school	0	0
	Secondary school	1	1.1
	TAFE certificate	2	2.2
	Bachelors Degree	48	51.6
	Masters Degree	33	35.5
	Doctorate	3	3.2
	Others include:	6	6.5
	Graduate Diploma	1	1.1
	Post Graduate Diploma	1	1.1
	CPA (after completing bachelors degree)	1	1.1
	Graduate Diploma and CPA post graduate (Masters pending)	1	1.1
	Diploma	1	1.1
	Post graduate fellowships, equivalent to Masters	1	1.1
	Total	93	100.0
Completed a Formal Course of Study in Accounting	Yes	49	53.8
	No	42	46.2
	Total	91	100.0
Having Formal Educational Training with Performance Measures	Yes	62	67.4
	No	30	32.6
	Total	92	100.0
Duration in Current or Similar job	less than 2 years	21	22.6
	2-5 years	33	35.5
	5-10 years	21	22.6
	Over 10 years	18	19.4
	Total	93	100.0
Areas of Responsibility or Principal Task	- Finance, budget and accounting	38	40.9
	- Policy and planning	27	29.0
	- Performance Review/ Evaluation	8	8.6
	- Other	20	21.5
	Total	93	100.0

Source: Data drawn from survey questionnaire (2002/03) Section D, Questions 61 to 67

5.4.1.1 Recipients of the Victorian Budget Papers

Of 93 respondents, 83 respondents reported that they received the 2002/03 Victorian budget papers, representing 89.2% of the respondents. This confirmed that the objective of the sampling procedure for selecting the recipients of the Victorian budget papers was achieved. Respondents who reported receiving budget papers were further asked to specify which budget papers they received. Four-fifths (79.6%) of the respondents received the Budget Estimates (Budget Paper No.3), followed by the Budget Overview (78.5%); the Budget Statement (Budget Paper No.2) (73.1%); and, last, the Treasurer's Speech (Budget Paper No.1) (68.8%). It should be noted that the percentages do not add up to 100% since respondents received more than one type of budget paper. Table 5.2 provides details of the responses.

Table 5.2: Recipients of various Victorian Budget Papers

Question: Did you receive the 2002/03 Victorian Budget papers? If Yes, I received: *(Please tick one or more)*

Ranking	Recipients of the Victorian budget papers	Frequency	Percent
1	Budget Estimates (Budget Paper No.3)	74	79.6
2	Budget Overview	73	78.5
3	Budget Statement (Budget Paper No.2)	68	73.1
4	Treasurer's Speech (Budget Paper No.1)	64	68.8
Total		279	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 10

Most recipients of the budget papers (79.6%) reported receiving Budget Paper No.3, which contains performance information for each department. This result supports the notion that most respondents would be familiar with the format and content of Budget Paper No.3 and would be able to answer questions about the usefulness of information, including quality of performance information, contained within the budget papers.

A minority of respondents (9.8%) reported that they did not receive the 2002/03 Victorian budget papers. However, of the nine respondents who reported not receiving the budget papers, seven respondents reported using budget papers or various types of performance information contained in the budget papers. This evidence revealed that even though those seven respondents were not the recipients of budget papers, they were still users of the budget papers. As a result, there were 91 out of 93 respondents who were users of the Victorian budget papers, representing 97.85% of the respondents. Only two respondents out of the total 93 respondents did not receive budget papers and

did not use them, representing only 2.1% of the respondents. It should be noted that the two respondents, who reported not receiving and using budget papers, were working in the area of finance, budgeting, and accounting. Thus, it was assumed that they were somehow familiar with the format and content of budget papers. The two non-users of budget papers were also included in the population of this study because they met the criteria of being public officials who could reasonably be expected to be able to answer questions about the consequences of using OBB in the public sector, which was one aim of this study.

5.4.2 Knowledge about Output Based Budgeting and Performance Measures

Respondents were asked whether they *agreed* or *disagreed* with statements relating to OBB and performance measures on a three point Likert scale. Table 5.3 tabulates the results of these survey questions. The respondents overwhelmingly *agreed* that "outcomes are the government's desired or intended impacts on the community" (95.7%) and "effectiveness is the extent to which actual outcomes are achieved" (87.8%). Four-fifths (80.2%) of the respondents agreed that "efficiency is the extent to which resources are minimised for a given level of output". Incorrectly, nearly three-quarters of respondents *agreed* that "outputs are products or services produced or delivered by a department for both internal and external customers" (74.7%) and "OBB means budgeting by focusing on outputs, not outcomes" (72.1%).

On the other hand, the respondents overwhelmingly *disagreed* (91.2%) that "financial performance information alone, without non-financial measures of performance, is sufficient to assess whether entities have achieved their objectives". Four-fifths (80.4%) of the respondents *disagreed* that "OBB is a new concept". Furthermore, three-quarters (75.8%) of the respondents *disagreed* that "to construct an output structure for budgeting, outputs are specified by directly transferring the old program structure to the new output structure". Finally, two-thirds (68.1%) of respondents *disagreed* that "the connection or link between outputs and the government's desired outcomes cannot be demonstrated and measured in practice".

Table 5.3: Knowledge about Output Based Budgeting and Performance Measures

Question: To what extent do you agree or disagree with each of the following statements?

(For each item please tick the box which best reflects your response)

	Agree 3	Don't Know 2	Disagree 1	Total
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent
OBB is a ***new*** concept.	12 13.0%	6 6.5%	74 80.4%	92 100%
Outputs are products or services produced or delivered by a department for both internal and external customers.	68 74.7%	1 1.1%	22 24.2%	91 100%
Outcomes are the government's desired or intended impacts on the community.	88 95.7%	2 2.2%	2 2.2%	92 100%
OBB means budgeting by focusing on ***outputs***, not outcomes.	62 72.1%	5 5.8%	19 22.1%	86 100%
The connection or link between outputs and the government's desired outcomes ***cannot*** be demonstrated and measured in practice.	18 19.8%	11 12.1%	62 68.1%	91 100%
Efficiency is the extent to which resources are minimized for a given level of output.	73 80.2%	2 2.2%	16 17.6%	91 100%
Effectiveness is the extent to which actual outcomes are achieved.	79 87.8%	3 3.3%	8 8.9%	90 100%
To construct an output structure for budgeting, outputs are specified by ***directly*** transferring the old program structure to the new output structure.	8 8.8%	14 15.4%	69 75.8%	91 100%
Financial performance information alone, ***without non-financial*** measures of performance, is sufficient to assess whether entities have achieved their objectives.	7 7.7%	1 1.1%	83 91.2%	91 100%

Source: Data drawn from survey questionnaire (2002/03) Section A, Questions 1 to 9

The criteria for evaluating whether the answers were correct or incorrect were based on the definitions provided by the AARF (1990b); the VDTF (1997b); the Commonwealth Department of Finance and Administration (1998); and the SCRCSSP (1999), as detailed definitions specified in Chapter 1: Sections 1.7.2 and 1.8 and Chapter 3: Section 3.2.1. Table 5.4 reports the ranking of concepts that most respondents answered correctly. The results illustrated that the majority of the respondents correctly agreed on the six key terms and concepts of OBB and performance information.

Table 5.4: Ranking of Correct Answers

Ranking of Correct Answers	Questions	Frequency	Percent
1	***Outcomes*** are the government's desired or intended impacts on the community.	88	95.7
2	Financial performance information alone, ***without non-financial*** measures of performance, is sufficient to assess whether entities have achieved their objectives.	83	91.2
3	***Effectiveness*** is the extent to which actual outcomes are achieved.	79	87.8
4	***Efficiency*** is the extent to which resources are minimized for a given level of output.	73	80.2
5	To construct an output structure for budgeting, outputs are specified by ***directly*** transferring the old program structure to the new output structure.	69	75.8
6	The connection or link between outputs and the government's desired outcomes ***cannot*** be demonstrated and measured in practice.	62	68.1

Source: Data drawn from survey questionnaire (2002/03) Section A, Questions 2 to 9

However, there were two concepts on which most respondents had different opinions from the definitions applied in this study as provided by the Victorian Department of Treasury and Finance (1997b) and the SCRCSSP (1999). Specifically, most respondents answered the questions incorrectly regarding the definitions of outputs and OBB. Details are presented in Table 5.5.

Table 5.5: Ranking of Incorrect Answers

Ranking of Incorrect Answers	Questions	Frequency	Percent
1	***Outputs*** are products or services produced or delivered by a department for both internal and external customers.	68	74.7
2	OBB means budgeting by focusing on ***outputs***, not outcomes.	62	72.1

Source: Data drawn from survey questionnaire (2002/03) Section A, Questions 2 and 4

5.4.2.1 Total Knowledge Scores

The results of total knowledge scores are presented in Table 5.6. The total knowledge scores were calculated based on the correct responses to Questions 2 to 9. Respondents who had correct answers equal to or more than four answers out of the total eight answers (at least 50% correct answers), were classified as having a high knowledge about OBB and performance measures. Only three respondents answered all eight questions correctly, representing 3.2% of the respondents. Eight respondents achieved a total knowledge score of less than four or 50% of the total scores, representing 8.6% of the respondents.

In summary the high knowledge group, with a total knowledge score of at least four, comprised 85 respondents representing 91.5% of the respondents. The low knowledge group, providing at least four answers and achieving a total knowledge score of less than four, comprised six respondents representing 6.5% of the respondents. The evidence revealed that public officials commonly have a high understanding of the key terms and concepts of OBB and performance information as defined by the AARF (1990b); the VDTF (1997b); the Commonwealth Department of Finance and Administration (1998); and the SCRCSSP (1999).

Table 5.6: Total Knowledge Scores

Total Knowledge Scores	Frequency	Percent	Cumulative Percent
0	2	2.2	2.2
1	0	0.0	2.2
2	3	3.2	5.4
3	3	3.2	8.6
4	14	15.1	23.7
5	25	26.9	50.5
6	26	28.0	78.5
7	17	18.3	96.8
8	3	3.2	100.0
Grand Total	93	100.0	

Source: Data drawn from survey questionnaire (2002/03) Section A, Questions 2 to 9

5.4.3 The Usefulness of Information in the 2002/03 Victorian Budget Papers

The data presented in this section are mostly drawn from Section B of the OBB survey questionnaire (2002/03) relating to issues such as the frequency of use of budget papers, readership, comprehension difficulties, the usefulness of items and performance measures in budget papers.

5.4.3.1 Frequency of Use of the Victorian Budget Papers

Three-quarters (74.7%) of the respondents used the Victorian budget papers regularly (at least annually). However, one-fifth (20.9%) of the respondents reported that they "irregularly use" and only a small proportion (3.3%) reported that they "never use". Almost one-third (29.7%) of the respondents used the budget papers as frequently as daily or weekly, as reported in Table 5.7.

Table 5.7: Frequency of Use of the Victorian Budget Papers

Question: How often do you use the Victorian budget papers? *(Please tick one)*

Period	Frequency	Valid Percent	Cumulative Percent
Daily	4	4.4	4.4
Weekly	23	25.3	29.7
Monthly	27	29.7	59.3
Quarterly	10	11.0	70.3
Half yearly	1	1.1	71.4
Annually	3	3.3	74.7
Irregularly	19	20.9	95.6
Never use	3	3.3	98.9
Other	1	1.1	100.0
Total	91	100.0	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 11

5.4.3.2 Readership of Items in the Victorian Budget Papers

Users of budget papers were asked to rate how thoroughly they usually read various items in the budget papers on a five point Likert scale. Table 5.8 displays the results of those responses including the mean scores and standard deviation. A comparison across every individual item rated as *read thoroughly* revealed that nearly one-third (30.4%) of respondents rated the output cost information as being the most thoroughly read item, followed by the descriptive explanation of outputs (24.2%); the descriptive contribution of outputs to department objectives (23.1%); the statistical performance information (23.1%); the descriptive contribution of outputs to government outcomes (20.9%); the Treasurer's speech (18.9%); and, last, the financial statements (11.0%).

Table 5.8: Readership of items in the Victorian Budget Papers

Question: How thoroughly do you usually read the following items in the budget papers?

Items in the budget papers	Read Thoroughly 5	4	3	2	Do not Read 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Output cost information	28 30.4%	26 28.3%	17 18.5%	12 13.0%	9 9.8%	92 100%	3.57	1.31
Descriptive explanation of outputs	22 24.2%	24 26.4%	19 20.9%	16 17.6%	10 11.0%	91 100%	3.35	1.32
Statistical performance information	21 23.1%	20 22.0%	25 27.5%	15 16.5%	10 11.0%	91 100%	3.30	1.30
Descriptive contribution of outputs to department objectives	21 23.1%	21 23.1%	21 23.1%	19 20.9%	9 9.9%	91 100%	3.29	1.30
Descriptive contribution of outputs to government outcomes	19 20.9%	21 23.1%	22 24.2%	20 22.0%	9 9.9%	91 100%	3.23	1.28
Financial statements	10 11.0%	23 25.3%	24 26.4%	20 22.0%	14 15.4%	91 100%	2.95	1.24
Treasurer's speech	17 18.9%	11 12.2%	12 13.3%	28 31.1%	22 24.4%	90 100%	2.70	1.45

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 12

Collapsing the highest two categories on the Likert scale (categories 4 and 5), only changed the last and second last ranking of *read thoroughly* and *somewhat thoroughly* by moving the financial statements into sixth place ahead of the Treasurer's speech. The output cost information, however, remained obviously the most thoroughly read item with more than half (58.7%) of the respondents reading it thoroughly and somewhat thoroughly. Table 5.9 reports the ranking, frequencies, and percentages of the readership of the items within the budget papers after collapsing categories 4 and 5.

Table 5.9: Ranking of the Most Thoroughly Read Items in the Victorian Budget Papers – With Collapsed Categories

Ranking after Collapsing (scale 4+5)	Original Ranking of Read Thoroughly	Items	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Read Thoroughly
1	1	Output cost information	54 58.7%	28 30.4%
2	2	Descriptive explanation of outputs	46 50.5%	22 24.2%
3	3	Descriptive contribution of outputs to department objectives	42 46.2%	21 23.1%
4	3	Statistical performance information	41 45.1%	21 23.1%
5	4	Descriptive contribution of outputs to government outcomes	40 44.0%	19 20.9%
6	6	Financial statements	33 36.3%	10 11.0%
7	5	Treasurer's speech	28 31.1%	17 18.9%

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 12

The mean scores' ranking results from Table 5.8 also reveal that the output cost information was the most thoroughly read item (mean score = 3.57), followed by the descriptive explanation of outputs (mean score = 3.35); the statistical performance information (mean score = 3.30); the descriptive contribution of outputs to department objectives (mean score = 3.29); the descriptive contribution of outputs to government outcomes (mean score = 3.23); the financial statements (mean score = 2.95); and, last, the Treasurer's speech (mean score = 2.70). The results of the mean scores' ranking were consistent with the survey results when collapsing the adjacent highest two categories on the Likert scales, where it was found that the output cost information was the most thoroughly read item; the financial statements were the second least thoroughly read item; and the Treasurer's speech was the least thoroughly read item.

To properly understand the meaning of the government budgets and spending, the financial statements in the budget papers are an essential item. However, this study found that few users thoroughly read the financial statements. Additionally, given the fact that the Treasurer's speech was delivered by the State Treasurer and usually served as an introduction and set the tone for how the budget was spent, one would have expected that it would be read by most users or would serve as an important item in communicating information to users. Unfortunately, this was not the case. Only almost one-fifth (18.9%) of users reported reading the Treasurer's speech thoroughly and a quarter (24.4%) of users did not read this item at all. The small number of users who thoroughly read the Treasurer's speech is of concern.

5.4.3.3 Purposes for Using the Budget Papers

Using the four categories provided: "for making decisions about the allocation of resources"; "to evaluate decisions about the allocation of resources"; "for accountability purposes"; and "other", users of the budget papers were asked to select from these categories as many purposes as were relevant to them. The first three purposes were those identified in SAC2 "Objective of General Purpose Financial Reporting" (AARF 1990b) as being the purposes for using financial reports. The last category "other" was provided to give an opportunity to the respondents to specify other relevant reasons for using the budget papers. As many respondents had more than one purpose for using the budget papers, the percentages did not add up to 100% (see Table 5.10).

Table 5.10: Purposes for Using the Victorian Budget Papers

Question: For what purpose do you use the Victorian budget papers? *(Please tick as many as apply)*

Ranking	Purposes for Using the Budget Papers	Frequency	Percent
1	For accountability purposes	71	76.3
2	To evaluate decisions about the allocation of resources	34	36.6
3	For making decisions about the allocation of resources	30	32.3
4	Other	24	25.8
	Total	159	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 13

The majority of the respondents reported using budget papers for the three purposes, as identified by SAC2, with one-quarter (25.8%) of the respondents using budget papers for other purposes. The most frequently cited purposes for using the budget papers was: "for accountability purposes" (76.3%); followed by "to evaluate decisions about the

allocation of resources" (36.6%); "for making decisions about the allocation of resources" (32.3%); and, last, "other" (25.8%).

The result revealed that the purposes identified by SAC2 (AARF 1990b) were quite adequately reflected in the reasons given by public officials for using the budget papers. This conclusion was supported by the last ranking of the "other" category. Table 5.11 presents other purposes for using the budget papers, and frequencies and percentages of occurrence. Obviously the most widely used phrase was "understand government" (6 occurrences); followed by "understand key initiatives" (3 occurrences); "reference" (3 occurrences); "answering PAEC" (2 occurrences); "reconciliation" (2 occurrences); and "review" (2 occurrences). The remaining eight other purposes had only one occurrence for each purpose.

Table 5.11: Other Purposes for Using the Victorian Budget Papers

Other purposes for using budget papers	Frequency of Occurrence	Percent of Occurrence
- To understand: other departments; the allocation outcomes; general information about agency budget activities; budget of relevant agencies and key government directions; and what is happening in government	6	23.1
- To understand and identify key initiatives; to determine key priority areas for implementation of key initiatives	3	11.5
- Reference: in preparation of output proposals for subsequent budgets and production of divisional plans and budgets	3	11.5
- Answering PAEC questionnaires; providing information to PAEC and other miscellaneous enquires	2	7.7
- Reconciliation with departmental and ERC submissions and to reconcile departmental budgets to the legal authority to incur expenditure	2	7.7
- Review what was committed and only occasionally use budget papers to review decisions	2	7.7
- Reporting to DTF and others	1	3.9
- Some analyses	1	3.9
- To assess performance and integration (e.g. corporate plans)	1	3.9
- To check my facts in providing financial management advice	1	3.9
- Generally to identify appropriation bases	1	3.9
- Memory aide	1	3.9
- Provide explanation for knowledge concept	1	3.9
- Quarterly revenue acquittal purposes	1	3.9
Total responses	26	100

Note: As each respondent could provide more than one answer to other purposes for using budget papers, thus the 24 respondents who reported using budget papers for other purposes provided 26 responses.

The finding of this study as to the high response rate, with three-quarters (76.3%) of the respondents reporting using the budget papers for accountability purpose, is consistent with the findings of Alijarde (1997) and Coy et al (1997) in that accountability has been identified as the main purpose of public sector financial reporting since 1985. In addition, the significance of using budget papers for the accountability purpose found by this study conformed to the purpose emphasised by SAC2 for the public sector as follows:

> "The provision of information for accountability purposes is an important function of the process of general purpose financial reporting, particularly in relation to public sector entities and non-business entities in the private sector" (AARF 1990b, para.27).

It should be noted that the two purposes, namely "to evaluate decisions about the allocation of resources and "for making decisions about the allocation of resources" attracted only approximately one-third of the respondents. This evidence may indicate that information within the budget papers did not quite adequately meet the needs of public official users in assisting them to evaluate and make decisions about the allocation of resources as proposed by SAC2.

5.4.3.4 Comprehension Difficulties of the Items in the Victorian Budget Papers

Users of budget papers were asked whether they had difficulty in understanding the items in the budget papers. Exactly half of the respondents (50.0%) or 45 respondents reported having difficulty in understanding the items in the budget papers. Respondents who reported having comprehension difficulties of the items in the budget papers were asked further to specify which items in the budget papers caused comprehension difficulties. Each respondent could provide more than one response relevant to them, thus the 45 respondents who reported having difficulty in understanding the items in the budget papers provided 92 responses to this question.

In Table 5.12, the items are ranked in order from the most highly rated causing difficulty in understanding. It was found that the financial statement was the most difficult item and the Treasurer's speech was the least difficult item for budget paper users. All financial and statistical items were rated ahead of descriptive items as being more difficult to understand for budget paper users. Approximately a quarter (24.7%) of respondents reported that the financial statement was the most difficult item to understand, followed by the statistical performance information (22.6%); the output cost

information (18.3%); the descriptive contribution of outputs to department objectives (12.9%); the descriptive contribution of outputs to government outcomes (10.8%); the descriptive explanation of outputs (7.5%); and, last, the Treasurer's speech (2.2%).

Table 5.12: Ranking of Difficulty of Understanding Items in the Victorian Budget Papers

Question: Which of the following items in the budget papers do you often have difficulty understanding? *(Please tick as many as apply)*

Ranking	Items with difficulty of understanding	Frequency	Percentage
1	Financial statements	23	24.7
2	Statistical performance information	21	22.6
3	Output cost information	17	18.3
4	Descriptive contribution of outputs to department objectives	12	12.9
5	Descriptive contribution of outputs to government outcomes	10	10.8
6	Descriptive explanation of outputs	7	7.5
7	Treasurer's speech	2	2.2
	Total	92	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 14

5.4.3.5 Usefulness of Items within the Budget Papers

Respondents were asked to rate the usefulness of various items within the budget papers on a five point Likert scale. According to the mean scores' ranking reported in Table 5.13, the statistical performance information was the most useful item (mean score = 3.46), followed by the descriptive contribution of outputs to department objectives (mean score = 3.45); the descriptive explanation of outputs (mean score = 3.43); the descriptive contribution of outputs to government outcomes (mean score = 3.37); the output cost information (mean score = 3.25); the financial statements (mean score = 3.09); and, last, the Treasurer's speech (mean score = 2.75). Overall, descriptive items (i.e. the descriptive contribution of outputs to department objectives, the descriptive explanation of outputs, and the descriptive contribution of outputs to government outcomes) were rated as being more useful than financial and statistical items (i.e. the output cost information and the financial statements).

However, the results from a comparison across every individual item rated as *very useful* revealed that a quarter (25.0%) of the respondents rated the output cost information as being the most useful item, followed by the descriptive explanation of outputs (22.1%); the descriptive contribution of outputs to government outcomes (22.1%); the descriptive contribution of outputs to department objectives (19.8%);

the statistical performance information (18.8%); the Treasurer's speech (17.6%); and, last, the financial statements (14.9%).

Table 5.13: Usefulness of Items within the Budget Papers

Question: How useful do you find the following items in the budget papers? *(Please tick one box for each item)*

Items in the budget papers	Very Useful 5	4	3	2	Not Useful 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Statistical performance information	16 18.8%	23 27.1%	33 38.8%	10 11.8%	3 3.5%	85 100%	3.46	1.04
Descriptive contribution of outputs to department objectives	17 19.8%	29 33.7%	21 24.4%	14 16.3%	5 5.8%	86 100%	3.45	1.16
Descriptive explanation of outputs	19 22.1%	23 26.7%	25 29.1%	14 16.3%	5 5.8%	86 100%	3.43	1.17
Descriptive contribution of outputs to government outcomes	19 22.1%	22 25.6%	24 27.9%	14 16.3%	7 8.1%	86 100%	3.37	1.23
Output cost information	22 25.0%	16 18.2%	22 25.0%	18 20.5%	10 11.4%	88 100%	3.25	1.34
Financial statements	13 14.9%	23 26.4%	21 24.1%	19 21.8%	11 12.6%	87 100%	3.09	1.26
Treasurer's speech	15 17.6%	12 14.1%	18 21.2%	17 20.0%	23 27.1%	85 100%	2.75	1.45

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 15

Collapsing the highest two categories on the Likert scale (categories 4 and 5), altered the ranking of *very useful* and *useful* items considerably, by moving: "the descriptive contribution of outputs to department objectives" up into first place; "the descriptive contribution of outputs to government outcomes" down into third place; "the output cost information" down into fifth place; and "the financial statements" up into sixth place ahead of "the Treasurer's speech" (see Table 5.14). The descriptive explanation of outputs and the statistical performance information, however, remained in the same place in second and fourth places, respectively.

In summary, after collapsing the highest two categories, all descriptive items except the Treasurer's speech were rated as more useful to budget paper users than financial and statistical items. This evidence was strongly supported by the findings of the difficulty of understanding items (Table 5.12), where it was found that respondents considered descriptive items as being less difficult to understand than financial and statistical items. Therefore, it is possible that those respondents rated descriptive items as being more useful than financial and statistical items.

Table 5.14: Ranking of Usefulness of Items within the Budget Papers

Ranking after Collapsing (scale 4+5)	Original Ranking of Very Useful	Items	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Very Useful
1	3	Descriptive contribution of outputs to department objectives	46 53.5%	17 19.8%
2	2	Descriptive explanation of outputs	42 48.8%	19 22.1%
3	2	Descriptive contribution of outputs to government outcomes	41 47.7%	19 22.1%
4	4	Statistical performance information	39 45.9%	16 18.8%
5	1	Output cost information	38 43.2%	22 25.0%
6	6	Financial statements	36 41.4%	13 14.9%
7	5	Treasurer's speech	27 31.8%	15 17.6%

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 15

It was clear that the Treasurer's speech and the financial statements were always reported as being the least or the second least useful items. Specifically, the Treasurer's speech was the least useful item when considering the collapsed categories of *very useful* and *useful*. However, the financial statement was the least useful item when considering the *very useful* category. For the most useful item, the descriptive contribution of outputs to department objectives was the most useful item when considering the collapsed categories of *very useful* and *useful*. However, it should be noted that the output cost information was also reported as being the most useful item when considering the *very useful* category. Furthermore, the statistical performance information was the most useful item when considering the least *not useful* category. Nevertheless the descriptive explanation of outputs was consistently ranked as the second most useful item. The descriptive contribution of outputs to department objectives and the descriptive contribution of outputs to government outcomes were always ranked within the highest third of most useful items.

5.4.3.6 Usefulness of Performance Measures

A comparison across every performance measure rated as *very useful* revealed that approximately one-fifth (21.6%) of the respondents rated cost measures as being *very useful* performance measures, followed by quality measures (17.0%); quantity measures (15.9%); and, last, timeliness measures (13.6%). Table 5.15 provides details of the

responses. Further collapsing the highest two categories on the Likert scale (categories 4 and 5), slightly altered the ranking of the usefulness of performance measures by moving quantity measures into second place ahead of quality measures. However, cost measures remained the most useful performance measure and timeliness measures remained the least useful performance measure.

The mean scores' ranking in Table 5.15, also revealed that cost measures were the most useful performance measures (mean score = 3.37), followed by quantity measures (mean score = 3.26); quality measures (mean score = 3.06); and, last, timeliness measures (mean score = 3.00). Therefore, the two descriptive analysis methods: a comparison of collapsing adjacent responses of the highest two categories on the Likert scales and the mean scores' ranking, provided exactly the same ranking results. Nevertheless, the results from the three descriptive analysis methods: a comparison across every performance measure rated as *very useful*; a comparison of collapsing adjacent responses of the highest two categories on the Likert scales; and the mean scores' ranking, provided consistent results. They all indicated that *cost measures* were the most useful performance measures and *timeliness measures* were the least useful performance measures.

Table 5.15: Usefulness of Performance Measures

Question: How <u>useful</u> are the various types of performance measures contained in the Victorian budget papers? *(For each type please tick the box which best reflects your opinion)*

Performance Measures	Very Useful 5	4	3	2	Not Useful 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Cost measures	19 21.6%	26 29.5%	19 21.6%	17 19.3%	7 8.0%	88 100%	3.38	1.24
Quantity measures	14 15.9%	24 27.3%	28 31.8%	15 17.0%	7 8.0%	88 100%	3.26	1.16
Quality measures	15 17.0%	16 18.2%	25 28.4%	23 26.1%	9 10.2%	88 100%	3.06	1.24
Timeliness measures	12 13.6%	13 14.8%	32 36.4%	25 28.4%	6 6.8%	88 100%	3.00	1.12

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 16

5.4.3.7 Frequency of Use of Performance Measures

Respondents were asked to describe how often they used the four types of performance measures contained in the Victorian budget papers: quality measures; quantity measures; cost measures; and timeliness measures. The summaries of the frequency of use of the four performance measures are as follows.

In respect of *quality measures*, nearly three-quarters (69.2%) of the respondents used the measures regularly (at least annually). However, 17.6% of the respondents reported that they "irregularly use" and 11.0% reported that they "never use".

For *quantity measures*, almost three-quarters (69.2%) of the respondents used the measures regularly (at least annually). However, 19.8% of the respondents reported that they "irregularly use" and 7.7% reported that they "never use".

In the case of *cost measures*, three-quarters (72.5%) of the respondents used the measures regularly (at least annually). However, 17.6% of the respondents reported that they "irregularly use" and 6.6% reported that they "never use".

Finally, for *timeliness measures*, about three-quarters (68.1%) of the respondents used the measures regularly (at least annually). However, 18.7% of the respondents reported that they "irregularly use" and 9.9% reported that they "never use".

With comparing the four performance measures, a common pattern of use of performance measures emerged. More than half of the respondents used all four performance measures regularly at least quarterly. For the three performance measures: quality measures; quantity measures; and timeliness measures, *quarterly* was the most common period reported by more than a quarter of the respondents, followed by *monthly*. Conversely, for cost measures, *monthly* was the most common period reported by a quarter (24.2%) of the respondents, followed by *quarterly* (23.1%). Further, the ranking of performance measures rated as "never use" was: quality measures (11.0%), timeliness measures (9.9%); quantity measures (7.7%); and, last, cost measures (6.6%). These data suggest that respondents commonly used cost measures more than other performance measures. The frequencies, percentages and cumulative percentages of the usage of four types of performance measures are reported in Table 5.16.

Table 5.16: Frequency of Use of Performance Measures

Question: How often do you use performance measures contained in the Victorian budget papers?
(Please tick one box for each item)

Performance Measures/ Period	Quality measures		Quantity measures		Cost measures		Timeliness measures	
	Frequency Percent	Cumulative Percent	Frequency Percent	Cumulative Percent	Frequency Percent	Cumulative Percent	Frequency Percent	Cumulative Percent
Daily	0 0.0%		0 0.0%		0 0.0%		0 0.0%	
Weekly	10 11.0%	11.0	10 11.0%	11.0	14 15.4%	15.4	8 8.8%	8.8
Monthly	19 20.9%	31.9	23 25.3%	36.3	22 24.2%	39.6	20 22.0%	30.8
Quarterly	27 29.7%	61.5	25 27.5%	63.7	21 23.1%	62.6	25 27.5%	58.2
Half yearly	4 4.4%	65.9	2 2.2%	65.9	7 7.7%	70.3	3 3.3%	61.5
Annually	3 3.3%	69.2	3 3.3%	69.2	2 2.2%	72.5	6 6.6%	68.1
Irregularly	16 17.6%	86.8	18 19.8%	89.0	16 17.6%	90.1	17 18.7%	86.8
Never Use	10 11.0%	97.8	7 7.7%	96.7	6 6.6%	96.7	9 9.9%	96.7
Other	2 2.2%	100.0	3 3.3%	100.0	3 3.3%	100.0	3 3.3%	100.0
Total	91 100%		91 100%		91 100%		91 100%	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 17

5.4.3.8 Quality of Performance Information within the Victorian Budget Papers

Respondents were asked whether they agreed or disagreed with statements relating to the quality of performance information contained within the Victorian budget papers, in terms of the qualitative characteristics of information identified by SAC3 (AARF 1990c). The data on the five point Likert scale revealed that the responses were generally distributed towards the *agree, undecided*, and *disagree* categories, with a very small number of responses distributed towards the *strongly agree* and *strongly disagree* categories.

Overall, a little more than one-third (36.0%) of the budget paper users were satisfied with the quality of performance information contained within the budget papers, with another 4.5% of the respondents strongly satisfied. Conversely, almost one-third (29.2%) of the budget paper users were not satisfied with the quality of performance information, while another 4.5% of the respondents were strongly dissatisfied. Table 5.17 tabulates the results on the five point Likert scale.

Table 5.17: Quality of Performance Information within the Victorian Budget Papers

Question: According to your information <u>needs</u>, do you agree or disagree with the following statements about the quality of <u>performance information</u> contained in the Victorian budget papers?

(Please tick one box for each statement)	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly disagree 1	Total	Mean	S.D.
Relevance	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
The information influences my ***decisions*** about the allocation of resources (such as investing or funding approvals).	7 8.0%	27 30.7%	14 15.9%	28 31.8%	12 13.6%	88 100%	2.88	1.22
The information helps me make ***predictions.***	2 2.2%	29 32.6%	28 31.5%	24 27.0%	6 6.7%	89 100%	2.97	0.98
The information helps me ***confirm*** my past ***evaluations.***	4 4.5%	35 39.3%	23 25.8%	21 23.6%	6 6.7%	89 100%	3.11	1.04
The information assists me to ***correct*** my past ***evaluations.***	3 3.4%	33 37.1%	24 27.0%	22 24.7%	7 7.9%	89 100%	3.03	1.04
Total							3.00	1.07
Reliability								
The information is a good presentation of the ***facts*** without bias.	6 6.9%	24 27.6%	27 31.0%	23 26.4%	7 8.0%	87 100%	2.99	1.07
No material information is ***omitted.***	2 2.2%	11 12.4%	27 30.3%	33 37.1%	16 18.0%	89 100%	2.44	1.00
The information does ***not*** contain significant ***errors.***	7 8.0%	27 31.0%	29 33.3%	21 24.1%	3 3.4%	87 100%	3.16	1.00
The information does ***not*** contain deliberate ***misstatements.***	15 17.4%	35 40.7%	22 25.6%	11 12.8%	3 3.5%	86 100%	3.56	1.04
Total							3.03	1.01
Comparability								
The information enables me to compare performance of an ***entity*** over ***different years.***	6 6.9%	37 42.5%	20 23.0%	19 21.8%	5 5.7%	87 100%	3.23	1.05
The information enables me to compare performance of different government departments at ***one time.***	4 4.5%	23 26.1%	23 26.1%	29 33.0%	9 10.2%	88 100%	2.82	1.08
The information enables me to compare performance of different government departments ***over time.***	3 3.4%	20 22.5%	27 30.3%	29 32.6%	10 11.2%	89 100%	2.74	1.04
The presentation of the information is ***consistent*** over time.	2 2.2%	23 25.8%	21 23.6%	34 38.2%	9 10.1%	89 100%	2.72	1.03
Total							2.88	1.07
Understandability								
I am able to ***comprehend*** the meaning of the information.	8 9.0%	54 60.7%	15 16.9%	10 11.2%	2 2.2%	89 100%	3.63	0.88
The information is presented in an ***understandable*** format.	6 6.7%	42 47.2%	22 24.7%	16 18.0%	3 3.4%	89 100%	3.36	0.97
The information content is ***clear.***	6 6.7%	35 39.3%	30 33.7%	15 16.9%	3 3.4%	89 100%	3.29	0.94
Total							3.43	0.94
Overall, I am ***satisfied*** with the quality of performance information contained in the budget papers.	4 4.5%	32 36.0%	23 25.8%	26 29.2%	4 4.5%	89 100%	3.07	1.01

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 18

A comparison across every individual statement rated as *strongly agree* revealed that the statement, "reliability: the information does not contain deliberate misstatements" was the qualitative characteristic that best satisfied budget paper users with 17.4% of respondents, followed by the statement "understandability: I am able to comprehend the meaning of the information" with 9.0% of respondents. At the bottom of the ranking, the statements "reliability: no material information is omitted"; "comparability: the presentation of the information is consistent over time"; and "relevance: the information helps me make predictions" were perceived as being the qualitative characteristics that least satisfied budget paper users.

Collapsing the highest two categories on the Likert scale (categories 4 and 5), switched the first and second ranking of the best satisfied qualitative characteristic by moving the statement "understandability: I am able to comprehend the meaning of the information" into first place ahead of the statement "reliability: the information does not contain deliberate misstatements". However, at the bottom of the ranking, the statement "reliability: no material information is omitted" remained the qualitative characteristic that least satisfied budget paper users.

On the whole, according to the mean scores' ranking, *understandability* of performance information was the qualitative characteristic that best satisfied budget paper users (mean score = 3.43), followed by *reliability* (mean score = 3.03); *relevance* (mean score = 3.00); and last, *comparability* (mean score = 2.88). The results from the mean scores' ranking were consistent with the results from collapsing categories 4 and 5 on the Likert scale, in that *understandability* was the qualitative characteristic that best satisfied budget paper users and *comparability* was the qualitative characteristic that least satisfied budget paper users.

Collapsing the highest two categories on the Likert scale clearly revealed that *understandability* was the qualitative characteristic that best satisfied budget paper users because the majority of users had a positive perception regarding all three statements representing the definition of understandability. In addition, one statement achieved the highest response rate of 69.7% compared to that of other qualitative characteristics. Specifically, most respondents *strongly agreed* or *agreed* that: they were able to

comprehend the meaning of the information (69.7%); the information was presented in an understandable format (53.9%); and the information content was clear (46.0%).

Conversely, *comparability* was the qualitative characteristic that least satisfied budget paper users because most users had a negative perception regarding three out of four statements representing the definition of comparability. Moreover, these three statements were ranked at the bottom of the list as being the qualitative characteristic that least satisfied budget paper users. Specifically, over two-fifths of the respondents *strongly disagreed* or *disagreed* that: the presentation of the information was consistent over time (48.3%); the information enabled them to compare performance of different government departments over time (43.8%); and that the information enabled them to compare the performance of different government departments at one time (43.2%). However, about half (49.4%) of the respondents *strongly agreed* or *agreed* that the information enabled them to compare performance of an entity over different years.

In summary, this evidence reveals that most public official users used performance information to compare the performance of an entity over different years rather than to compare the performance of different government departments. Importantly, approximately half (48.3%) of the respondents reported that the presentation of the information was not consistent over time. These survey responses will be compared with the content analysis results of the Victorian budget papers undertaken in this thesis as a separate empirical research study (see Chapter 7).

With respect to the qualitative characteristic *relevance*, about two-fifths of the respondents *strongly agreed* or *agreed* that the information helped them confirm their past evaluations (43.8%) and correct their past evaluations (40.5%). However, almost half (45.4%) of the respondents *strongly disagreed* or *disagreed* that the information influenced their decisions about the allocation of resources (such as investing or funding approvals). This evidence was consistent with the findings of the purposes for using the budget papers, where it was found that making decisions about the allocation of resources was not a major purpose for using the budget papers.

For the qualitative characteristic *reliability*, overall there was no common perception across the four statements regarding the quality of this characteristic. For the statement "the information is a good presentation of the facts without bias", there was an equal response rate of 34.5% for both *strongly agree* or *agree* and *strongly disagree* or *disagree* categories. More than half (55.1%) of the responses had a negative perception or *strongly disagreed* or *disagreed* that "no material information is omitted". On the other hand, many respondents had a positive perception or *strongly agreed* or *agreed* that "the information does not contain deliberate misstatements" (58.1%) and "the information does not contain significant error" (39.0%).

5.4.3.9 Use of Performance Information

A majority of the respondents (77.8%) reported using the performance information (Table 5.18). Those who used the performance information were asked further to specify how the performance information had been used.

Table 5.18: Use of Performance Information

Question: Do you use performance information?

Responses	Frequency	Percent
Use performance information	70	77.8
Do not use performance information	20	22.2
Total	90	100.0

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 19

Almost two-thirds (62.4%) of the respondents reported using the performance information for performance evaluation, followed by allocating resources (37.6%); setting objectives (37.6%); increasing productivity (16.1%); purchasing outputs from alternative providers (10.8%); and, last, other ways (9.7%). Table 5.19 provides details of the responses. It should be noted that the percentages did not add up to 100% since respondents had more than one purpose for using the performance information. In addition, nine respondents specified using performance information in "other ways" as follows: "policy analysis"; "preparation of budget papers"; "quarterly revenue acquittal"; "advice to government"; "use prior year's information to help construct current year information"; "reporting and understanding other departments"; "quarterly revenue process"; "accountability"; and "analysis over time of cost increases and service charges".

Table 5.19: Various Usages of Performance Information

Question: Do you use performance information? If your answer is "YES", please also indicate how performance information has been used. *(Please tick one or more)*

Ranking	Performance Information has been used in:	Frequency	Percent
1	Performance evaluation	58	62.4
2	Allocating resources	35	37.6
2	Setting objectives	35	37.6
3	Increasing productivity	15	16.1
4	Purchasing outputs from alternative providers	10	10.8
5	Other ways	9	9.7
	Total	162	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 19

5.4.3.10 Performance Information Preparation

More than half of the respondents (57.8%) believed that performance information should be prepared by management and verified by independent auditors. Almost two-fifths (37.8%) of the respondents indicated that performance information should be prepared by management. Only a small number of respondents (4.4%) stated that performance information should be prepared by independent auditors. Table 5.20 reports these responses.

Table 5.20: Performance Information Preparation

Question: Do you think that performance information should be prepared by: *(Please tick one)*

Ranking	Performance information should be prepared by:	Frequency	Percent
1	Management and verified by independent auditors	52	57.8
2	Management	34	37.8
3	Independent auditors	4	4.4
	Total	90	100.0

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 20

5.4.3.11 Performance Audits by External Auditors

The majority (69.2%) of the respondents reported that performance audits by external auditors had been undertaken in their organisations. Only seven respondents (7.7%) indicated that they had ***not*** used external auditors to conduct performance audits. A further small number of three respondents stated that they had not used external auditors but intended to have performance audits in the future. The remaining one-fifth (19.8%) of the respondents reported that they did not know. Table 5.21 provides details of the responses.

Table 5.21: Performance Audits by External Auditors

Question: Have performance audits by external auditors been undertaken in your organisation? *(Please tick one)*

Ranking	Responses	Frequency	Percent
1	Yes	63	69.2
2	Don't know	18	19.8
3	No	7	7.7
4	No, but intend to have performance audits	3	3.3
	Total	91	100.0

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 21

5.4.3.12 Performance Measures Checked for Accuracy

Most (75.6%) of the respondents indicated that performance measures in their organisations were checked for accuracy. Only six respondents (6.7%) indicated that performance measures were not checked for accuracy. Nearly one-fifth (17.8%) of the respondents reported that they did not know (see Table 5.22).

Table 5.22: Performance Measures Checked for Accuracy

Question: Are performance measures in your organisation checked for accuracy? *(Please tick one)*

Ranking	Responses	Frequency	Percent
1	Yes	68	75.6
2	Don't know	16	17.8
3	No	6	6.7
	Total	90	100.0

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 22

Respondents who reported having performance measures checked for accuracy were further asked to indicate how often those performance measures were checked (Table 5.23). Almost two-thirds (64.2%) of the respondents reported having performance measures checked for accuracy at least quarterly. About two-fifths (38.8%) of the respondents indicated that performance measures were checked for accuracy at least monthly.

Table 5.23: Frequency of Checking of Performance Measures for Accuracy

Question: Are performance measures in your organisation checked for accuracy? If your answer is "YES", please also indicate how often they are checked. *(Please tick one)*

Period	Frequency	Valid Percent	Cumulative Percent
Daily	0	0.0	0.0
Weekly	1	1.5	1.5
Monthly	25	37.3	38.8
Quarterly	17	25.4	64.2
Annually	20	29.9	94.1
Other	4	6.0	100.0
Total	67	100.0	

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 22

5.4.3.13 Quality of Total Output Cost Information in the Victorian Budget Papers

Respondents were asked whether they agreed or disagreed with statements relating to the quality of total output cost information contained within the Victorian budget papers, based on the qualitative characteristics of information proposed by SAC3 (AARF 1990c) and the usability characteristic. Table 5.24 tabulates the results on the five point Likert scale. The data on the five point Likert scale illustrate that the responses were generally distributed towards the *agree, undecided,* and *disagree* categories, with a very small number of responses distributed towards the *strongly agree* and *strongly disagree* categories.

Approximately one-third of the responses to the question "Overall, I am satisfied with the quality of output cost information contained in the budget papers" was almost equally distributed among the three categories: *undecided* (34.5%); *strongly disagree or disagree* (33.3%); and *strongly agree or agree* (32.2%). Therefore, there is no dominant perception on whether the users of the budget papers were satisfied or dissatisfied with the *overall* quality of the total output cost information contained within the budget papers.

A comparison across all individual statements rated as *strongly agree* revealed that the statement "relevance: the information is essential and influences my decisions about the allocation of resources (such as funding approvals)" was the qualitative characteristic that *best* satisfied budget paper users with 7.1% of respondents, followed by the statement "reliability: the information does not contain significant errors" with 5.7% of respondents. At the bottom of the ranking, two statements representing *comparability* and *usability* were viewed as being the characteristics that *least* satisfied budget paper users. Specifically, none (0.0%) of the respondents *strongly agreed* that: "the information enabled them to compare output costs of government departments against private sector counterparts"; and "the total output cost" information (without the cost per unit measure) was sufficient to make budget allocation decisions".

Table 5.24: Quality of Total Output Cost Information within the Victorian Budget Papers

Question: According to your information <u>needs</u>, do you agree or disagree with the following statements about the quality of "<u>TOTAL output cost" information</u> provided in the Victorian Budget Estimates (Budget Paper No.3)? *(Please tick one box for each statement)*

	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Relevance								
The information is ***essential*** and ***influences*** my decisions about the allocation of resources (such as funding approvals).	6 7.1%	25 29.4%	20 23.5%	26 30.6%	8 9.4%	85 100%	2.94	1.13
Reliability								
The information does ***not*** contain significant ***errors.***	5 5.7%	33 37.9%	30 34.5%	16 18.4%	3 3.4%	87 100%	3.24	0.94
Comparability								
The information enables me to compare output costs of ***an entity*** over ***different years***.	4 4.7%	34 39.5%	19 22.1%	23 26.7%	6 7.0%	86 100%	3.08	1.07
The information enables me to compare output costs of ***different*** government departments.	2 2.3%	25 29.1%	23 26.7%	29 33.7%	7 8.1%	86 100%	2.84	1.02
The information enables me to compare output costs of ***government*** departments against ***private*** sector counterparts.	0 0.0%	6 7.0%	21 24.4%	39 45.3%	20 23.3%	86 100%	2.15	0.86
Total							2.69	1.06
Understandability								
The information is presented in an ***understandable*** format.	2 2.3%	49 56.3%	20 23.0%	10 11.5%	6 6.9%	87 100%	3.36	0.96
I am able to ***comprehend*** the meaning of the information.	4 4.6%	55 63.2%	17 19.5%	8 9.2%	3 3.4%	87 100%	3.56	0.86
Total							3.46	0.92
Usability								
The information is ***usable*** for making decisions, without the need for any additional calculations or adjustments.	2 2.3%	16 18.4%	24 27.6%	31 35.6%	14 16.1%	87 100%	2.55	1.04
The "total output cost" information (without the cost per unit measure) is ***sufficient*** to make budget allocation decisions.	0 0.0%	14 16.1%	17 19.5%	37 42.5%	19 21.8%	87 100%	2.30	0.99
Total							2.43	1.02
Overall, I am ***satisfied*** with the quality of output cost information contained in the budget papers.	3 3.4%	25 28.7%	30 34.5%	21 24.1%	8 9.2%	87 100%	2.93	1.02

Source: Data drawn from survey questionnaire (2002/03) Section B, Question 23

Collapsing categories 4 and 5 on the Likert scale, altered the ranking considerably by moving the statement "understandability: I am able to comprehend the meaning of the information" into first place as being the qualitative characteristic that *best* satisfied budget paper users with 67.8% of respondents, followed by the statement "understandability: the information is presented in an understandable format" with 58.6% of respondents of that view. However, at the bottom of the ranking, the statement: "comparability: the information enables me to compare output costs of government departments against private sector counterparts" remained the qualitative characteristic that *least* satisfied budget paper users, and the statement "usability: "the total output cost" information (without the cost per unit measure) is sufficient to make budget allocation decisions" became the second last ranking.

On the whole, according to the mean scores' ranking, *understandability* of the total output cost information was the qualitative characteristic that best satisfied budget paper users (mean score = 3.46), followed by *reliability* (mean score = 3.24); *relevance* (mean score = 2.94); *comparability* (mean score = 2.69); and last, *usability* (mean score = 2.43). The results from the mean scores' ranking were consistent with the results from collapsing the highest two adjacent categories on the Likert scale. Whilst it was found that *understandability* was the qualitative characteristic that best satisfied budget paper users, the *comparability* and *usability* characteristics were perceived as being less satisfactory. Whilst most respondents tended to have a positive perception or agreed with statements representing the qualities of *understandability*, they tended to have a negative perception or disagreed with statements representing the qualities of *usability* and *comparability*.

Obviously, *understandability* was the qualitative characteristic that best satisfied budget paper users because the majority of users had a positive perception regarding both statements representing the definition of understandability. Specifically, the majority of respondents *strongly agreed* or *agreed* that: they were able to comprehend the meaning of the information" (67.8%); and that the information was presented in an understandable format (58.6%). It should be noted that only the two statements representing the definition of understandability achieved agreement from more than half of respondents, with one of these statements achieving the highest response rate of 67.8%. No other statements achieved such a high level of agreement.

Conversely, *usability* could be perceived as being the least satisfactory characteristics. Most respondents had a negative perception regarding both statements representing the definition of usability. More than half of the respondents *strongly disagreed* or *disagreed* that: "the information was usable for making decisions, without the need for any additional calculations or adjustments" (51.7%) and "the "total output cost" information (without the cost per unit measure) was sufficient to make budget allocation decisions" (64.3%). This evidence revealed that the majority of users regarded the cost per unit measure, rather than the total output cost information, as important in making budget allocation decisions. As the cost per unit measure was not available in the budget papers, it was likely that budget paper users needed to make additional calculations before using the total output cost information to make budget allocation decisions.

With respect to the qualitative characteristic *comparability*, the majority of users *strongly disagreed* or *disagreed* that "the information enabled them to compare output costs of government departments against private sector counterparts" (68.6%). Further, about two-fifths (41.8%) of the respondents *strongly disagreed* or *disagreed* that "the information enabled them to compare output costs of different government departments". Nevertheless, many respondents (44.2%) *strongly agreed* or *agreed* that "the information enables them to compare performance of an entity over different years".

For the qualitative characteristic *reliability*, two-fifths (43.6%) of the respondents *strongly agreed* or *agreed* that the information did not contain significant errors. This finding was similar to the findings from the perceived quality of performance information in the budget papers, where about two-fifths of the respondents perceived that performance information did not contain significant errors.

With respect to the qualitative characteristic *relevance*, two-fifths (40.0%) of respondents *strongly disagreed* or *disagreed* that the information was essential and influenced their decisions about the allocation of resources (such as funding approvals). This finding was consistent with the findings from the perceived quality of performance information in the budget papers and the purposes for using the budget papers, where most respondents indicated that performance information did not influence decisions about the allocation of resources, and that making decisions about the allocation of

resources was not a major purpose for using the budget papers. This confirmed that performance information, in particular the total output cost information, did not influence decisions about the allocation of resources.

5.4.4 The Consequences of Using OBB in the Public Sector

Respondents were asked whether they agreed or disagreed with statements relating to the consequences of using OBB in three areas: decision making; accountability and organisational operations. Overall, data on the five point Likert scale revealed that the responses were generally distributed towards the *agree*, *undecided*, and *disagree* categories, with a very small number of responses distributed towards the *strongly agree* and *strongly disagree* categories.

For the meaningful interpretation of the data in order to get a broader view of whether respondents had a positive or negative perception to a particular question together with the space limitation for discussing the data, this section will mainly provide the results of collapsing the highest two adjacent categories on the Likert scale, instead of the results of the individual category. The consequences of OBB in each area will be discussed in the next section.

5.4.4.1 The Consequences of Using OBB on Decision Making

On the whole, this study found that OBB was not significantly useful in improving decision making in the public sector, with the mean score value on a scale of 1 to 5 being 3.15. Table 5.25 provides the results of OBB on decision making on the five point Likert scale and the total mean score as follows.

Table 5.25: The Consequences of Using OBB on Decision Making

Question: To what extent do you agree or disagree with each of the following statements?
(Please tick one box for each statement)

Decision Making	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strong Disagree 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
The use of OBB results in the ***reallocation*** of resources.	3 3.3%	33 36.7%	15 16.7%	34 37.8%	5 5.6%	90 100%	2.94	1.05
Management now focuses ***more*** on outputs than the use of resources.	7 7.9%	37 41.6%	15 16.9%	25 28.1%	5 5.6%	89 100%	3.18	1.10
OBB ***increases*** my awareness of ***cost.***	7 7.7%	50 54.9%	20 22.0%	10 11.0%	4 4.4%	91 100%	3.51	0.95
OBB ***improves*** cost ***control.***	5 5.6%	26 28.9%	30 33.3%	26 28.9%	3 3.3%	90 100%	3.04	0.97
The use of OBB leads to cost ***cutting*** and cost ***saving.***	3 3.3%	15 16.5%	32 35.2%	35 38.5%	6 6.6%	91 100%	2.71	0.93
OBB allows assessment of ***long-term*** financial implications.	2 2.2%	33 36.3%	28 30.8%	24 26.4%	4 4.4%	91 100%	3.05	0.95
The use of OBB enhances ***long-term*** planning.	5 5.6%	36 40.0%	27 30.0%	18 20.0%	4 4.4%	90 100%	3.22	0.98
OBB facilitates in ***classifying*** expenditures so as to identify the direct costs.	5 5.5%	36 39.6%	25 27.5%	20 22.0%	5 5.5%	91 100%	3.18	1.02
OBB provides a means of estimating the ***cost consequences*** of expanding or contracting any outputs.	5 5.6%	44 48.9%	23 25.6%	15 16.7%	3 3.3%	90 100%	3.37	0.94
Output structure provides a ***clearer*** idea about the costs of products and services than ***program*** structure.	9 9.9%	35 38.5%	28 30.8%	15 16.5%	4 4.4%	91 100%	3.33	1.01
The use of OBB encourages the ***use*** of cost/benefit analysis.	6 6.6%	34 37.4%	21 23.1%	24 26.4%	6 6.6%	91 100%	3.11	1.08
Total							3.15	1.02

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 24 to 34

Collapsing the highest two categories on the Likert scale (see Table 5.26) illustrated that a majority of respondents rated the statement "OBB increases my awareness of cost" as being the most highly rated impact of using OBB for decision making (with 62.6% of respondents). At the bottom of the ranking, the statement "the use of OBB leads to cost cutting and cost saving" was viewed as being the least highly rated consequence of using OBB on decision making, with 19.8% of respondents stating strongly *agreed* or *agreed.*

Table 5.26: Ranking of the Consequences of Using OBB on Decision Making – With Collapsed Categories

Ranking after Collapsing (scale 4+5)	Original Ranking of Strongly Agree	Consequences of Using OBB on Decision Making	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Strongly Agree
1	2	OBB increases my awareness of cost.	57 62.6%	7 7.7%
2	4	OBB provides a means of estimating the cost consequences of expanding or contracting any outputs.	49 54.4%	5 5.6%
3	2	Management now focuses more on outputs than the use of resources.	44 49.4%	7 7.9%
4	1	Output structure provides a clearer idea about the costs of products and services than program structure.	44 48.4%	9 9.9%
5	4	The use of OBB enhances long-term planning.	41 45.6%	5 5.6%
6	4	OBB facilitates in classifying expenditures so as to identify the direct costs.	41 45.1%	5 5.5%
7	3	The use of OBB encourages the use of cost/benefit analysis.	40 44.0%	6 6.6%
8	5	The use of OBB results in the reallocation of resources.	36 40.0%	3 3.3%
8	6	OBB allows assessment of long-term financial implications.	35 38.5%	2 2.2%
9	4	OBB improves cost control.	31 34.4%	5 5.6%
10	5	The use of OBB leads to cost cutting and cost saving.	18 19.8%	3 3.3%

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 24 to 34

5.4.4.2 Use of Cost/Benefit Analysis

More than half (58.9%) of the respondents reported using cost/benefit analysis (see Table 5.27). Those who used cost/benefit analysis were asked further to specify how cost/benefit analysis had been used.

Table 5.27: Use of Cost/Benefit Analysis

Question: Do you use cost/benefit analysis?

Responses	Frequency	Percent
Use	53	58.9
Do not use	37	41.1
Total	90	100.0

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 35

Slightly more than one-third (35.5%) of the respondents reported using cost/benefit analysis to select various service delivery options, followed by "to change the resourcing of an output" (26.9%); "to select from alternative outputs" (22.6%); "to determine if an output can be justified" (22.6%); "to reduce or expand in particular outputs" (20.4%); and in "other ways" (6.5%). Table 5.28 reports the responses. The percentages did not add up to 100% since respondents had more than one purpose for using cost/benefit analysis.

Of the respondents who specified using cost/benefit analysis in "other ways", five provided qualitative responses as follows: "capital investment decisions"; "contract renewal and service review with providers"; "development of complex projects"; "to focus outputs on the government's goals and targets (outcomes)"; and "to determine efficiency/economy of business unit operations; since business units generally equal direct output cost, then, indirectly, cost benefit analysis is used in relation to outputs".

Table 5.28: Various Usages of Cost/Benefit Analysis

Question: Do you use cost/benefit analysis? If your answer is "YES", please indicate how this information has been used. *(Please tick one or more)*

Ranking	Use of Cost/Benefit Analysis:	Frequency	Percent
1	To select from various service delivery options	33	35.5
2	To change the resourcing of an output	25	26.9
3	To select from alternative outputs	21	22.6
4	To determine if an output can be justified	21	22.6
5	To reduce or expand in particular outputs	19	20.4
6	In other ways	6	6.5
	Total	125	

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 35

5.4.4.3 The Consequences of Using OBB on Accountability

According to the total mean score value of 3.25 on a scale of 1 to 5 (see Table 5.29), the respondents to the survey perceived that OBB did not have a significant impact in enhancing accountability.

Table 5.29: The Consequences of Using OBB on Accountability

Question: To what extent do you agree or disagree with each of the following statements regarding the consequences of using OBB? *(Please tick one box for each statement)*

Accountability	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strong Disagree 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
OBB increases my awareness of better ***performance.***	5 5.5%	51 56.0%	18 19.8%	15 16.5%	2 2.2%	91 100%	3.46	0.91
OBB increases my awareness of the ***outcomes evaluation.***	7 7.7%	46 50.5%	15 16.5%	20 22.0%	3 3.3%	91 100%	3.37	1.02
Outcomes are ***more*** easily measured via the use of OBB.	3 3.3%	32 34.8%	24 26.1%	28 30.4%	5 5.4%	92 100%	3.00	1.01
OBB leads to ***clearer*** responsibility for the delivery of outputs.	6 6.5%	57 62.0%	17 18.5%	10 10.9%	2 2.2%	92 100%	3.60	0.85
OBB ***increases*** the commitment to service quality.	2 2.2%	22 24.4%	34 37.8%	27 30.0%	5 5.6%	90 100%	2.88	0.92
It is ***clear*** now who is accountable for measuring and reporting performance in my organisation.	8 8.7%	52 56.5%	18 19.6%	12 13.0%	2 2.2%	92 100%	3.57	0.91
Managers at all levels have clearer views of their ***objectives*** because of OBB.	2 2.2%	31 33.7%	31 33.7%	26 28.3%	2 2.2%	92 100%	3.05	0.89
Managers at all levels have clearer views of their ***performance measures*** to assess outputs because of OBB.	2 2.2%	47 51.1%	22 23.9%	19 20.7%	2 2.2%	92 100%	3.30	0.90
Budgetary documentation has ***increased*** significantly in volume since the use of OBB.	18 19.6%	32 34.8%	34 37.0%	6 6.5%	2 2.2%	92 100%	3.63	0.95
Executive directors and managers have ***more*** time to consider the budget since the use of OBB.	1 1.1%	8 8.8%	40 44.0%	37 40.7%	5 5.5%	91 100%	2.59	0.77
Corrective ***action*** has been taken in my organisation when there is a ***variance*** between budgeted and actual performance measures.	7 7.7%	54 59.3%	21 23.1%	8 8.8%	1 1.1%	91 100%	3.64	0.80
For the purpose of expenditure appraisal, ***output*** classification of expenditure is ***more*** useful than ***program*** classification.	5 5.5%	35 38.5%	26 28.6%	21 23.1%	4 4.4%	91 100%	3.18	1.00
OBB ***increases*** the cost of correcting errors because of the rigidity of output structure (e.g. a change in one element or structure of output results in change reverberating throughout every element in the same group).	1 1.1%	22 24.2%	41 45.1%	24 26.4%	3 3.3%	91 100%	2.93	0.83
Total							3.25	0.96

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 36 to 48

Collapsing categories 4 and 5 on the Likert scale, revealed that most respondents (68.5%) rated the statement "OBB leads to clearer responsibility for the delivery of outputs" as being the most highly rated consequence of using OBB on accountability. At the bottom of the ranking, the statement "executive directors and managers have more time to consider the budget since the use of OBB" was viewed as being the least highly rated consequence of using OBB on accountability, with only 9.9% of the respondents responding *strongly agreed* or *agreed* (see Table 5.30).

Table 5.30: Ranking of the Consequences of Using OBB on Accountability

Ranking after Collapsing (scale 4+5)	Original Ranking of Strongly Agree	Consequences of Using OBB on Accountability	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Strongly Agree
1	4	OBB leads to ***clearer*** responsibility for the delivery of outputs.	63 68.5%	6 6.5%
2	3	Corrective ***action*** has been taken in my organisation when there is a ***variance*** between budgeted and actual performance measures.	61 67.0%	7 7.7%
3	2	It is ***clear*** now who is accountable for measuring and reporting performance in my organisation.	60 65.2%	8 8.7%
4	5	OBB increases my awareness of better ***performance.***	56 61.5%	5 5.5%
5	3	OBB increases my awareness of the ***outcomes evaluation.***	53 58.2%	7 7.7%
6	1	Budgetary documentation has ***increased*** significantly in volume since the use of OBB.	50 54.3%	18 19.6%
7	7	Managers at all levels have clearer views of their ***performance measures*** to assess outputs because of OBB.	49 53.3%	2 2.2%
8	5	For the purpose of expenditure appraisal, ***output*** classification of expenditure is ***more*** useful than ***program*** classification.	40 44.0%	5 5.5%
9	6	Outcomes are ***more*** easily measured via the use of OBB.	35 38.0%	3 3.3%
10	7	Managers at all levels have clearer views of their ***objectives*** because of OBB.	33 35.9%	2 2.2%
11	7	OBB ***increases*** the commitment to service quality.	24 26.7%	2 2.2%
12	8	OBB ***increases*** the cost of correcting errors because of the rigidity of output structure (e.g. a change in one element or structure of output results in change reverberating throughout every element in the same group).	23 25.3%	1 1.1%
13	8	Executive directors and managers have ***more*** time to consider the budget since the use of OBB.	9 9.9%	1 1.1%

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 36 to 48

5.4.4.4 The Consequences of Using OBB on Organisational Operations

The total mean score value of 2.99 on a scale of 1 to 5 in Table 5.31 revealed that OBB did not significantly improve organisational operations in the public sector. A comparison across every individual statement rated as *strongly agree* revealed that none (0.0%) of the respondents believed that OBB was too complex and difficult to operate. Consequently, respondents had a very positive perception that OBB was not too complex and difficult.

Table 5.31: The Consequences of Using OBB on Organisational Operations

Question: To what extent do you agree or disagree with each of the following statements regarding the consequences of using OBB? *(Please tick one box for each statement)*

Organisational Operations	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strong Disagree 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
OBB ***improves*** the effectiveness of resource allocation and budgeting in my organisation.	3 3.3%	33 35.9%	29 31.5%	24 26.1%	3 3.3%	92 100%	3.10	0.94
OBB ***improves*** organisational operations by linking budget and performance over time.	3 3.3%	52 56.5%	23 25.0%	11 12.0%	3 3.3%	92 100%	3.45	0.87
I have a ***better*** understanding of government operations and the outputs to be produced or delivered because of OBB.	4 4.4%	52 57.1%	23 25.3%	9 9.9%	3 3.3%	91 100%	3.49	0.86
OBB requires ***changes*** in my organisational structure to align with the output structure.	3 3.3%	23 25.0%	24 26.1%	33 35.9%	9 9.8%	92 100%	2.76	1.04
OBB ***increases*** the involvement of ***lower- level*** management in the budget formulation process.	1 1.1%	26 28.3%	22 23.9%	38 41.3%	5 5.4%	92 100%	2.78	0.96
OBB ***increases*** the involvement of ***top management*** in the budget formulation process.	6 6.6%	37 40.7%	27 29.7%	18 19.8%	3 3.3%	91 100%	3.27	0.97
Training related to output and outcome specification was provided for employees at ***all*** levels in my organisation.	1 1.1%	10 11.0%	26 28.6%	41 45.1%	13 14.3%	91 100%	2.40	0.91
OBB is too complex and ***difficult*** to operate.	0 0.0%	9 9.8%	30 32.6%	45 48.9%	8 8.7%	92 100%	2.43	0.79
OBB has ***increased*** my workload.	10 10.9%	33 35.9%	20 21.7%	23 25.0%	6 6.5%	92 100%	3.20	1.13
Total							2.99	1.02

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 49 to 57

Collapsing categories 4 and 5 on the Likert scale, demonstrated that the statement "I have a better understanding of government operations and the outputs to be produced or delivered because of OBB" (with 61.5% of respondents) represented the most highly rated consequence of using OBB on organisational operations. The ranking, frequencies, and the percentages of the statements representing the consequences of using OBB on organisational operations after collapsing categories 4 and 5 are presented in Table 5.32.

Table 5.32: Ranking of the Consequences of Using OBB on Organisational Operations

Ranking after Collapsing (scale 4+5)	Original Ranking of Strongly Agree	Consequences of using OBB on organisational operations	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Strongly Agree
1	3	I have a ***better*** understanding of government operations and the outputs to be produced or delivered because of OBB.	56 61.5%	4 4.4%
2	4	OBB ***improves*** organisational operations by linking budget and performance over time.	55 59.8%	3 3.3%
3	2	OBB ***increases*** the involvement of ***top management*** in the budget formulation process.	43 47.3%	6 6.6%
3	1	OBB has ***increased*** my workload.	43 46.7%	10 10.9%
4	4	OBB ***improves*** the effectiveness of resource allocation and budgeting in my organisation.	36 39.1%	3 3.3%
5	5	OBB ***increases*** the involvement of ***lower- level*** management in the budget formulation process.	27 29.3%	1 1.1%
6	4	OBB requires ***changes*** in my organisational structure to align with the output structure.	26 28.3%	3 3.3%
7	5	Training related to output and outcome specification was provided for employees at ***all*** levels in my organisation.	11 12.1%	1 1.1%
8	6	OBB is too complex and ***difficult*** to operate.	9 9.8%	0 0.0%

Source: Data drawn from survey questionnaire (2002/03) Section C, Questions 49 to 57

5.4.4.5 Benefits and Costs of OBB

Respondents were asked whether they agreed or disagreed with the statement "I believe that the benefits of OBB are greater than its costs". The data on the five point Likert scale in Table 5.33 revealed that the *undecided* responses were higher than those of other categories.

Nevertheless, collapsing the highest two categories and the lowest two categories on the Likert scale changed the ranking by moving the *strongly agree* and *agree* categories slightly ahead of the *undecided* category. As a result, the collapsed data indicates that a little over two-fifths (44.6%) of the respondents *strongly agreed* or *agreed* that the benefits of OBB were greater than its costs, with approximately two-fifths (41.3%) of the respondents stating that they were *undecided*. The remaining 13 respondents (14.1%) reported that they *strongly disagreed* or *disagreed* that the benefits of OBB were greater than its costs.

Table 5.33: Benefits and Costs of OBB

Question: To what extent do you agree or disagree with each of the following statements regarding the consequences of using OBB? *(Please tick one box for each statement)*

Benefits and Costs of OBB	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strong Disagree 1	Total
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent
I believe that the benefits of OBB are ***greater*** than its costs.	9 9.8%	32 34.8%	38 41.3%	8 8.7%	5 5.4%	92 100%

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 58

5.4.4.6 Problems with the Implementation of OBB

Respondents were asked to rate how significant the various problems had been in their organisations since the implementation of OBB on the five point Likert scale. The data in Table 5.34 revealed that the responses were generally distributed towards the *significant problem* and *somewhat of a problem* categories, with a small number (approximately 10% of responses) distributed towards the *very significant problem*, and *undecided* categories. Furthermore, approximately one-tenth to one-fifth of the responses were distributed towards *not a problem* category.

A review of each individual problem on the five point Likert scale illustrated that about one-third of the respondents indicated that "specifying outputs" (39.1%) and "calculating full costs of outputs" (32.6%) had been somewhat of a problem in their organisations. However, a similar proportion of the respondents reported that "defining appropriate performance measures" (41.3%) and "specifying outcomes" (34.1%) had been a significant problem in their organisations.

Table 5.34: Problems since the Implementation of OBB

Question: Have any of the following items been problems in your organisation since the implementation of OBB? *(Please tick one box for each statement)*

Problems	Very Significant Problem 5	Significant Problem 4	Undecided 3	Somewhat of a Problem 2	Not a Problem 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Defining appropriate ***performance measures***	8 8.7%	38 41.3%	8 8.7%	30 32.6%	8 8.7%	92 100%	3.09	1.20
Specifying ***outcomes***	9 9.9%	31 34.1%	11 12.1%	25 27.5%	15 16.5%	91 100%	2.93	1.30
Calculating ***full costs*** of outputs	10 10.9%	24 26.1%	10 10.9%	30 32.6%	18 19.6%	92 100%	2.76	1.33
Specifying ***outputs***	2 2.2%	24 26.1%	10 10.9%	36 39.1%	20 21.7%	92 100%	2.48	1.16

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 59

A comparison across each individual problem rated as a *very significant problem* revealed that approximately one-tenth (10.9%) of the respondents rated "calculating full costs of outputs" as being the most *significant problem*, followed by "specifying outcomes" (9.9%); "defining appropriate performance measures" (8.7%); and, last, "specifying outputs" (2.2%).

Collapsing the highest two categories on the Likert scale (categories 4 and 5), changed the ranking of *very significant* and *significant* problem by switching the problem of "defining appropriate performance measures" into first place and "calculating full costs of outputs" into third place (see Table 5.35). The problem of "specifying outcomes" and "specifying outputs" remained in second and fourth places, respectively.

The results from the mean scores' ranking were consistent with the results of collapsing the highest two categories. Specifically, respondents indicated "defining appropriate performance measures" as being the greatest problem in their organisations (mean score = 3.09), followed by "specifying outcomes" (mean score = 2.93); "calculating full costs of outputs" (mean score = 2.76); and "specifying outputs" (mean score = 2.48).

Table 5.35: Ranking of Problems with the Implementation of OBB – With Collapsed Scales

Ranking after Collapsing (scale 4+5)	Original Ranking of Very Significant Problem	Problems with the implementation of OBB	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Very Significant Problem
1	3	Defining appropriate ***performance measures***	46 50.0%	8 8.7%
2	2	Specifying ***outcomes***	40 44.0%	9 9.9%
3	1	Calculating ***full costs*** of outputs	34 37.0%	10 10.9%
4	4	Specifying ***outputs***	26 28.3%	2 2.2%

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 59

5.4.4.7 The Effectiveness of OBB

Respondents were asked to rate how effective OBB had been in their organisations. Table 5.36 reports data on the five point Likert scale.

Table 5.36: The Effectiveness of OBB

Question: In your opinion, how effective has OBB been in your organisation with respect to the following statements? *(Please tick one box for each statement)*

	Very effective 5	Effective 4	Undecided 3	Somewhat effective 2	Not effective 1	Total	Mean	S.D.
	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent	Frequency Percent		
Decision Making								
Increasing awareness of, and focus on, ***outcomes.***	8 8.7%	34 37.0%	23 25.0%	12 13.0%	15 16.3%	92 100%	3.09	1.23
Increasing awareness of ***factors*** that affect outcomes.	6 6.5%	32 34.8%	18 19.6%	23 25.0%	13 14.1%	92 100%	2.95	1.20
Total							3.02	1.21
Accountability								
Improving communication with the public about performance.	2 2.2%	21 22.8%	21 22.8%	23 25.0%	25 27.2%	92 100%	2.48	1.18
Increasing the core budget discussions among departments and legislatures on ***outcomes.***	2 2.2%	21 23.1%	31 34.1%	19 20.9%	18 19.8%	91 100%	2.67	1.11
Total							2.57	1.15
Organisational Operation								
Reducing duplicative activities or services.	1 1.1%	15 16.7%	28 31.1%	17 18.9%	29 32.2%	90 100%	2.36	1.14
Reducing/eliminating ineffective services/products.	2 2.2%	15 16.7%	23 25.6%	19 21.1%	31 34.4%	90 100%	2.31	1.18
Improving responsiveness to ***customers.***	2 2.2%	23 25.6%	23 25.6%	17 18.9%	25 27.8%	90 100%	2.56	1.21
Improving outputs/service ***quality.***	4 4.4%	22 24.4%	23 25.6%	21 23.3%	20 22.2%	90 100%	2.66	1.20
Total							2.47	1.18

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 60

According to the mean scores ranking in Table 5.36, respondents indicated that the most effective consequence of using OBB was the impact on decision making (mean score = 3.02), followed by the impact on accountability (mean score = 2.57) and the impact on organisational operation (mean score = 2.47). However, this result must be interpreted cautiously because mean scores for each impact are equal or lower than 3.00. This means that respondents were undecided or had a negative perception that OBB had not been very effective in their organisations. The results from collapsing categories 4 and 5 on the Likert scale (see Table 5.37), showed that about two-fifths of the respondents had a positive perception with *very effective* and *effective* responses to statements representing the effectiveness of OBB on decision making.

Table 5.37: Ranking of the Effectiveness of OBB – With Collapsed Categories

Ranking after Collapsing (scale 4+5)	Original Ranking of Very Effective	Effectiveness of OBB	Frequency/ Percentage after Collapsing (scale 4+5)	Frequency/ Percentage of Very Effective
1	1	Decision making: ***Increasing*** awareness of, and focus on, ***outcomes.***	42 45.7%	8 8.7%
2	2	Decision making: ***Increasing*** awareness of ***factors*** that affect outcomes.	38 41.3%	6 6.5%
3	3	Organisational operation: ***Improving*** outputs/service ***quality***	26 28.9%	4 4.4%
4	4	Organisational operation: ***Improving*** responsiveness to ***customers.***	25 27.8%	2 2.2%
5	4	Accountability: ***Increasing*** the core budget discussions among departments and legislatures on ***outcomes.***	23 25.3%	2 2.2%
6	4	Accountability: ***Improving*** communication with the public about performance.	23 25.0%	2 2.2%
7	4	Organisational operation: ***Reducing***/ eliminating ineffective services/products.	17 18.9%	2 2.2%
8	5	Organisational operation: ***Reducing*** duplicative activities or services.	16 17.8%	1 1.1%

Source: Data drawn from survey questionnaire (2002/03) Section C, Question 60

5.4.4.8 The Best Alternative for the Implementation of OBB

Nearly three-quarters (74.4%) of the respondents believed that their organisations should continue OBB with some modifications. About one-seventh (15.6%) of the respondents believed that their organisations should continue with "OBB substantially as it operates today". Only the remaining 10% of the respondents believed that their organisations should discontinue OBB. Table 5.38 provides details of the responses.

Table 5.38: The Best Alternative for the Implementation of OBB

Question: Which of the following do you feel is the *best* alternative for your organisation? *(Please tick one)*

Ranking	Responses	Frequency	Percent
1	Continue OBB with some modifications	67	74.4
2	Continue OBB substantially as it operates today	14	15.6
3	Discontinue OBB	9	10.0
	Total	90	100.0

Source: Data drawn from survey questionnaire (2002/03) Section D, Question 68

5.5 Summary

The Chi-square statistic tests confirm that the results of this study can be generalised to the population because there is no significant response bias to the survey questionnaires. The univariate analysis revealed that less than half of the respondents were satisfied with the overall quality of the information generated by OBB within the budget papers. Further, about half of the respondents finding various items in budget papers to be not very useful is a concern. Overall, respondents did not thoroughly read items within budget papers and half of the respondents had difficulty of understanding some items in the budget papers.

As previously discussed in Chapter 3, previous studies indicated that the perceived usefulness of information could be influenced by many factors such as readership, comprehension difficulties and personal characteristics of users. Additionally, many advocates of OBB claim that OBB will facilitate rational decision making, enhance accountability and improve organisational operations (VDTF 1997b; Queensland Treasury 1998b). The next chapter will provide further analysis in terms of the proposition-testing regarding issues of the usefulness of information in the budget papers and the consequences of using OBB. Particularly, the relationships between two or more than two variables will be examined using bivariate or multivariate analysis.

CHAPTER 6

SURVEY PROPOSITIONS-TEST RESULTS

6.1 Introduction

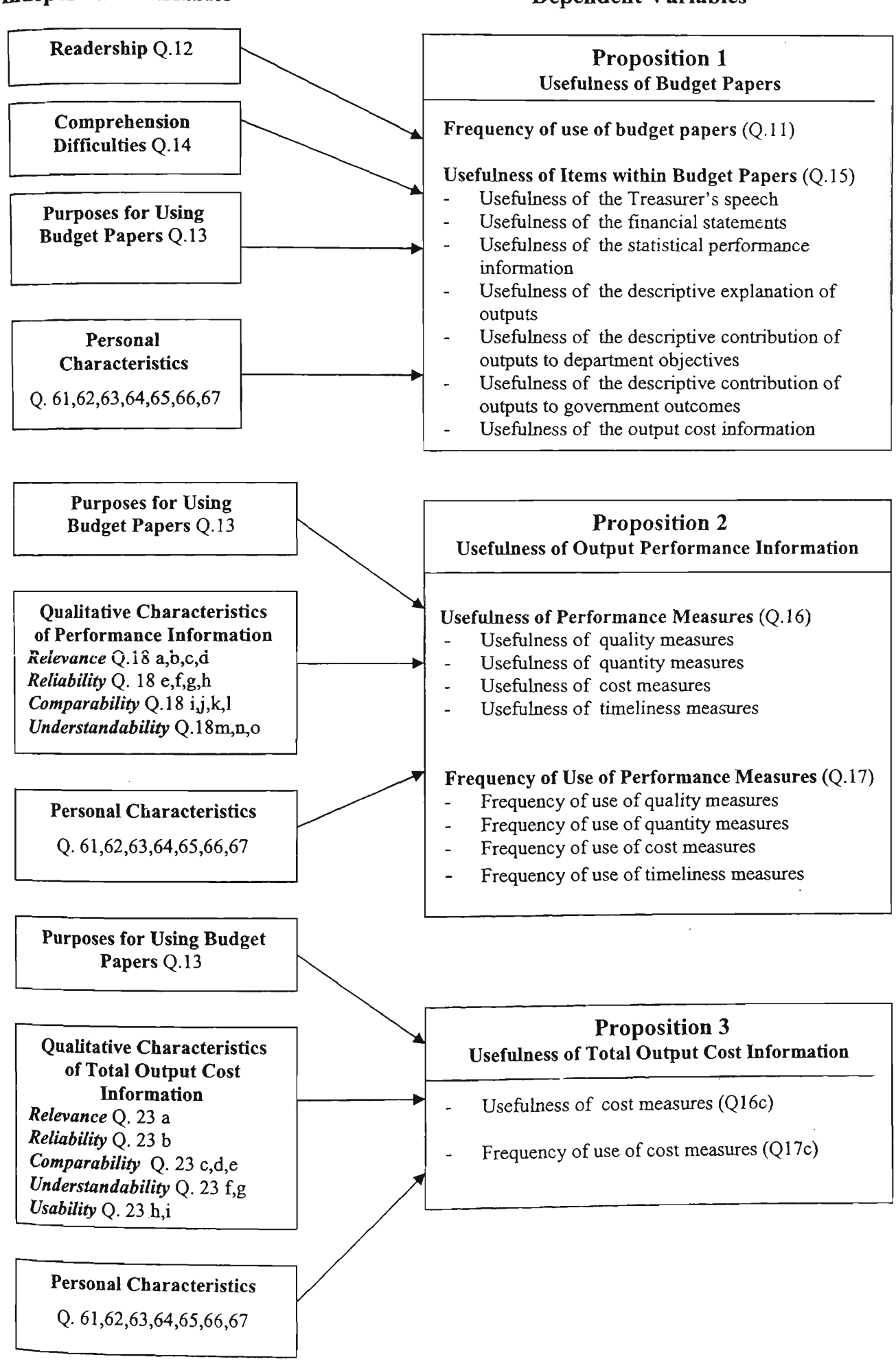
The research questions and propositions are restated in this chapter to determine if they are supported by the survey results. The results of the propositions-testing presented in this chapter are in two parts. In the first part, the bivariate (cross-tabulation) analysis results of the Propositions 1 to 3 are reported to answer Research Question 1 relating to the usefulness of information generated by OBB within budget papers. In the second part, the results of testing Propositions 4 to 6 using cross-tabulation analysis and multivariate analysis are discussed with respect to the consequences of using OBB, in the public sector, for answering Research Question 2.

6.2 Research Question 1: The Usefulness of Information Generated by OBB

A bivariate (cross-tabulation) analysis was performed to test the relationships between the ***usefulness dependent variables*** such as the frequency of use of budget papers; the usefulness of items within budget papers; the frequency of use of performance measures; and the usefulness of performance measures, and ***independent variables*** such as readership; comprehension difficulties; purposes for using the budget papers (as proposed by SAC2); qualitative characteristics of the information (as proposed by SAC3); and personal characteristics. Earlier, the description and dimensions of each concept and the research variables were listed according to the conceptual framework (Figure 4.1). In this section, a diagram demonstrating research variables operations for testing Propositions 1 to 3 using the bivariate analysis, is presented in Figure 6.1.

Specifically, a cross-tabulation analysis using Pearson's Chi-square test at the 0.05 level of significance was performed to test Propositions 1 to 3. The assumptions and procedure to perform the Chi-square test were discussed in Section 4.5.9. Because of the space limitations of this thesis, the only variable identified to have a statistically significant relationship will be reported in the tables presented in this section, along with its Pearson's Chi-square value, degrees of freedom (df) and probability (p) value.

Figure 6.1: Research Variables Operations for the Bivariate Analysis



6.2.1 Proposition 1

Previous studies particularly in private sector annual reports revealed that the perceived usefulness of financial reporting and items contained within it could be influenced by many factors (see Section 3.4). In the present study, it was expected that four main variables could affect the perceived usefulness of budget papers. Proposition 1 was stated as follows.

There is a relationship between the usefulness of budget papers, in particular the frequency of use of budget papers and the usefulness of items within the budget papers, and:

(a) the readership;

(b) the comprehension difficulties;

(c) the purposes for using budget papers; and

(d) the personal characteristics of the users.

The usefulness dependent variables *frequency of use of budget papers* and the *usefulness of items within the budget papers* were tested with four independent variables, as stated in Proposition 1. The following are the results of the bivariate analysis for Proposition 1.

6.2.1.1 Frequency of Use of Budget Papers

There were no significant relationships between the *frequency of use of budget papers* variable and the *readership* variables; the *comprehension difficulties* variables; the *purposes of use* variables; or any of the *personal characteristics* variables.

6.2.1.2 Usefulness of Items within the Budget Papers

(a) The Treasurer's Speech

There were no significant relationships between the variable *usefulness of the Treasurer's speech* and the *readership* of the Treasurer's speech variable; the *difficulty of understanding* of the Treasurer's speech variable; the *purposes of use* variables; or any of the *personal characteristics* variables.

(b) Financial Statements

There were significant relationships between the variable *usefulness of the financial statements* and *readership of the financial statements* variable (p=0.000); a number of

the *purposes for using the budget paper* variables: for making decisions about the allocation of resources (p=0.001), to evaluate decisions about the allocation of resources (p=0.005), and other purposes (p=0.034); the *comprehension difficulties* variable: difficulty of understanding of the financial statements (p=0.000); and *personal characteristics* variables: age (p=0.012), completion of formal accounting course (p=0.019), and responsibility or principal task (p=0.038) (Table 6.1).

Table 6.1: Usefulness of the Financial Statements

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Readership of the financial statements	32.309	4	0.000
Purposes of Use			
Q 13a for making decisions about the allocation of resources	13.340	2	0.001
Q 13b to evaluate decisions about the allocation of resources	10.484	2	0.005
Q 13d other	6.761	2	0.034
Comprehension Difficulties			
Q 14b difficulty of understanding of the financial statements	17.163	2	0.000
Personal characteristics			
Q 62 age	12.908	4	0.012
Q 64 completion of a formal course of study in accounting	7.935	2	0.019
Q 67 responsibility or principal task	6.551	2	0.038

(c) Statistical Performance Information

There was a significant relationship between the variable *usefulness of the statistical performance information* and a *personal characteristic* variable: completion of a formal accounting course (p=0.044) (Table 6.2).

Table 6.2: Usefulness of the Statistical Performance Information

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Personal characteristics			
Q 64 completion of a formal accounting course	6.233	2	0.044

(d) Descriptive Explanation of Outputs

There were significant relationships between the variable *usefulness of the descriptive explanation of outputs* and the variable *readership of the descriptive explanation of outputs* (p=0.000); and the variable *purposes for using the budget papers*: for making decisions about the allocation of resources (p=0.013) (Table 6.3).

Table 6.3: Usefulness of the Descriptive Explanation of Outputs

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Readership of the descriptive explanation of outputs	21.894	4	0.000
Purposes of Use Q 13a for making decisions about the allocation of resources	8.764	2	0.013

(e) Descriptive Contribution of Outputs to Department Objectives

There was a significant relationship between the variable *usefulness of the descriptive contribution of outputs to department objectives* and the variable *purposes for using the budget papers*: to evaluate decisions about the allocation of resources (p=0.037) (see Table 6.4).

Table 6.4: Usefulness of the Descriptive Contribution of Outputs to Department Objectives

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use Q 13b to evaluate decisions about the allocation of resources	6.607	2	0.037

(f) Descriptive Contribution of Outputs to Government Outcomes

There was a significant relationship between the variable *usefulness of the descriptive contribution of outputs to government outcomes* and the variable *readership of the descriptive contribution of outputs to government outcomes* (p=0.000) (Table 6.5).

Table 6.5: Usefulness of the Descriptive Contribution of Outputs to Government Outcomes

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Readership of the descriptive contribution of outputs to government outcomes	39.716	4	0.000

(g) Output Cost Information

There were significant relationships between the variable *usefulness of the output cost information* and the variable *purposes for using the budget papers*: to evaluate decisions about the allocation of resources (p=0.008); and the variable *comprehension difficulties*: difficulty of understanding of the output cost information (p=0.018) (Table 6.6).

Table 6.6: Usefulness of the Output Cost Information

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13b to evaluate decisions about the allocation of resources	9.578	2	0.008
Comprehension Difficulties			
Q 14g difficulty of understanding of the output cost information	8.029	2	0.018

6.2.1.3 Summary of the Findings for the Statistically Significant Bivariate Relationships of the Usefulness of Items within the Budget Papers

Table 6.7 presents a summary of the statistically significant bivariate relationships between two usefulness variables: the frequency of use of budget papers and the usefulness of items within budget papers, and four independent variables: readership; comprehension difficulties; purposes for using the budget papers; and personal characteristics.

At the level of the usefulness of budget papers as a whole, it is found that the frequency of use of budget papers was not significantly correlated to any of the four groups of variables: readership; comprehension difficulties; purposes for using the budget papers; and personal characteristics. However, at the specific level of the usefulness of various segments within budget papers, it is found that almost all of the usefulness of items within budget paper variables were correlated to at least one independent variable but with a different group of variables for each item. Nevertheless, the Treasurer's speech was the only item within budget papers the usefulness of which was not correlated to any group of variables representing readership, comprehension difficulties, purposes for using the budget papers, and personal characteristics. On the other hand, only the usefulness of the financial statements item was correlated to every group of variables representing readership, comprehension difficulties, purposes for using the budget papers, and personal characteristics.

There was a significant relationship between the usefulness of items within the budget papers and the purposes for using the budget papers. As shown in Table 6.7, there are four items within the budget papers the usefulness of which is related to at least one purpose for using the budget papers. There are three items the usefulness of which is

associated with readership. Finally, there are only two items the usefulness of which is correlated with comprehension difficulties and personal characteristics.

Table 6.7: Summary of the Statistically Significant Bivariate Relationships of the Usefulness of Items within Budget Papers

Usefulness Variables	Readership	Comprehension Difficulties	Purposes of Use	Personal Characteristics
Usefulness of the Budget Papers Frequency of use of budget papers	No	No	No	No
Usefulness of Items within the Budget Papers				
Treasurer's speech	No	No	No	No
Financial statements	Yes	- Difficulty of understanding of the financial statements	- For making decisions about the allocation of resources - To evaluate decisions about the allocation of resources - Other	- Age - Completion of a formal course of study in accounting - Responsibility or principal task
Statistical performance information	No	No	No	- Completion of a formal course of study in accounting
Descriptive explanation of outputs	Yes	No	- For making decisions about the allocation of resources	No
Descriptive contribution of outputs to department objectives	No	No	- To evaluate decisions about the allocation of resources	No
Descriptive contribution of outputs to government outcomes	Yes	No	No	No
Output cost information	No	- Difficulty of understanding of the output cost information	- To evaluate decisions about the allocation of resources	No

Overall, the bivariate analysis results based on the Chi-square test supported the proposition that the perceived usefulness of the items within budget papers was a function of readership; comprehension difficulties; purposes for using the budget papers; and personal characteristics. The important findings based on Table 6.7 are summarised in the next section.

(a) Readerships and Usefulness of Items in the Budget Papers

The bivariate analysis indicated that the perceived usefulness of three items: the financial statements; the descriptive explanation of outputs; and the descriptive contribution of outputs to government outcomes, were related to their readerships. It was also interesting to note that the output cost information, which had a relatively high mean score of the readership, was ranked low in terms of its usefulness. This finding was consistent with the bivariate analysis result that there was no significant relationship between readership and usefulness of this item. Though the output cost information was being read, users were not finding it useful. This finding raises a question about the quality of output cost information. It is possible that the output cost information does not possess qualitative characteristics according to SAC3; hence users who read this item find that it is not useful.

(b) Comprehension Difficulties and Usefulness of Items in the Budget Papers

The bivariate analysis illustrated that the comprehension difficulties of two items: the financial statements and the output cost information, appeared to be a significant determinant of the usefulness of those items. Those users who had comprehension difficulties with these two items in the budget papers tended to report that they were not useful. It could be concluded that the comprehension difficulty of financial items rather than descriptive items was related to the perceived usefulness of those items. These results were not particularly surprising given the survey results (see Table 5.12) which showed that the financial statement and the output cost information had a high ranking as being difficult items to understand. To the extent that an item is difficult to understand, it is expected that users would perceive the item not to be useful. The results in Table 6.7 reveal that the usefulness of more technical items (the financial statements and the output cost information) was related to the comprehension difficulties. This finding raises questions about the accounting education background of users in perceiving the financial information to be useful.

(c) Purposes for Using the Budget Papers and Usefulness of Items in the Budget Papers

The bivariate analysis revealed that the purpose of using the budget papers was a significant factor affecting the perceived usefulness of items within the budget papers. Those who were using the budget papers for making decisions about the allocation of resources were significantly more likely to perceive that the financial statements and the

descriptive explanation of outputs were useful. Those who were using the budget papers to evaluate decisions about the allocation of resources were significantly more likely to perceive as useful the financial statements, the descriptive contribution of outputs to department objectives, and the output cost information. Finally, those who were using the budget papers for *other* purposes were more likely to perceive the financial statements as useful.

(d) Personal Characteristics of Users and Usefulness of Items in the Budget Papers

The bivariate analysis demonstrated that the perceived usefulness of two items: the financial statements and the statistical performance information, tended to be influenced by several personal characteristics of the users. The findings suggested that the level of usefulness found in an item by users did not seem to depend on the users' personal characteristics. Only the criteria of age; the completion of a formal course of study in accounting; and responsibility or principal task seemed to affect the level of usefulness of more technical items such as financial statements and statistical performance information. Specifically, the perceived usefulness of the financial statements was significantly related to the personal characteristics of the users, for example, age; the completion of a formal course of study in accounting; and responsibility or principal task. The perceived usefulness of statistical performance information was significantly related to the completion of a formal course of study in accounting. This result may explain why some groups of users made more use of the financial information in the budget papers or perceived it to be more useful.

6.2.2 Proposition 2

Based on the premise of SAC2 and SAC3 as discussed earlier in Sections 1.7.1 and 4.3.1, this study anticipated that if the nature of the users and their purposes for using the budget papers were known, and if information consisted of certain qualitative characteristics, the information provided to users may be more useful. Consequently, Proposition 2 was created to investigate the usefulness of performance information as follows:

There is a relationship between the usefulness of output performance information and:

(a) the purposes for using the budget papers;

(b) the qualitative characteristics of performance information; and

(c) the personal characteristics of the users.

Two ***usefulness dependent variables*** the *usefulness of performance measures* and the *frequency of use of performance measures* were tested with three ***independent variables***, as indicated in Proposition 2. The results of the bivariate analysis for Proposition 2 are presented in the next section.

6.2.2.1 Usefulness of Output Performance Information

(a) Usefulness of Quality Measures

The variable *usefulness of quality measures* had significant relationships with variables representing all of the four *qualitative characteristics* of performance information. The particular qualitative characteristic variables for which there were significant relationships with the variable *usefulness of quality measures* were: *relevance*: the information helps me make predictions (p=0.004); *reliability:* the information is a good presentation of the facts without bias (p=0.002); *reliability:* the information does not contain significant errors (p=0.002); *comparability:* the presentation of the information is consistent over time (p=0.012); *understandability:* the information is presented in an understandable format (p= 0.010); and *understandability:* the information content is clear (p=0.028) (Table 6.8). There was also a significant relationship between the variable *usefulness of quality measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.000).

Table 6.8: Usefulness of Quality Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Qualitative Characteristics of Performance Information			
Relevance			
Q 18b The information helps me make predictions.	15.196	4	0.004
Reliability			
Q 18e The information is a good presentation of the facts without bias.	16.473	4	0.002
Q 18g The information does not contain significant errors.	16.903	4	0.002
Comparability			
Q 18l The presentation of the information is consistent over time.	12.771	4	0.012
Understandability			
Q 18n The information is presented in an understandable format.	13.340	4	0.010
Q 18o The information content is clear.	10.892	4	0.028
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	21.619	4	0.000

(b) Usefulness of Quantity Measures

There were significant relationships between the variable *usefulness of quantity measures* and three *qualitative characteristics* of performance information: reliability, comparability, and understandability; and a *personal characteristic* of users: length of time in current or similar job (p=0.032) (Table 6.9).

Particular qualitative characteristic variables for which there were significant relationships with the variable *usefulness of quantity measures* were: *reliability:* the information does not contain significant errors (p=0.001); *comparability:* the information enables me to compare performance of different government departments over time (p=0.030); *understandability:* the information is presented in an understandable format (p= 0.043); and *understandability:* the information content is clear (p=0.008). There was also a significant relationship between the variable *usefulness of quantity measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.000).

Table 6.9: Usefulness of Quantity Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Qualitative Characteristics of Performance Information			
Reliability			
Q 18g The information does not contain significant errors.	18.417	4	0.001
Comparability			
Q 18 k The information enables me to compare performance of different government departments over time.	10.719	4	0.030
Understandability			
Q 18n The information is presented in an understandable format.	9.867	4	0.043
Q 18o The information content is clear.	13.656	4	0.008
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	26.671	4	0.000
Personal characteristics			
Q 66 Length of time in current or similar job	13.787	6	0.032

(c) Usefulness of Cost Measures

The variable *usefulness of cost measures* had significant relationships with the variable *purposes for using the budget papers:* to evaluate decisions about the allocation of resources (p=0.029); and with two aspects of the *relevance* qualitative characteristic:

relevance: the information helps me make predictions (p=0.004); and *relevance*: the information helps me confirm my past evaluations (p=0.000). There was also a significant relationship between the variable *usefulness of cost measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.001). See Table 6.10.

Table 6.10: Usefulness of Cost Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13b to evaluate decisions about the allocation of resources.	7.096	2	0.029
Qualitative Characteristics of Performance Information			
Relevance			
Q 18b The information helps me make predictions.	15.482	4	0.004
Q 18c The information helps me confirm my past evaluations.	20.745	4	0.000
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	18.888	4	0.001

(d) Usefulness of Timeliness Measures

The variable *usefulness of timeliness measures* had significant relationships with two qualitative characteristic variables: *comparability:* the presentation of the information is consistent over time (p=0.003); and *understandability:* the information is presented in an understandable format (p= 0.024). There was also a significant relationship between the variable *usefulness of timeliness measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.004). See Table 6.11.

Table 6.11: Usefulness of Timeliness Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Qualitative Characteristics of Performance Information			
Comparability			
Q 18l The presentation of the information is consistent over time	15.714	4	0.003
Understandability			
Q 18n The information is presented in an understandable format.	11.230	4	0.024
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	15.341	4	0.004

6.2.2.2 Frequency of Use of Performance Measures

(a) Frequency of Use of Quality Measures

The variable *frequency of use of quality measures* had significant relationships with the variable *purposes for using the budget papers*: for making decisions about the allocation of resources (p=0.033); the variable *qualitative characteristic*: *relevance*: the information helps me make predictions (p=0.024); and a *personal characteristic* variable: responsibility or principal task (p=0.048). There was also a significant relationship between the variable *frequency of use of quality measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.009) (Table 6.12).

Table 6.12: Frequency of Use of Quality Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13a for making decisions about the allocation of resources	6.830	2	0.033
Qualitative Characteristics of Performance Information			
Relevance			
Q 18b The information helps me make predictions.	11.228	4	0.024
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	13.605	4	0.009
Personal characteristics			
Q 67 responsibility or principal task	6.056	2	0.048

(b) Frequency of Use of Quantity Measures

The variable *frequency of use of quantity measures* had significant relationships with the *purposes for using the budget papers*: for making decisions about the allocation of resources (p=0.013); and with two *qualitative characteristics* of performance information: relevance, and reliability. Particular qualitative characteristic variables for which there was a significant relationship with the variable *frequency of use of quantity measures* were: *relevance*: the information helps me make predictions (p=0.012); *relevance*: the information helps me confirm my past evaluations (p=0.035); *relevance*: the information assists me to correct my past evaluations (p=0.032); and *reliability*: the information does not contain significant errors (p=0.030). There was also a significant relationship between the variable *frequency of use of quantity measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.003) (Table 6.13).

Table 6.13: Frequency of Use of Quantity Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13a for making decisions about the allocation of resources	8.699	2	0.013
Qualitative Characteristics of Performance Information			
Relevance			
Q 18b The information helps me make predictions.	12.763	4	0.012
Q 18c The information helps me confirm my past evaluations.	10.327	4	0.035
Q 18d The information assists me to correct my past evaluations.	10.580	4	0.032
Reliability			
Q 18g The information does not contain significant errors.	10.686	4	0.030
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	16.030	4	0.003

(c) Frequency of Use of Cost Measures

There was a significant relationship between the variable *frequency of use of cost measures* and the variable *purposes for using the budget papers*: for making decisions about the allocation of resources (p=0.003) (Table 6.14). There was also a significant relationship between the variable *frequency of use of cost measures* and the overall satisfaction with the quality of performance information contained in the budget papers (p=0.006).

Table 6.14: Frequency of Use of Cost Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13a for making decisions about the allocation of resources.	11.733	2	0.003
Qualitative Characteristics of Performance Information			
Q18p Overall, I am satisfied with the quality of performance information contained in the budget papers.	14.309	4	0.006

(d) Frequency of Use of Timeliness Measures

There were no significant relationships between the variable *frequency of use of timeliness measures* and the *purposes of use* variables; the *qualitative characteristic* of performance information variables; or any of the *personal characteristics* variables.

6.2.2.3 Summary of the Findings for the Statistically Significant Bivariate Relationships of the Usefulness of Output Performance Information

Table 6.15 presents a summary of the statistically significant bivariate relationships between two usefulness variables: the usefulness of various types of performance measures and the frequency of use of performance measures, and three independent variables: purposes of use; qualitative characteristics of performance information; and personal characteristics.

The proposition being tested, the perceived usefulness of various performance measures, was predominately related to a number of variables representing four qualitative characteristics of information: relevance; reliability; comparability; and understandability. However, there was a limited relationship between the usefulness of various performance measures and purposes of use variables or personal characteristics variables. Only one purpose of use variable (to evaluate decisions about the allocation of resources) was related to the usefulness of one of the four performance measures (cost measures). The other three usefulness variables of quality measures, quantity measures, and timeliness measures were not related to any of the purposes of use variables.

In terms of the personal characteristics variables, there was only one significant relationship between the length of time in a current or similar job and the usefulness of quantity measures. The usefulness of the other three types of performance measures: quality measures; cost measures; and timeliness measures were not related to any of the personal characteristics variables.

In terms of the qualitative characteristics variables, the *quality measures* were the only performance measure the usefulness of which was correlated to all of the four qualitative characteristics of performance information: relevance; reliability; comparability; and understandability. The usefulness of *quantity measures* correlated to three qualitative characteristics: reliability; comparability; and understandability. The usefulness of *timeliness measures* correlated to two qualitative characteristics: comparability and understandability. Finally, the usefulness of *cost measures* correlated to only the qualitative characteristic, *relevance*.

Table 6.15: Summary of the Statistically Significant Bivariate Relationships of the Usefulness of Output Performance Information

Usefulness Variables	Purposes of Use	Qualitative Characteristics of Performance Information	Personal Characteristics
Usefulness of Output Performance Information			
Usefulness of Quality Measures	No	**Relevance:** - Making predictions **Reliability:** - Good presentation of the facts - No significant errors **Comparability:** - Consistency of the presentation over time **Understandability:** - Understandable format - Clear content Overall satisfaction with the quality of performance information	No
Usefulness of Quantity Measures	No	**Reliability:** - No significant errors **Comparability:** - Different government departments over time **Understandability:** - Understandable format - Clear content Overall satisfaction with the quality of performance information	- Length of time in current or similar job
Usefulness of Cost Measures	- To evaluate decisions about the allocation of resources	**Relevance:** - Making predictions - Confirmation of past evaluations Overall satisfaction with the quality of performance information	No
Usefulness of Timeliness Measures	No	**Comparability:** - Consistency of the presentation over time **Understandability:** - Understandable format Overall satisfaction with the quality of performance information	No

Table 6.15 (continued): Summary of the Statistically Significant Bivariate Relationships of the Usefulness of Output Performance Information

Usefulness Variables	Purposes of Use	Qualitative Characteristics of Performance Information	Personal Characteristics
Frequency of Use of Performance Measures			
Frequency of Use of Quality Measures	- For making decisions about the allocation of resources	**Relevance:** - Making predictions Overall satisfaction withthe quality of performance information	- Responsibility or principal task
Frequency of Use of Quantity Measures	- For making decisions about the allocation of resources	**Relevance:** - Making predictions - Confirmation of past evaluations - Correction of past evaluations **Reliability:** - No significant errors Overall satisfaction with the quality of performance information	No
Frequency of Use of Cost Measures	- For making decisions about the allocation of resources	Overall satisfaction with the quality of performance information	No
Frequency of Use of Timeliness Measures	No	No	No

Overall, the bivariate analysis results based on the Chi-square test supported the proposition that there was a relationship between the usefulness of output performance information, in terms of the usefulness of various types of performance measures and the frequency of use of various types of performance measures, and: the purposes for using the budget papers; the qualitative characteristics of performance information and the personal characteristics of the users. The important findings based on Table 6.15 are summarised in the next section.

(a) Purposes for Using the Budget Papers and Usefulness of Output Performance Information

The bivariate analysis revealed that the purpose for using the budget papers was a significant factor affecting only the perceived usefulness of the cost measures. Specifically, those who were using budget papers to evaluate decisions about the allocation of resources were significantly more likely to perceive that the cost measures

were useful. The perceived usefulness of quality measures, quantity measures, and timeliness measures were not related to any of the purposes of use variables.

In terms of the frequency of use of performance measures, only one purpose for using the budget papers appeared to be a significant determinant of the frequency of use of the three types of performance measures. In particular, those who were using the budget papers for making decisions about the allocation of resources were significantly more likely to use quality measures, quantity measures, and cost measures.

(b) Qualitative Characteristics and Usefulness of Output Performance Information

Overall, the results in Table 6.15 verify the importance of the qualitative characteristic variables as a determinant of the usefulness of various types of performance measures. Specifically, there were statistically significant relationships between four qualitative characteristics of performance information (relevance; reliability; comparability; and understandability) and the usefulness of *quality measures*. Further, statistically significant relationships were found between three qualitative characteristics of performance information (reliability; comparability; and understandability) and the usefulness of *quantity measures*. Additionally, two qualitative characteristics of performance information (comparability and understandability) appeared to be a significant determinant of the usefulness of *timeliness measures*. Finally, only the qualitative characteristic, relevance, was correlated with the usefulness of *cost measures*. These results suggest that understandability was an important qualitative characteristic of information that influenced the usefulness of various types of performance measures.

In terms of the frequency of use of performance measures, only two qualitative characteristics of information (relevance and reliability) were found to influence the frequency of use of performance measures. Specifically, the qualitative characteristics, relevance and reliability, were significant factors affecting the frequency of use of *quantity measures*. Additionally, the bivariate analysis revealed that the qualitative characteristic, relevance, was a determinant of the frequency of use of *quality measures*.

(c) Personal Characteristics of Users and Usefulness of Output Performance Information

In the present study, whilst the personal characteristics of users seemed not to be an important factor affecting the usefulness of output performance information, few relationships were found between personal characteristics of users and the usefulness of output performance information. The bivariate analysis illustrated that only one personal characteristic of the users (the length of time in the current or similar job) significantly affected the perceived usefulness of *quantity measures*. The other three perceived usefulness variables of quality measures, cost measures and timeliness measures were *not* related to any of personal characteristics variables.

In terms of the frequency of use of performance measures, only one personal characteristic variable (responsibility or principal task) was a significant factor affecting the frequency of use of *quality measures*. All of the personal characteristics variables appeared not to be significant determinants of the frequency of use of the other three types of performance measures: *quantity measures*; *cost measures*; and *timeliness measures*.

On the whole, the perceived usefulness of the various types of performance measures tended to be significantly related to the qualitative characteristics of information rather than the purposes for using the budget papers and the personal characteristics of the users. Nevertheless, the frequency of use of performance measures tended to be significantly related to both the purposes for using the budget papers and the qualitative characteristics of information, rather than the personal characteristics of the users.

6.2.3 Proposition 3

Whilst Proposition 2 used the usefulness of performance information as a dependent variable, Proposition 3 identified the dependent variable as being the usefulness of the total output cost information in budget papers. However, the independent variables involved in the two propositions were identical and based on the same premise of SAC2 and SAC3. Therefore, Proposition 3 was specified as follows.

There is a relationship between the usefulness of total output cost information and:

(a) the purposes for using the budget papers;

(b) the qualitative characteristics and usability of total output cost information; and

(c) the personal characteristics of the users.

Two usefulness dependent variables *usefulness of cost measures* and *frequency of use of cost measures* were tested with three independent variables, as defined in Proposition 3. The bivariate analysis results for Proposition 3 are reported below.

6.2.3.1 Usefulness of Total Output Cost Information

The variable *usefulness of cost measures* had significant relationships with the variable *purposes for using the budget papers*: to evaluate decisions about the allocation of resources (p=0.029); and a *qualitative characteristic* variable: *relevance*: the information is essential and influences my decisions about the allocation of resources (p=0.008) (Table 6.16). There was also a significant relationship between the variable *usefulness of cost measures* and the overall satisfaction with the quality of output cost information contained in the budget papers (p=0.000).

Table 6.16: Usefulness of Total Output Cost Information

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13b to evaluate decisions about the allocation of resources	7.096	2	0.029
Qualitative Characteristics of Total Output Cost Information			
Relevance			
Q 23a The information is essential and influences my decisions about the allocation of resources (such as funding approvals).	13.661	4	0.008
Q 23j Overall, I am satisfied with the quality of output cost information contained in the budget papers.	25.949	4	0.000

6.2.3.2 Frequency of Use of Cost Measures

The variable *frequency of use of cost measures* had significant relationships with the variable *purposes for using the budget papers*: for making decisions about the allocation of resources (p=0.003); and a *qualitative characteristic* variable, *relevance*: the information is essential and influences my decisions about the allocation of resources (p=0.008) (Table 6.17).

Table 6.17: Frequency of Use of Cost Measures

	Pearson Chi-square value (χ^2)	Degrees of Freedom (df)	Probability (p)
Purposes of Use			
Q 13a for making decisions about the allocation of resources	11.733	2	0.003
Qualitative Characteristics of Total Output Cost Information			
Relevance			
Q 23a The information is essential and influences my decisions about the allocation of resources (such as funding approvals).	13.692	4	0.008

6.2.3.3 Summary of the Findings for the Statistically Significant Bivariate Relationships of the Usefulness of Total Output Cost Information

Table 6.18 presents a summary of the statistically significant bivariate relationships between two usefulness variables: the usefulness of cost measures and the frequency of use of cost measures, and three independent variables: purposes of use; qualitative characteristics and usability characteristic of total output cost information; and personal characteristics.

In terms of the proposition being tested, there was evidence that the usefulness of total output cost information was related to two purposes of use variables and a qualitative characteristic of total output cost information (relevance). A particular purpose of use variable which was related to the usefulness of cost measures was "to evaluate decisions about the allocation of resources". Another purpose of use variable which was related to the frequency of use of cost measures was "for making decisions about the allocation of resources".

The only one qualitative characteristic of total output cost information which was related to the usefulness of total output cost information was "relevance: the information is essential and influences my decisions about the allocation of resources (such as funding approvals)". These findings confirmed that making and evaluating decisions about the allocation of resources were related to the perceived usefulness of the total output cost information both in terms of the usefulness of cost measures and the frequency of use of cost measures. However, there was no evidence that the usefulness of total output cost information both in terms of the usefulness of cost measures and the frequency of use of cost measures, was related to any of the personal characteristics of users.

Table 6.18: Summary of the Statistically Significant Bivariate Relationships of the Usefulness of Total Output Cost Information

Usefulness Variables	Purposes of Use	Qualitative Characteristics of Total Output Cost Information	Personal Characteristics
Usefulness of Total Output Cost Information			
Usefulness of Cost Measures	- To evaluate decisions about the allocation of resources	**Relevance** - Information is essential and influences decisions about the allocation of resources Overall satisfaction with the quality of output cost	No
Frequency of Use of Cost Measures	- For making decisions about the allocation of resources	**Relevance** - Information is essential and influences decisions about the allocation of resources	No

In conclusion, the bivariate analysis results in Table 6.18 provide evidence to support the proposition that there is a relationship between the usefulness of total output cost information in terms of the usefulness of cost measures and the frequency of use of cost measures and: the purposes for using the budget papers; and a qualitative characteristic of total output cost information.

(a) Purposes for Using the Budget Papers and Usefulness of Total Output Cost Information

The bivariate analysis revealed that one purpose for using the budget papers appeared to be a significant determinant of the perceived usefulness of cost measures. Specifically, those who were using the budget papers to evaluate decisions about the allocation of resources were significantly more likely to perceive that the cost measures were useful. Further, one purpose for using the budget papers tended to affect the frequency of use of the cost measures. For the present study, those who were using the budget papers for making decisions about the allocation of resources used the cost measures significantly more often.

(b) Qualitative Characteristics and Usefulness of Total Output Cost Information

Only one qualitative characteristic of total output cost information (relevance: information is essential and influences decisions about the allocation of resources) appeared to affect both the usefulness and the frequency of use of the cost measures. As only one out of the four qualitative characteristics of information was related to the usefulness of total output cost information, this finding did not strongly confirm the

importance of the qualitative characteristic variables as a determinant of the usefulness of the cost measures.

6.2.4 Summary of the Bivariate Analysis for Research Question 1

Overall, the results of this study supported the proposition that the perceived usefulness of the budget papers and the information within them, were associated with (a) readership; (b) comprehension difficulties; (c) purposes of using the budget papers, (d) the qualitative characteristics of information; and (e) some of personal characteristics. Nevertheless, the results illustrated that the *frequency of use of budget papers* was not a function of readership variables; the comprehension difficulties variables; purposes of use variables; or any of the personal characteristics variables. Further, there were no significant relationships between the variable *frequency of use of timeliness measures* and the purposes of use variables; the qualitative characteristic of performance information variables; or any of the personal characteristics variables. Finally, the personal characteristic of the users was not a significant factor affecting the perceived usefulness of cost measures and the frequency of use of cost measures.

6.3 Research Question 2: The Consequences of Using OBB in the Public Sector

In the present study, the investigation of the consequences of using OBB in the public sector was limited to the impact of OBB on decision making, accountability, and organisational operations. In this next section, three propositions (Propositions 4 to 6) are restated and the results for each proposition are discussed. The data to answer this question are gathered from Section C of the questionnaire.

6.3.1 Proposition 4

This study examined whether performance information generated by OBB and cost benefit analysis were used for decision making. The effectiveness of OBB was also investigated regarding the increased awareness of outcomes and factors affecting outcomes. Further, the impact of OBB on decision making over an extended period of time was explored. To determine whether a budget has an impact on decision making, this study also examined whether decisions regarding the allocation and reallocation of resources were influenced by the budget. The fourth proposition is stated that OBB has an impact on decision making. Most data discussed in this section are reported in Table 5.25.

Respondents were asked whether the use of OBB resulted in the allocation and reallocation of resources. While almost half (45.4%) of the respondents reported that performance information did ***not*** influence their decisions about the allocation of resources (such as investing or funding approvals), almost two-fifths (38.7%) of the respondents provided a positive view (see Table 5.17). Moreover, while two-fifths (40.0%) of the respondents specified that the total output cost information was ***not*** essential nor did it influence their decisions about the allocation of resources (such as funding approvals), almost two-fifths (36.5%) of the respondents gave a positive response (see Table 5.24). Further, whilst about two-fifths (43.4%) of the respondents indicated that the use of OBB did ***not*** result in the reallocation of resources, another two-fifths (40.0%) of the respondents perceived the opposite (see Table 5.25). Therefore, the findings only support the view that OBB has a minor impact on decision making regarding the reallocation and allocation of resources.

There are two possible explanations for a negative response regarding the impact of OBB on the allocation and reallocation of resources. First, according to Lindblom (1959), decisions regarding the allocation or reallocation of resources might be influenced by political pressure or budgetary constraints, not by the budget system itself. However, these factors were not investigated in this study. Second, if information generated by OBB was unusable or insufficient, it is possible that the information would not influence budget allocation decisions. More than half of the respondents *strongly disagreed* or *disagreed* that the total output cost information was usable for making decisions, without the need for any additional calculations or adjustments (51.7%) nor was the total output cost information (without the cost per unit measure) sufficient to make budget allocation decisions (64.4%). These responses are reported in Table 5.24. The majority of the respondents perceived that the total output cost information was unusable without the additional calculations or adjustments and was insufficient to make budget allocation decisions, hence information generated by OBB might not influence their decisions.

In theory, focusing on outputs and outcomes rather than inputs is claimed to be a fundamental aspect of OBB (South Australia Department of Treasury and Finance 1997a; VDTF 1997b; Queensland Treasury 1998b; Commonwealth Department of Finance and Administration 2000; Western Australia Treasury Department 2000).

Half of the respondents (49.5%) *strongly agreed* or *agreed* that management now focused more on outputs than the use of resources (see Table 5.25). This positive result confirmed the assertion of the VDTF (1997b) that OBB focused more on outputs than inputs but it was not overwhelming.

Further, over two-fifths of the respondents perceived that OBB was *very effective* or *effective* in increasing awareness of, and focus on, outcomes (45.7%) as well as increasing awareness of factors that affected outcomes (41.3%). The results are reported in Table 5.36. These positive findings contradict the argument that OBB systems which make chief executives accountable for outputs may cause them to lose sight of outcomes, as pointed out by many authors such as Pallot (1991); Holmes and Wileman (1995); Boston et al (1996); Lane (1997); Shead (1998); Campos and Pradhan (1999); and Barzelay (2001). However, these positive findings must be regarded cautiously as the proportion of respondents who gave a positive response was slightly less than half.

In summary, approximately half of the respondents perceived that OBB in practice increased the focus on outputs and outcomes rather than inputs in accordance with the OBB concept proposed by the VDTF (1997b) and the Commonwealth Department of Finance and Administration (2000). Practically, budgeting under OBB in Victorian government departments has gone beyond focusing on inputs and moved towards focusing on outputs and outcomes. However, one-third (33.7%) of the respondents perceived that management at the time of the collection of data still did ***not*** focus more on outputs than the use of inputs. Further, about one-seventh (16.3%) of the respondents perceived that OBB was ***not*** effective in increasing awareness of, and focus on, outcomes. Thus, whilst there was evidence to support the argument that budget practice complied with budget theory regarding the focus on outputs and outcomes rather than inputs, a gap still existed between budget practice and budget theory in this aspect.

It should be noted that a significant proportion of respondents gave incorrect answers to the statements representing the definitions of outputs (74.7%) and OBB (72.1%) (see Table 5.5). Rubin (1990) emphasised that the gap between budget theory and practice needed to be identified before theory and practice grew unacceptably far apart. OBB has been officially adopted in the Victorian departments for many years. However, the results of this study revealed that the concept of OBB regarding the definitions of OBB

and outputs were not correctly understood and the budget practice of focusing on outputs and outcomes rather than inputs was partly implemented. The gap between budget practice and normative budget theory regarding the definitions of OBB and outputs needs to be reduced in order to make OBB systems fully effective.

Many advocates of OBB assert that OBB systems or output classification facilitates output costing which is useful for decision making and leads to better resource allocation decisions (VDTF 1997b; Guthrie 1998; Queensland Treasury 1998b; South Australia Department of Treasury and Finance 1998b; Commonwealth Department of Finance and Administration 1999).

In the present study, a significant proportion of respondents (62.6%) had a positive perception that OBB increased their awareness of cost (see Table 5.25). When respondents were asked whether OBB improved cost control, the answers were ambiguous. Whilst one-third (34.5%) of the respondents *strongly agreed* or *agreed* that OBB improved cost control, a similar proportion of respondents (32.2%) reported the reverse. Robinson (1992) argued that only the disaggregated output classes should be used for budget control purposes. Therefore, it is possible that at the time of the collection of data the output classification of departments was highly aggregated, thus it could not assist in budget or cost control (such as the expansion and reduction of cost or existing activities). Robinson (1992) also concluded that output classification should not be used as a form of central control because there was little benefit and significant potential cost to control expenditure of departments in terms of output categories. However, he stated that output classification had great value for expenditure review and appraisal purposes.

Respondents were further asked whether the use of OBB led to cost cutting and cost saving. Almost half (45.1%) of the respondents perceived that OBB did ***not*** lead to cost cutting and cost saving, with 19.8% providing a positive view (see Table 5.25). The predominance of the negative response contradicts the claims of Robinson (1992) and Holmes and Wileman (1995) that output classification leads to cost saving. Specifically, Robinson (1992) suggested that expenditure classified by output was useful as a tool in the review of expenditure in order to identify potential savings or elimination of the production of certain outputs. Holmes and Wileman (1995) stated that according to the

report of the National Government of New Zealand, OBB facilitated significant reductions in departmental expenditure because the government was able to examine the budget, output by output.

When the responses of two questions, on whether OBB improved cost control and whether the use of OBB led to cost cutting and cost saving, were cross-tabulated (see Table 6.19), there was a strong statistically significant relationship between the two questions. The Pearson Chi-square test showed a significance value of 26.644 (p=0.000). In fact, respondents who reported that the use of OBB led to cost cutting and cost saving also tended to report that OBB improved cost control.

Table 6.19: Improvement of Cost Control and Leading to Cost Cutting and Cost Saving

Q27 OBB improves cost control		Q28 The use of OBB leads to cost cutting and cost saving			
		Disagree	Undecided	Agree	Total
Disagree	Count	20	7	2	29
	% of Total	22.2%	7.8%	2.2%	32.2%
Undecided	Count	11	17	2	30
	% of Total	12.2%	18.9%	2.2%	33.3%
Agree	Count	10	7	14	31
	% of Total	11.1%	7.8%	15.6%	34.4%
Total	Count	41	31	18	90
	% of Total	45.6%	34.4%	20.0%	100.0%

Note: Pearson Chi-square value=26.644, df=4, p=0.000

Respondents were also asked whether OBB facilitated in classifying expenditures so as to identify the direct costs. If OBB facilitated the identification of direct costs of outputs, this would provide a good starting point for cost control and the identification of potential savings. Almost half (45.1%) of the respondents had a positive perception that OBB facilitated in classifying expenditures so as to identify the direct costs (see Table 5.25). The responses to the question on whether OBB facilitated in classifying expenditures so as to identify the direct costs, were cross-tabulated with, the responses to the question on whether OBB improved cost control (Table 6.20). As a result, there appeared to be a strong statistically significant relationship between these two questions. The Pearson Chi-square test provided a significance value of 23.829 (p=0.000). Indeed, respondents who reported that OBB facilitated in classifying expenditures so as to identify the direct costs, also tended to report that OBB improved cost control. This result is consistent with the view of Robinson (1992) that the

information about direct costs of outputs will provide a good starting point for cost saving or cost control.

Table 6.20: Control of Costs and Direct Costs Identification

Q27 OBB improves cost control		Q31 OBB facilitates in classifying expenditures so as to identify the direct costs			Total
		Disagree	Undecided	Agree	
Disagree	Count	14	4	11	29
	% of Total	15.6%	4.4%	12.2%	32.2%
Undecided	Count	5	16	9	30
	% of Total	5.6%	17.8%	10.0%	33.3%
Agree	Count	6	4	21	31
	% of Total	6.7%	4.4%	23.3%	34.4%
Total		25	24	41	90
	% of Total	27.8%	26.7%	45.6%	100.0%

Note: Pearson Chi-square value=23.829, df=4, p=0.000

Further, this study investigated whether respondents believed that the output structure was more useful than the program structure. Almost half (48.4%) of the respondents had a positive view that the output structure provided a clearer idea about the costs of products and services than the program structure (see Table 5.25). This result supports the claim that OBB provides better information about the cost of products and services which can be used for rational budget allocations and budget control, as asserted by the VDTF (1997b); Elvin (1998); South Australia Department of Treasury and Finance (1998b); and the Western Australia Treasury Department (2000).

It is possible that the improvement of cost control via the use of OBB is related to a clearer idea about the costs of products and services provided by the output structure. The responses to the question on whether the output structure provided a clearer idea about the costs of products and services than the program structure, were cross-tabulated with the responses to the question on whether OBB improved cost control (Table 6.21). There was a strong statistically significant relationship between the two variables. The Pearson Chi-square test provided a significance value of 21.558 (p=0.000). Respondents who reported that the output structure provided a clearer idea about the costs of products and services than the program structure also tended to report that OBB improved cost control.

Table 6.21: Control of Costs and Clearer Cost of Products or Services

Q27 OBB improves cost control		Q33 The output structure provides a clearer idea about the costs of products and services than the program structure			Total
		Disagree	Undecided	Agree	
Disagree	Count	10	8	11	29
	% of Total	11.1%	8.9%	12.2%	32.2%
Undecided	Count	5	16	9	30
	% of Total	5.6%	17.8%	10.0%	33.3%
Agree	Count	4	3	24	31
	% of Total	4.4%	3.3%	26.7%	34.4%
Total		19	27	44	90
	% of Total	21.1%	30.0%	48.9%	100.0%

Note: Pearson Chi-square value=21.558, df=4, p=0.000

In summary, the majority of respondents indicated that OBB increased their awareness of cost. Further, approximately half of the respondents specified that OBB provided a clearer idea about the cost of products and services as well as facilitated the classification of expenditures so as to identify the direct costs, but OBB had a minor impact on decisions regarding cost cutting and cost saving.

OBB was expected to be useful for making decisions as well as improving the planning and budgeting process over an extended period of time (South Australia Department of Treasury and Finance 1997b; VDTF 1997b; Queensland Treasury 1999; Commonwealth Department of Finance and Administration 2000; Western Australia Treasury Department 2000). Respondents were asked whether the use of OBB enhanced long-term planning. Almost half (45.6%) of the respondents had a positive view that OBB enhanced long term planning (see Table 5.25). When respondents were further asked whether OBB allowed assessment of long-term financial implications, a little over one-third (38.5%) of the respondents gave a positive response to this question with an equally high level (30.8%) giving *undecided* or *disagree* responses. Whilst there was support for the notion that OBB allowed assessment of long-term financial implications, it was not overwhelming. Nevertheless, most respondents (54.4%) had a positive view that OBB provided a means of estimating the cost consequences of expanding or contracting any outputs. In short, the predominance of a positive response to a number of questions supported the conclusion that the information generated by OBB was used by public officials for making decisions over an extended period of time. Therefore, the proposition that OBB has an impact on decision making is supported by the data.

When the responses of two questions on whether OBB allowed assessment of long-term financial implications and whether OBB provided a means of estimating the cost consequences of expanding or contracting any outputs, were cross-tabulated (Table 6.22), there was a strong statistically significant relationship between these two questions. The Pearson Chi-square test revealed a significance value of 22.797 (p=0.000). Respondents who reported that OBB allowed assessment of long-term financial implications also tended to report that OBB provided a means of estimating the cost consequences of expanding or contracting any outputs. These data support the notion that the information generated by OBB is used by public officials for making decisions.

Table 6.22: Financial Implications and Estimation of Cost Consequences

Q29 OBB allows assessment of long-term financial implications		**Q32 OBB provides a means of estimating the cost consequences of expanding or contracting any outputs**			**Total**
		Disagree	Undecided	Agree	
Disagree	Count	12	9	7	28
	% of Total	13.3%	10.0%	7.8%	31.1%
Undecided	Count	5	8	14	27
	% of Total	5.6%	8.9%	15.6%	30.0%
Agree	Count	1	6	28	35
	% of Total	1.1%	6.7%	31.1%	38.9%
Total		18	23	49	90
	% of Total	20.0%	25.6%	54.4%	100.0%

Note: Pearson Chi-square value=22.797, df=4, p=0.000

To further determine whether the information generated by OBB was used for decision making, respondents were asked about the use of performance information as well as the use of cost benefit analysis. The use of performance information was recognised as an important element of OBB (VDTF 1997b; Commonwealth Department of Finance and Administration 2000) and could therefore have an impact on budgetary decision making. The results relating to the use of performance information and cost benefit analysis, are discussed in the following sections.

6.3.1.1 The Use of Performance Information

The majority of respondents (77.8%) reported using performance information (see Table 5.18). Approximately three-fifths of the respondents used performance measures (such as quantity measures, quality measures, cost measures, and timeliness measures) as frequently as quarterly (see Table 5.16). Furthermore, a significant proportion of the respondents reported using performance information for performance evaluation

(62.4%), followed by allocating resources (37.6%); setting objectives (37.6%); increasing productivity (16.1%); and purchasing outputs from alternative providers (10.8%). These results are reported in Table 5.19. Given the above results, there is a clear indication that performance information generated by OBB was used. These findings contradict the argument of Mascarenhas (1996) that governments fail to use performance measurement in making resource allocation decisions.

In summary, performance information was used to make decisions, set objectives and change the level of resources of existing outputs. It was predominately used to make limited choices about current outputs that had been operating such as performing performance evaluation, allocating resources, setting objectives, increasing productivity, and possibly setting priorities when the level of resourcing for an output was changed. However, performance information was rarely used to choose between alternative providers.

Rationalists believe that it is possible in each budget process to review critically all expenditure and all alternative output options so as to determine an optimal allocation of resources (Schick 1973). From the rationalists' perspective, performance information can be used to choose from unlimited sets of alternative outputs or providers. Therefore, according to the rationalists, information is expected to be used to select from alternative outputs or providers. Practically, Etzioni's (1967) mixed-scanning approach assumed that humans could set priorities and choose from a limited number of choices. Therefore, information was expected to be used in making decisions about current outputs and not for choosing between unlimited sets of alternative outputs or providers. In the present study, performance information was used to make decisions and set priorities but it was rarely used to choose between alternative outputs or providers. This goes beyond incremental decision making but it is not as comprehensive as the rationalist approach to decision making. Therefore, performance information generated by OBB was used for decision making and could be explained by the mixed-scanning approach. This result supports the proposition that performance information generated by OBB is used for decision making.

6.3.1.2 The Use of Cost/Benefit Analysis

Somewhat over two-fifths (44.0%) of the respondents *strongly agreed* or *agreed* that the use of OBB encouraged the use of cost/benefit analysis (Table 5.25). Additionally, the majority of the respondents (58.9%) reported using cost/benefit analysis (Table 5.27). About one-third (35.5%) of the respondents reported using cost/benefit analysis to select from various service delivery options; followed by, to change the resourcing of an output (26.9%); to select from alternative outputs (22.6%); to determine if an output can be justified (22.6%); and, to reduce or expand in particular outputs (20.4%). These results are presented in Table 5.28. In contrast to performance information, cost/benefit analysis was primarily used to select from various service delivery options rather than to make limited choices about changing the resources of an output; determining if an output can be justified; or reducing or expanding in particular outputs that had been operated. The advocates of a rationalist approach assume that man is rational (Schick 1973). Therefore, cost/benefit analysis information is expected to be used to choose from unlimited sets of alternative options. A greater use of cost/benefit analysis to select from various alternative service delivery options, found in this study, supports the rationalist approach to decision making. However, this conclusion must be regarded cautiously because the proportion of respondents who reported using cost/benefit analysis to select from various service delivery options was slightly less than half.

It is possible that OBB would encourage the use of cost/benefit analysis if the output structure provided a clearer idea about the costs of products and services. The responses to two questions, whether the output structure provided a clearer idea about the costs of products and services than the program structure and whether the use of OBB encouraged the use of cost/benefit analysis, were cross-tabulated (Table 6.23). The result showed that there was a strong statistically significant relationship between the two variables. The Pearson Chi-square test provided a significance value of 28.147 ($p=0.000$). Indeed, respondents who reported that the output structure provided a clearer idea about the costs of products and services than the program structure also tended to report that the use of OBB encouraged the use of cost/benefit analysis.

Table 6.23: Use of Cost/Benefit Analysis and Clearer Cost of Products or Services

Q34 the use of OBB encourages the use of cost/benefit analysis		Q33 Output structure provides a clearer idea about the costs of products and services than program structure			Total
		Disagree	Undecided	Agree	
Disagree	Count	14	9	7	30
	% of Total	15.4%	9.9%	7.7%	33.0%
Undecided	Count	2	11	8	21
	% of Total	2.2%	12.1%	8.8%	23.1%
Agree	Count	3	8	29	40
	% of Total	3.3%	8.8%	31.9%	44.0%
Total	Count	19	28	44	91
	% of Total	20.9%	30.8%	48.4%	100.0%

Note: Pearson Chi-square value=28.147, df=4, p=0.000

6.3.1.3 Summary Results for Proposition 4: OBB has an Impact on Decision Making

Most results revealed that performance information generated by OBB was used by most public officials, hence supporting the proposition that OBB had an impact on decision making. Additionally, somewhat over two-fifths of the respondents had a positive view that OBB was *very effective* or *effective* in increasing awareness of, and focus on, outcomes (45.7%) as well as increasing awareness of factors that affected outcomes (41.3%).

Further, the results reported in Table 5.26 suggested that a large proportion of the respondents had a positive perception to a number of statements representing the impact of OBB on decision making. Specifically, many respondents had a positive perception that: OBB increased their awareness of cost (62.6%); OBB provided a means of estimating the cost consequences of expanding or contracting any outputs (54.4%); management now focused more on outputs than the use of resources (49.5%); the output structure provided a clearer idea about the costs of products and services than the program structure (48.4%); the use of OBB enhanced long-term planning (45.6%); OBB facilitated in classifying expenditures so as to identify the direct costs (45.1%); and the use of OBB encouraged the use of cost/benefit analysis (44.0%). Therefore, the proposition that OBB has an impact on decision making is supported by most of the data. However, this proposition result should be regarded cautiously because the proportion of the respondents who gave a positive perception to a number of questions was not overwhelming (generally approximately half or somewhat less than half of the respondents).

Nevertheless, there were two consequences on which approximately two-fifths of the respondents had a negative view that OBB only had a slight impact on decision making. The first consequence was that the use of OBB did ***not*** lead to cost cutting and cost saving (45.1%). The second consequence was that the use of OBB did ***not*** result in the reallocation of resources (43.4%). Further, it was found in this study that there was a significant gap between budget practice and normative budget theory regarding the definitions of outputs and OBB. A smaller gap was also found between budget theory and budget practice regarding the focus on outputs and outcomes rather than inputs. In order for OBB to operate effectively, these gaps need to be further investigated and reduced.

6.3.2 Proposition 5

In the present study, the impact of OBB on accountability has been discussed in terms of management accountability and public accountability. The effectiveness of OBB has also been examined regarding the improvement of communication with the public about performance and the increase of the core budget discussions among departments and the parliament on outcomes. Finally, to further understand and encourage the use of performance information which would assist in enhancing accountability, this study also investigated factors influencing the use of performance information. The fifth proposition is stated that the use of OBB enhances accountability.

6.3.2.1 The Impact of OBB on Management Accountability

Management accountability is assessed by investigating whether managers at all levels have clearer views of their objectives and performance measures to assess outputs. Performance measures and objectives are recognised as two important features of OBB as well as the budget process model. If managers have a clearer view of performance measures and objectives, it is likely that managers will be more accountable for the delivery of outputs and outcomes. Most respondents (53.3%) perceived that managers at all levels had clearer views of their performance measures to assess outputs because of OBB (see Table 5.29). As a result, it was possible that managers were likely to be more accountable for the delivery of outputs.

Further, if managers have a clearer view of the objectives, it is possible that managers will be more accountable for the delivery of outcomes. About one-third (35.9%) of the respondents *strongly agreed* or *agreed* that managers at all levels had clearer views of their objectives because of OBB. There was also a similar proportion of respondents who were *undecided* (33.7%) and *disagreed* (30.4%) that OBB provided a clearer view of the objectives. Whilst the majority of the respondents indicated that managers at all levels had clearer views of their performance measures to assess outputs because of OBB, it was unclear whether managers at all levels had clearer views of their objectives because of OBB. Consequently, managers were likely to be more accountable for the delivery of outputs than accountable for the achievement of outcomes because OBB did not strongly promote a clearer view of the objectives.

It is possible that if managers at all levels had clearer views of their objectives, their awareness of better performance would be enhanced. The responses to the question on whether managers at all levels had clearer views of their objectives because of OBB were cross-tabulated with the responses to the question on whether OBB increased awareness of better performance (Table 6.24). The result revealed that there was a statistically significant relationship between these two variables. The Pearson Chi-square test provided a significance value of 10.095 (p=0.039). In fact, respondents who reported that managers at all levels had clearer views of their objectives because of OBB also tended to report that OBB increased awareness of better performance.

Table 6.24: Clearer Objectives and Better Performance

Q42 Managers at all levels have clearer views of their objectives because of OBB		**Q36 OBB increases awareness of better performance**			**Total**
		Disagree	Undecided	Agree	
Disagree	Count	8	2	18	28
	% of Total	8.8%	2.2%	19.8%	30.8%
Undecided	Count	5	11	15	31
	% of Total	5.5%	12.1%	16.5%	34.1%
Agree	Count	4	5	23	32
	% of Total	4.4%	5.5%	25.3%	35.2%
Total	Count	17	18	56	91
	% of Total	18.7%	19.8%	61.5%	100.0%

Note: Pearson Chi-square value=10.095, df=4, p=0.039

According to the budget process model, it is possible that when performance measures of outputs are clear, this will facilitate outcome specification or evaluation. The responses to two questions, whether managers at all levels had clearer views of their

performance measures to assess outputs because of OBB and whether outcomes were more easily measured via the use of OBB, were cross-tabulated (Table 6.25). As a result, there appeared to be a strong statistically significant relationship between these two variables. The Pearson Chi-square test showed a significance value of 23.113 (p=0.000). Respondents who reported that managers at all levels had clearer views of their performance measures to assess outputs because of OBB also tended to report that outcomes were more easily measured via the use of OBB.

Table 6.25: Clearer Performance Measures and Outcomes Measurement

Q43 Managers at all levels have clearer views of their performance measures to assess outputs because of OBB		**Q38 Outcomes are more easily measured via the use of OBB**			**Total**
		Disagree	Undecided	Agree	
Disagree	Count	13	5	3	21
	% of Total	14.1%	5.4%	3.3%	22.8%
Undecided	Count	5	12	5	22
	% of Total	5.4%	13.0%	5.4%	23.9%
Agree	Count	15	7	27	49
	% of Total	16.3%	7.6%	29.3%	53.3%
Total	Count	33	24	35	92
	% of Total	35.9%	26.1%	38.0%	100.0%

Note: Pearson Chi-square value=23.113, df=4, p=0.000

Further, management accountability was assessed in respect to the volume of budgetary documentation and the time given to consider the budget. If budgetary documentation had increased and directors and managers had more time to consider the budget, it is likely that management would be more accountable. Approximately half of the respondents indicated that departments had been faced with a significant increase in the volume of budgetary documentation since the introduction of OBB (54.4%) but executive directors and managers did ***not*** have more time to consider the budget (46.2%) (see Table 5.29). Particularly, according to the mean score values on a scale of 1 to 5 in Table 5.29, respondents indicated that budgetary documentation had increased significantly in volume since the introduction of OBB, with a mean score value of 3.63 and that executive directors and managers did ***not*** have more time to consider the budget, with a mean score value of 2.59. In fact, the greater the volume of budgetary documentation, the more the time required to thoroughly read and become familiar with the information contained in the documents. Consequently, it was unlikely that management would be more accountable.

In summary, the data do ***not*** fully support the proposition that the use of OBB enhances management accountability. There was only one predominately positive response to suggest that managers at all levels had clearer views of their performance measures to assess outputs because of OBB. Therefore, the proposition that the use of OBB enhances management accountability is only slightly supported by the data.

6.3.2.2 The Impact of OBB on Public Accountability

Public accountability is investigated by asking respondents whether they have or intend to use external auditors to conduct performance audits and whether performance measures in their organisations are checked for accuracy. Both questions were answered predominately in the affirmative. The majority of the respondents reported that performance audits by external auditors had been undertaken in their organisations (69.2%) and that performance measures in their organisations were checked for accuracy (75.6%). See Tables 5.21 and 5.22 respectively. Moreover, most respondents (67.0%) provided a positive response that corrective action had been taken in their organisations when there was a variance between budgeted and actual performance measures (see Table 5.29). Many authors agree that performance auditing and the periodical review of performance data is essential in enhancing accountability (Knight and Wiltshire 1977; Guthrie 1989; Lapsley 1995; Glynn and Murphy 1996; Barrett 1997; Talbot 1998; Bowerman and Humphrey 2001; Johnsen et al 2001; Kluvers 2001a). The relatively high positive responses to the above questions provide strong support for the proposition that the use of OBB enhances public accountability.

Further, the majority of respondents gave relatively high positive responses to a number of statements representing the impact of OBB on public accountability (see Table 5.29), hence providing strong support for the proposition that the use of OBB enhances public accountability. Specifically, most respondents indicated that OBB led to clearer responsibility for the delivery of outputs (68.5%) and it was clear now who was accountable for measuring and reporting performance in their organisations (65.2%). These results support the views of Boston et al (1996) and Shead (1998) that the clarification of departmental responsibilities for the delivery of outputs and the new model of the departmental performance reporting based on output specification (in terms of quantity, quality, cost, location, and time) helps to hold managers accountable and increase accountability.

Additionally, most respondents (58.2%) specified that OBB increased their awareness of outcomes evaluation (see Table 5.29). This positive result contradicts the argument that OBB, by making chief executives accountable for outputs, may cause them to lose sight of the achievement of government outcomes, as pointed out by many authors such as Boston et al (1991); Pallot (1991); Holmes and Wileman (1995); Lane (1997); and Barzelay (2001). On the other hand, this positive result supports the view of Elvins (1998) that OBB should move forward to not only measuring efficiency of organisations through the use of output performance measures, but also measuring effectiveness through the use of outcomes evaluation. According to the budget process model, the sizable awareness of outcomes evaluation, found in this study, is a positive sign that the operation of OBB in practice tends to move from focusing on inputs to outputs and further, to outcomes.

Moreover, the majority of respondents (61.5%) indicated that OBB increased their awareness of better performance (see Table 5.29). It is possible that a high awareness of better performance will facilitate the achievement of better performance. This positive result is consistent with the assertion that managing through outputs and outcomes helps improve performance of government departments, as pointed out by Mascarenhas (1996); VDTF (1997b); and the Commonwealth Department of Finance and Administration (2000).

Nevertheless, there were two consequences of OBB on accountability in which the answers were inconclusive (see Table 5.29). First, whilst about one-third (37.8%) of the respondents were *undecided* about whether OBB increased the commitment to service quality, there was also a similar proportion of respondents who *disagreed* (35.6%) and *agreed* (26.6%). The low percentage of the positive responses contradicts the expectations of many advocates of OBB (McTaggart 1997; VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Western Australia Treasury Department 2000; Trenorden 2001) that the use of OBB will improve service delivery for the community.

The negative response that OBB did ***not*** increase the commitment to service quality was consistent with the findings of the effectiveness of OBB in improving outputs or service quality (Table 5.36), where it was found that almost half (45.5%) of the respondents had

a negative perception that OBB had ***not*** been *effective* or *somewhat effective* in improving outputs or services quality. Further, the mean score value on a scale of 1 to 5 for the effectiveness of OBB in improving outputs or service quality was 2.66. It is possible that if the commitment to service quality is low, it is unlikely that quality of service delivery will be improved. In theory, the improvement of service delivery has been recognised as one of the goals of OBB (VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Western Australia Treasury Department 2000). In short, the results of this study show that a gap exists between theory and practice regarding the concept of commitment and improvement of service quality.

It is possible that when objectives are clear or better understood, the commitment to service quality will be enhanced. The responses to the question on whether OBB increased commitment to service quality, were cross-tabulated with the responses to the question on whether managers at all levels had clearer views of their objectives because of OBB (Table 6.26). There was a strong statistically significant relationship between these two variables. The Pearson Chi-square test provided a significance value of 22.677 (p=0.000). Respondents who reported that managers at all levels had clearer views of their objectives because of OBB also tended to report that OBB increased commitment to service quality. Therefore, to encourage commitment to service quality, a clearer view of objectives should be enhanced.

Table 6.26: Clearer Objectives and Commitment to Service Quality

Q42 Managers at all levels have clearer views of their objectives because of OBB		Q40 OBB increases the commitment to service quality			Total
		Disagree	Undecided	Agree	
Disagree	Count	16	8	2	26
	% of Total	17.8%	8.9%	2.2%	28.9%
Undecided	Count	11	15	5	31
	% of Total	12.2%	16.7%	5.6%	34.4%
Agree	Count	5	11	17	33
	% of Total	5.6%	12.2%	18.9%	36.7%
Total	Count	32	34	24	90
	% of Total	35.6%	37.8%	26.7%	100.0%

Note: Pearson Chi-square value=22.677, df=4, p=0.000

The second consequence in which the answers were inconclusive is related to the issue of the measurement of outcomes. While about one-third (38.1%) of the respondents *strongly agreed* or *agreed* that outcomes were more easily measured via the use of OBB, there was also a similar proportion of respondents who *disagreed* (35.8%) (see

Table 5.29). The low percentage of the positive response supports the argument that the measurement of outcomes can be difficult to implement, as pointed out by many authors such as Holmes and Wileman (1995); VDTF (1997b); and Shead (1998). There are several possible explanations for the difficulty of measuring outcomes. First, objectives may not be appropriately specified or not clear, thus this can cause a problem in specifying or measuring outcomes. Second, managers may not clearly understand how to define and measure outcomes. Third, many uncontrolled factors can impact on outcomes, thus it is difficult to accurately measure and be accountable for outcomes. Fourth, a number of different agencies may provide outputs that contribute to the same outcomes, thus it is difficult to precisely measure outcomes. Finally, it may not be possible to define outcome indicators for certain sorts of service delivery (Shead 1998).

Theoretically, one of the main goals of OBB is to achieve the outcomes of the government (South Australia Department of Treasury and Finance 1997a; VDTF 1997c; Queensland Treasury 1998b; Commonwealth Department of Finance and Administration 2000). If outcomes cannot be easily measured, it is unlikely that those outcomes can be achieved or evaluated. Consequently, accountability will not be enhanced. Carlin (1998) indicated that appropriately specified and measured outcomes were preconditions for the successful implementation of OBB. Further, Carlin (1998) was of the view that the linkage between outputs and outcomes would be severed if outcomes were immeasurable. Therefore, in order to enhance accountability, it is important that the awareness of outcomes evaluation is given high attention.

According to the budget process model, if objectives are clear, outcomes should be more easily measured. When the responses to the question on whether managers at all levels had clearer views of their objectives because of OBB, were cross-tabulated with the responses to the question on whether outcomes were more easily measured via the use of OBB, there appeared to be a strong statistically significant relationship. The Pearson Chi-square test provided a significance value of 25.549 (p=0.000). Respondents who reported that managers at all levels had clearer views of their objectives because of OBB also tended to report that outcomes were more easily measured via the use of OBB (see Table 6.27).

Table 6.27: Clearer Objectives and Outcomes Measurement

Q38 Outcomes are more easily measured via the use of OBB		Q42 Managers at all levels have clearer views of their objectives because of OBB			Total
		Disagree	Undecided	Agree	
Disagree	Count	17	9	7	33
	% of Total	18.5%	9.8%	7.6%	35.9%
Undecided	Count	6	14	4	24
	% of Total	6.5%	15.2%	4.3%	26.1%
Agree	Count	5	8	22	35
	% of Total	5.4%	8.7%	23.9%	38.0%
Total	Count	28	31	33	92
	% of Total	30.4%	33.7%	35.9%	100.0%

Note: Pearson Chi-square value=25.549, df=4, p=0.000

Additionally, it is possible that when objectives are clear, OBB may assist in increasing awareness of the outcomes evaluation. The responses to two questions on whether managers at all levels had clearer views of their objectives because of OBB and whether OBB increased awareness of the outcomes evaluation, were cross-tabulated (Table 6.28). The results revealed that there was a statistically significant relationship between these two variables. The Pearson Chi-square test gave a significance value of 9.629 (p=0.047). Respondents who reported that managers at all levels had clearer views of their objectives because of OBB also tended to report that OBB increased awareness of the outcomes evaluation.

Table 6.28: Clearer Objectives and Awareness of Outcomes Evaluation

Q37 OBB increases my awareness of the outcomes evaluation		Q42 Managers at all levels have clearer views of their objectives because of OBB			Total
		Disagree	Undecided	Agree	
Disagree	Count	13	5	5	23
	% of Total	14.3%	5.5%	5.5%	25.3%
Undecided	Count	3	6	6	15
	% of Total	3.3%	6.6%	6.6%	16.5%
Agree	Count	12	20	21	53
	% of Total	13.2%	22.0%	23.1%	58.2%
Total	Count	28	31	32	91
	% of Total	30.8%	34.1%	35.2%	100.0%

Note: Pearson Chi-square value=9.629, df= 4, p=0.047

Further, it is possible that if outcomes are more easily measured via the use of OBB, the awareness of the outcomes evaluation will be enhanced. The responses to the question on whether outcomes were more easily measured via the use of OBB, were cross-tabulated with the responses to the question on whether OBB increased awareness of the outcomes evaluation (Table 6.29). As a result, there was a strong statistically significant relationship between these two variables. The Pearson Chi-square test provided a

significance value of 32.244 (p=0.000). Respondents who reported that outcomes were more easily measured via the use of OBB also tended to report that OBB increased their awareness of outcomes evaluation. Therefore, to increase the awareness of outcomes evaluation, leading to an increase in accountability, the problem relating to the difficulty of outcomes measurement should be minimised.

Table 6.29: Outcomes Measurement and Awareness of Outcomes Evaluation

Q38 Outcomes are more easily measured via the use of OBB		Q37 OBB increases my awareness of the outcomes evaluation			Total
		Disagree	Undecided	Agree	
Disagree	Count	17	5	10	32
	% of Total	18.7%	5.5%	11.0%	35.2%
Undecided	Count	4	8	12	24
	% of Total	4.4%	8.8%	13.2%	26.4%
Agree	Count	2	2	31	35
	% of Total	2.2%	2.2%	34.1%	38.5%
Total	Count	23	15	53	91
	% of Total	25.3%	16.5%	58.2%	100.0%

Note: Pearson Chi-square value=32.244, df=4, p=0.000

Due to OBB being based on the output structure, respondents were asked about the usefulness of output classification and the cost of correcting errors relating to output structure. About two-fifths of the respondents (44.0%) *strongly agreed* or *agreed* that for the purpose of expenditure appraisal, output classification of expenditure was more useful than program classification. This positive result is consistent with the view of Robinson (1992) that output classification is useful for expenditure appraisal. However, the results must be regarded cautiously because the percentage of responses was to some extent less than half.

One way to examine whether the budgetary system enhances public accountability is to ask respondents whether the output structure increases the cost of correcting errors. If OBB increases the cost of correcting errors, it is unlikely that a correction will be made nor is accountability enhanced. Almost half (45.1%) of the respondents were *undecided* whether OBB increased the cost of correcting errors because of the rigidity of the output structure (e.g. a change in one element or structure of output results in change reverberating throughout every element in the same group). Nevertheless, almost one-third (29.7%) of the respondents *strongly disagreed* or *disagreed* that OBB increased the cost of correcting errors, with a quarter (25.3%) of the respondents responding *strongly agreed* or *agreed*. Therefore, there is no strong evidence to support the notion

that the output structure will enhance accountability by reducing the cost of correcting errors. The result is reported in Table 5.29.

To determine whether the proposition that OBB enhanced public accountability could be supported, data were also gathered relating to the effectiveness of OBB in improving communication with the public about performance and in increasing core budget discussions among departments and the parliament on outcomes. Many respondents perceived that OBB had ***not*** been *effective* or *somewhat effective* in improving communication with the public about performance (52.2%) neither had it increased core budget discussions among departments and the parliament on outcomes (40.7%) (see Table 5.36). The predominance of negative responses indicated that the use of OBB had only a minor impact on enhancing public accountability in these two aspects.

To further understand and encourage the use of performance information, which would assist in enhancing accountability to stakeholders, factors influencing the use of performance information were also investigated in this study.

6.3.2.3 Factors Affecting the Use of Performance Information in Victorian Departments

As stated earlier, a significant proportion (77.8%) of respondents used performance information (see Table 5.18). It is possible that the increase and emphasis on accountability to stakeholders as highlighted by OBB leads to a vast use of performance information in Victorian government departments. The relatively high proportion of respondents using performance information is consistent with the view of Kloot (1999) in a study of Victorian local government. Kloot (1999) concluded that increased accountability to stakeholders including both the central government and the community was one of the factors influencing the increased use of performance measures in Victorian local government.

There are many factors that can influence the use of performance information. In the present study, however, factors influencing the use of performance information were examined and limited to five factors: knowledge about OBB and performance measures; performance information preparation; performance audits by external auditors; checking for accuracy of performance measures; and the educational training of performance measurement. The proposition to be tested was stated as follows.

The use of performance information generated by OBB is significantly related to:
(a) knowledge about OBB and performance measures;
(b) performance information preparation;
(c) performance audits by external auditors;
(d) checking for accuracy of performance measures; and
(e) the educational training of performance measurement.

Logistic regression, a form of multivariate analysis, was used to determine possible factors that could explain the use of performance information. Table 6.30 presents the variables used in a logistic regression analysis to explain the use of performance information. Categorical dependent and independent variables were coded by using dummy variables. The dependent variable utilised was the use or non-use of performance information. A binary measure was applied for the dependent variable (0 if do not use; 1 if use).

Five independent variables or predictor variables were investigated. First, the *knowledge about OBB and performance measures* variable was measured by calculating total knowledge score of OBB and performance measures. The total knowledge scores were calculated based on the correct responses to eight questions. Respondents who got correct answers equal to or more than four answers out of the total eight answers (at least 50% correct answers), were classified as having a high knowledge about OBB and performance measures. Second, the *performance information preparation* variable was classified as prepared by "management", "independent auditors", and "management and then verified by independent auditors". Third, the *performance audits by external auditors* variable was grouped as "external auditor has been used", "external auditor has not been used", "respondents do not know whether an external auditor has been used", and "external auditor has not been used but the intention is to have performance audits". Fourth, the *checking for accuracy of performance measures* variable was classified as "performance measures are checked for accuracy", "performance measures are not checked for accuracy", and "respondents do not know whether performance measures are checked for accuracy". Finally, the *educational training of performance measurement* variable applied a binary measure (0 if do not have training; 1 if have training).

Table 6.30: Variables Coding Used for the Prediction of the Use of Performance Information

Dependent Variable	Categorical Variables Coding
Use of performance information (USEPI19)	Binary Variable 0 if do not use performance information 1 if use performance information
Independent Variables	**Categorical Variables Coding**
Knowledge about OBB and performance measures (HLKNOW(1))	Binary Variable 0 if low knowledge 1 if high knowledge
Performance information preparation (PA_20) - performance information prepared by management (PA_20(1)) - performance information prepared by independent auditors (PA_20(2)) - performance information prepared by management and verified by independent auditors (PA_20(3))	Three dummy variables used: PA_20(1) = 1 if performance information prepared by management and equal zero if other; PA_20(2) = 1 if performance information prepared by independent auditors and equal zero if other; and PA_20(3) is absorbed in the intercept.
Performance audits by external auditors (PA_21) - external auditor has been used (PA_21(1)) - external auditor has not been used (PA_21(2)) - respondents do not know whether external auditor has been used (PA_21(3)) - external auditor has not been used but the intention is to have performance audits (PA_21(4))	Four dummy variables used: PA_21(1) = 1 if external auditor has been used and equal zero if other; PA_21(2) = 1 if external auditor has not been used and equal zero if other; PA_21(3) = 1 if respondents do not know whether external auditor has been used and equal zero if other; and PA_21(4) is absorbed in the intercept.
Checking for accuracy of performance measures (A_22) - performance measures are checked for accuracy (A_22(1)) - performance measures are not checked for accuracy (A_22(2)) - respondents do not know whether performance measures are checked for accuracy (A_22(3))	Three dummy variables used: A_22(1) = 1 if performance measures are checked for accuracy and equal zero if other; A_22(2) = 1 if performance measures are not checked for accuracy and equal zero if other; and A_22(3) is absorbed in the intercept.
Educational training of performance measurement (TRA_PM65(1))	Binary Variable 0 if do not have formal educational training of performance measures 1 if have formal educational training of performance measures

The results of the logistic regression and the impact of each variable are provided in Table 6.31. The overall goodness of fit of the model was assessed through a Chi-square and the Hosmer-Lemeshow statistics. The Chi-square test showed a significance value of 22.104 (p=0.009) (see Table 6.31A). Therefore, the overall model was clearly significant at both the 95% and 99% confidence levels. Furthermore, the Hosmer-Lemeshow goodness of fit test was not significant (p=0.604), indicating that the data fit the model (see Table 6.31B). The two measures of goodness of fit, in combination, provided support for acceptance of the model as a significant logistic regression model and suitable for further examination. Looking at the classification table, the model was

robust with the overall prediction of 82.6% correct. Specifically, the model predicted correctly 97.0% of the use group and 31.6% of the non-use group (see Table 6.31C).

Table 6.31: The Results of Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	86	92.5
	Missing Cases	7	7.5
	Total	93	100.0
Unselected Cases		0	0.0
Total		93	100.0

a If weight is in effect, see classification table for the total number of cases.

Table 6.31A: Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	22.104	9	.009
	Block	22.104	9	.009
	Model	22.104	9	.009

Table 6.31B: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.460	7	.604

Table 6.31C: Classification Table[a]

		Predicted		
		USEPI19 = Use of Performance Information		Percentage
Observed		0 = do not use	1 = use	Correct
USEPI19	0 = do not use	6	13	31.6
	1 = use	2	65	97.0
Overall Percentage				82.6

a The cut value is .500

The Wald statistic was used to examine the significance of estimated coefficients. If the estimated coefficients were statistically significant at the 0.05 level, the individual variables were significant and should be interpreted. With all five variables entered, the only major influence affecting the use or non-use of performance information was clearly the variable, *checking for accuracy of performance measures (A_22(1))*. This result is reported in Table 6.32. The variable A_22(1) was a significant factor at both the 95% and 99% confidence levels (p=0.006). No other variables were significant at the 95% confidence level, thus they were not useful predictors in the regression analysis.

The sign of the coefficient for A_22(1) was positive indicating that respondents who reported that performance measures were checked for accuracy, were more likely to use performance information than those who reported that they did not know whether or not performance measures were checked for accuracy or that performance measures were not checked for accuracy.

Table 6.32: Variables in the Equation of Logistic Regression

Variables	B	S.E.	Wald	df	Sig.
HLKNOW(1)	-.564	.567	.991	1	.320
PA_20(1)	-2.008	15.742	.016	1	.899
PA_20(2)	5.703	31.472	.033	1	.856
PA_21(1)	-1.837	12.635	.021	1	.884
PA_21(2)	-2.589	12.664	.042	1	.838
PA_21(3)	-2.950	12.639	.054	1	.815
A_22(1)	1.397	.507	7.593	1	.006
A_22(2)	-1.267	.803	2.492	1	.114
TRA_65(1)	.048	.350	.018	1	.892
Constant	5.178	20.182	.066	1	.798

Variable(s) entered on step 1: HLKNOW, PA_20, PA_21, A_22, TRA_PM65.

Descriptive statistics in Table 6.33 also confirmed the result of the logistic regression for the prediction of the use of performance information. Of those who reported that performance measures were checked for accuracy, a significant proportion of respondents (83.8%) also indicated that they used performance information. There were only three respondents who reported that they used performance information even though performance measures were not checked for accuracy.

Table 6.33: Accuracy of Performance Measures and Use of Performance Information

(A_22) = Checking for accuracy of performance measures		USEPI19 = Use of performance information		Total
		0 = do not use	1 = use	
A_22(1) performance measures are checked for accuracy	Count	11	57	68
	% within A_22(1)	16.2%	83.8%	100.0%
	% within USEPI19	55.0%	82.6%	76.4%
	% of Total	12.4%	64.0%	76.4%
A_22(2) performance measures are not checked for accuracy	Count	3	3	6
	% within A_22(2)	50.0%	50.0%	100.0%
	% within USEPI19	15.0%	4.3%	6.7%
	% of Total	3.4%	3.4%	6.7%
A_22(3) respondents do not know whether performance are measures checked for accuracy	Count	6	9	15
	% within A_22(3)	40.0%	60.0%	100.0%
	% within USEPI19	30.0%	13.0%	16.9%
	% of Total	6.7%	10.1%	16.9%
Total	Count	20	69	89
	% within A_22	22.5%	77.5%	100.0%
	% within USEPI19	100.0%	100.0%	100.0%
	% of Total	22.5%	77.5%	100.0%

In conclusion, the only factor that was found to significantly influence the use of performance information in this study was the variable, *checking for accuracy of performance measures*. The result from the logistic regression reveals that performance information generated by OBB is likely to be used by public officials if performance measures are checked for accuracy. Therefore, in order to enhance public accountability by increasing the use of performance information, performance measures must be checked for accuracy. This study also found that there was a significant use of performance information generated by OBB (see Table 5.18). Further, the study found that the majority of respondents (64.2%) reported that the performance measures were checked for accuracy at least quarterly (see Table 5.23). As a result, these findings support the proposition that the use of OBB enhances public accountability.

6.3.2.4 Summary Results for Proposition 5: The Use of OBB Enhances Accountability

The proposition that the use of OBB enhances accountability is partly supported by the data. Specifically, most data support the proposition that the use of OBB enhances public accountability as claimed by the VDTF (1997b) and the Commonwealth Department of Finance and Administration (2000) but only somewhat supports the proposition that OBB enhances management accountability. The results in Table 5.29 suggested that most respondents had a positive perception to a number of statements representing the impact of OBB on accountability. In particular, a considerable proportion of the respondents had a positive perception that performance measures in their organisations were checked for accuracy (75.6%) (see Table 5.22); performance audits by external auditors had been undertaken in their organisations (69.2%) (see Table 5.21); OBB led to clearer responsibility for the delivery of outputs (68.5%); corrective action had been taken in their organisations when there was a variance between budgeted and actual performance measures (67.0%); it was clear now who was accountable for measuring and reporting performance in their organisations (65.2%); OBB increased their awareness of better performance (61.5%); OBB increased their awareness of the outcomes evaluation (58.2%); and managers at all levels had clearer views of their performance measures to assess outputs because of OBB (53.3%). Many respondents also indicated that, for the purpose of expenditure appraisal, output classification of expenditure was more useful than program classification (44.0%).

Nevertheless, about half of the respondents indicated that budgetary documentation had increased significantly in volume since the introduction of OBB but executive directors and managers did ***not*** have more time to consider the budgets. Consequently, the introduction of OBB has only had a minor impact on enhancing management accountability. Additionally, many respondents had a negative perception that OBB had ***not*** been *effective* or only *somewhat effective* in improving communication with the public about performance (52.2%) neither had it increased core budget discussions among departments and the parliament on outcomes (40.7%). Therefore, at this stage, whilst the proposition that the use of OBB enhances accountability is supported by most of the data, there are still a number of areas needing to be improved in order to enhance greater accountability in Victorian government departments.

6.3.3 Proposition 6

In the present study, the impact of OBB on the operations of Victorian government departments examined the impact on the effectiveness of resource allocation; the linkage of budget and performance; the understanding of government operations; the change of organisational structure to align with output structure; the involvement of lower level and top management in budget formulation; training in the organisations; the difficulty of operating OBB; and the increasing workload. Further, this study investigated problems in organisations since the implementation of OBB as well as the effectiveness of OBB in reducing duplicated activities or services; reducing/eliminating ineffective services/products; improving responsiveness to customers; and improving outputs/service quality. The sixth proposition is stated that OBB has a positive impact on organisational operations.

To determine whether Proposition 6 could be supported, data were gathered relating to the area mentioned above. About two-fifths (39.2%) of the respondents *strongly agreed* or *agreed* that OBB improved the effectiveness of resource allocation and budgeting in their organisations. However, about one-third of the respondents responded that they were *undecided* (31.5%) or *strongly disagreed* or *disagreed* (29.4%). The positive response moderately supported the notion that OBB systems could assist organisational improvement by improving the effectiveness of resource allocation, as claimed by the VDTF (1997c); the Commonwealth Department of Finance and Administration (1998); the Western Australia Treasury Department (2000); and Trenorden (2001). It should be

noted that whilst this result supported the proposition that OBB had a positive impact on organisational operations, the percentage of respondents was not overwhelming. Therefore, OBB has only a minor impact on improving the effectiveness of resource allocation and budgeting in public sector organisations.

Performance measurement is considered to be a crucial aspect of OBB (South Australia Department of Treasury and Finance 1997a; VDTF 1997b; Commonwealth Department of Finance and Administration 2000; Western Australia Treasury Department 2000). The linking of budget and performance over time can assist organisations to improve their operations and increase efficiency and effectiveness. Respondents were asked whether OBB improved organisational operations by linking budget and performance over time. The majority of respondents (59.8%) gave a positive response to this question. The relatively high positive response confirms the assertions of the South Australia Department of Treasury and Finance (1997b); VDTF (1997b), and the Western Australia Treasury Department (2000) that OBB systems can assist organisational improvement by linking budget and performance over time.

Furthermore, respondents gave a positive response to a number of statements representing the impact of OBB on organisational operations, thus supporting the proposition that OBB had a positive impact on organisational operations.

First, the majority of respondents (61.5%) indicated that they had a better understanding of government operations and the outputs to be produced or delivered because of OBB (see Table 5.31). This positive result is consistent with the expectations of the South Australian Department of Treasury and Finance (1997b); VDTF (1997b), the Commonwealth Department of Finance and Administration (2000) and the Western Australia Treasury Department (2000) that OBB systems can increase the understanding of government operations and the outputs to be produced or delivered.

Second, nearly half (47.3%) of the respondents gave a positive response that OBB increased the involvement of top management in the budget formulation process. Third, almost half (45.7%) of the respondents indicated that OBB did ***not*** require changes in their organisational structures to align with the output structure. This positive result contradicts the views of Boston et al (1996) that organisational restructuring was

required to align with budget structure, especially when there were major changes to an agency's purpose or mission.

Finally, most respondents (57.6%) had a positive view that OBB was ***not*** too complex and difficult to operate. However, this result must be interpreted cautiously because a significant proportion of respondents provided a negative response, stating that there had been some significant problems in their organisations since the implementation of OBB, for example, "defining appropriate performance measures" and "specifying outcomes" (see Table 5.34). These negative responses support the view that OBB might not be easy to operate in practice.

Nevertheless, approximately half of the respondents provided a negative response to several statements representing the impact of OBB on organisational operations, thus somewhat supporting the proposition that OBB had a positive impact on organisational operations. Almost half of the respondents perceived that OBB did ***not*** increase the involvement of lower-level management in the budget formulation process (46.7%) and that OBB had increased their workloads (46.8%). Additionally, most respondents (59.4%) indicated that training related to outputs and outcomes specification was ***not*** provided for employees at all levels in their organisations. The lack of involvement of lower-level management in the budget formulation process supports the argument of Guthrie and Carlin (1999) that it is unlikely that a change in the format and content of external budget documents would result in the improvement of organisations in terms of economy, efficiency or effectiveness, if there was no change in internal management.

It is possible that the greater involvement of lower-level management in the budget formulation process is related to the increased effectiveness of resource allocation and budgeting in an organisation. The responses to the question on whether OBB improved the effectiveness of resource allocation and budgeting in the organisation, were cross-tabulated with the responses to the question on whether OBB increased the involvement of lower-level management in the budget formulation process (Table 6.34). The results revealed that there was a strong statistically significant relationship between these two variables. The Pearson Chi-square test provided a significance value of 14.946 ($p=0.005$). In fact, respondents who reported that OBB improved the effectiveness of resource allocation and budgeting in their organisations also tended to report that OBB

increased the involvement of lower-level management in the budget formulation process. Therefore, to improve the effectiveness of resource allocation and budgeting in organisations, the involvement of lower-level management in the budget formulation process should be expanded.

Table 6.34: Lower-level Management Involvement and the Effectiveness of Resource Allocation

Q53 OBB increases the involvement of lower-level management in the budget formulation process		**Q49 OBB improves the effectiveness of resource allocation and budgeting in my organisation**			**Total**
		Disagree	Undecided	Agree	
Disagree	Count	19	15	9	43
	% of Total	20.7%	16.3%	9.8%	46.7%
Undecided	Count	4	8	10	22
	% of Total	4.3%	8.7%	10.9%	23.9%
Agree	Count	4	6	17	27
	% of Total	4.3%	6.5%	18.5%	29.3%
Total	Count	27	29	36	92
	% of Total	29.3%	31.5%	39.1%	100.0%

Note: Pearson Chi-square value=14.946, df=4, p=0.005

To further investigate the impact of OBB on organisational operations, respondents were asked whether there had been problems in their organisations since the implementation of OBB, in relation to the specification of outputs, outcomes, performance measures and the calculation of full costs of outputs.

About half of respondents indicated that "defining appropriate performance measures" (50.0%) and "specifying outcomes" (44.0%) had been a *very significant* or *significant problem* in their organisations. However, for the problems of "specifying outputs" and "calculating full costs of outputs", the modal response category was *somewhat of a problem* attracting approximately one-third of the responses (39.1% and 32.6% respectively) (see Table 5.34). These negative results support the views of many authors such as Knight and Wiltshire (1977), Holmes and Wileman (1995), Boston et al (1996), Mascarenhas (1996), VDTF (1997b), Carlin (1998), and Shead (1998) that, in some circumstances, it is difficult to generate data that accurately reflect an agency's outputs and activities; to precisely specify and measure outcomes; and to define appropriate performance measures. Also, these negative results are consistent with the findings of Carlin's (1998) multi-jurisdictional case study, suggesting that correctly specified outcomes and outputs were the problem in a number of Australian public sector organizations, specifically the Queensland Department of Education; the Victorian

Department of Education, and the Western Australian Department of Education, and in particular the "school education" elements of those departments.

The negative response to questions about problems in organisations could be explained by the response to the question about training relating to output and outcome specification (see Table 5.1). As most respondents (59.4%) reported that training related to output and outcome specification was ***not*** provided for employees at all levels in their organisations, employees may not have known how to specify outputs and outcomes. This lack of training in organisations can cause problems in specifying outcomes and outputs. Overall, these results reveal that the operation of OBB in practice causes some significant problems in organisations.

Additionally, to determine whether the proposition that OBB had a positive impact on the organisational operations could be supported, data were gathered relating to the effectiveness of OBB on organisational operations (see Table 5.36). Approximately half of the respondents provided a negative perception that OBB had ***not*** been *effective* or *somewhat effective* in reducing/eliminating ineffective services/products (55.5%); reducing duplicated activities or services (51.1%); improving responsiveness to customers (46.7%); and improving outputs/service quality (45.5%). Therefore, the proposition that OBB has a positive impact on the organisational operations is only slightly supported by these data.

The negative result that OBB had ***not*** been *effective* or *somewhat effective* in reducing duplicated activities or services challenges one of the claimed benefits of OBB proposed by the Western Australia Treasury Department (2000), that agencies can identify and reduce duplicated outputs and effort as a result of using OBB. Further, the negative result that OBB had ***not*** been *effective* or *somewhat effective* in improving responsiveness to customers, could be explained by the responses to two questions about problems in specifying outcomes and performance measures, as well as the clarity of objectives. About half of the respondents indicated that "defining appropriate performance measures" (50.0%) and "specifying outcomes" (44.0%) had been a *very significant* or *significant problem* in their organisations. If outcomes cannot be identified or accurately specified, it is unlikely that outcomes will be better achieved. Consequently, it is difficult for OBB to be effective in improving responsiveness to

customers or in better achieving outcomes. Additionally, about one-third of the respondents *strongly disagreed* or *disagreed* (30.4%) or were *undecided* (33.7%) that managers at all levels had clearer views of their objectives because of OBB. If a clearer view of the objectives does not exist, it is unlikely that outcomes will be better specified, understood or achieved. As a result, improvement of the responsiveness to customers is unlikely to occur.

6.3.3.1 Summary of the Results for Proposition 6: OBB has a Positive Impact on Organisational Operations

The proposition that OBB has a positive impact on the organisational operations of government departments is partly supported by the data. The results in Table 5.31 revealed that most respondents gave a positive response to a number of statements representing the impact of OBB on organisational operations. In particular, many respondents indicated that they had a better understanding of government operations and the outputs to be produced or delivered because of OBB (61.5%); OBB improved organisational operations by linking budget and performance over time (59.8%); OBB was ***not*** too complex and difficult to operate (57.6%); OBB increased the involvement of top management in the budget formulation process (47.3%); and OBB did ***not*** require changes in their organisational structures to align with the output structure (45.7%). Further, about two-fifths (39.1%) of the respondents gave a positive response that OBB improved the effectiveness of resource allocation and budgeting in their organisations.

However, about half of the respondents gave a negative perception that training related to output and outcome specification was ***not*** provided for employees at all levels in their organisations (59.4%); OBB had increased their workloads (46.8%); and OBB did ***not*** increase the involvement of lower-level management in the budget formulation process (46.7%). Additionally, approximately half of the respondents indicated that since the implementation of OBB, there had been significant problems in "defining appropriate performance measures" (50.0%) and "specifying outcomes" (44.0%) in their organisations. Also, approximately half of the respondents perceived that OBB had ***not*** been *very effective* or *effective* in reducing/eliminating ineffective services/products (55.5%); reducing duplicated activities or services (51.1%); improving responsiveness to customers (46.7%); and improving outputs/service quality (45.5%). On the whole,

these results indicate that OBB has had a minor positive impact on organisational operations.

6.3.4 Summary of the Proposition Results for Research Question 2

Many advocates claim that the adoption of OBB, theoretically, provides significant benefits such as the improvement of information upon which to make better decisions; the enhancement of accountability; the improvement of organisational operations in the public sector; and the improvement of service delivery and value for money (Holmes and Wileman 1995; Boston et al 1996; McTaggart 1997; OECD 1997b, South Australia Department of Treasury and Finance 1997b; VDTF 1997b, c; Western Australia Treasury Department 2000; Trenorden 2001). However, the findings in this study revealed that OBB in practice did not entirely offer these theoretically claimed benefits.

On the whole, most of the survey data in this study supported that OBB had an impact on decision making because performance information generated by OBB was used by most public officials. However, the proposition that the use of OBB enhanced accountability was partly supported by the survey data. In particular, most survey data vastly supported the proposition that the use of OBB enhanced public accountability but only somewhat supported the notion that OBB enhanced management accountability. Finally, this study found that OBB had a minor positive impact on organisational operations.

The findings in this study also indicated that the actual implementation of OBB had not completely met a number of theoretical concepts and expectations. The budget practice, at this stage, did not entirely match budget theory. It was found in this study that several gaps existed between budget practice and the normative budget theory of OBB. For example, there was a significant gap between budget practice and normative budget theory regarding the definitions of outputs and OBB. Additionally, gaps were also found between budget theory and budget practice regarding the concepts of (a) focusing on outputs and outcomes rather than inputs and (b) improving service delivery. Therefore, there is still a great deal of opportunity for improvement in these areas. The recommendations for the improvement of the operation of OBB systems will be discussed later in Chapter 8.

6.4 Summary

In this chapter the results of propositions relating to the usefulness of information generated by OBB and the consequences of using OBB in Victorian government departments were discussed. On the whole, the bivariate analysis results support the notion that (a) readership; (b) comprehension difficulties; (c) the purposes of using the budget papers; (d) the qualitative characteristics of information; and (e) personal characteristics, are important factors related to the perceived usefulness of information in budget papers. To enhance the usefulness and use of budget papers, preparers need to consider these factors when preparing budget papers.

Further, this study concludes that there are several gaps between budget theory and budget practice. Moreover, some problems exist when the system is actually implemented in the government departments. At this stage, OBB in practice does not effectively render all the claimed benefits. One of the claimed benefits of OBB is superior performance information. As stated in Chapter 1, one aim of this study was to investigate the quality of performance information in budget papers. In the next chapter the findings and discussion of content analysis from the 2001/2002 and 2002/03 Victoria Budget Papers No.3 (Budget Estimates), in particular to the *comparability* characteristic of performance information, will be provided.

CHAPTER 7

CONTENT ANALYSIS RESULTS

7.1 Introduction

Both latent and manifest content analyses were undertaken in this study for the classification of new performance measures, as noted earlier in Chapter 4: Section 4.6.4. The discrepancy rates between the two methods are therefore analysed in this chapter. Further, the empirical results of the longitudinal content analysis of the Victorian budget papers over the two years period will be discussed in terms of the change in the total number of performance measures between the budget year 2001/02 and 2002/03; the survival rate; and the novelty rate. A summary table in this chapter relating to the novelty and survival rates was constructed from full worksheets in Appendix 4. Also, the findings from the content analysis are discussed and compared to the survey findings to verify whether the presentation of performance information in the Victorian budget papers was consistent over time.

7.2 Discrepancy Rate of New Performance Measures

As stated in Chapter 1, one of the aims of this study was to analyse the novelty rate, which required information regarding the number of new performance measures. To evaluate whether performance measures in the 2002/03 budget papers were new compared to those of 2001/02 budget papers, manifest and latent content analyses were performed to determine the number of new performance measures. The results of the manifest and latent analyses of new performance measures were compared and are reported in Table 7.1.

As noted earlier in Chapter 4: Section 4.6.2, this study excluded the number of cost measures in the calculations of the survival and novelty rates. The cost measure, called *Total Output Cost* is reported as the same item every year. Therefore, the number of cost measures will be constant. The inclusion of the number of unchanged cost measures would distort the results of survival and novelty rates. As a result, the novelty and survival rates in this study were calculated based on the number of performance measures for quality; quantity; and timeliness. Further, this study used the number of

new performance measures resulting from the latent content analysis rather than the manifest content analysis to calculate the novelty and survival rates.

Table 7.1 demonstrates that the total number of new performance measures across the nine departments resulting from the manifest content analysis was 392, representing 22.95% new performance measures of the total number of performance measures when cost measures were excluded. The number of the manifest new performance measures varied in individual departments. The percentage of the manifest new performance measures of the nine departments ranged from 8.19% (Department of Justice) to 37.61% (Department of Treasury and Finance).

Nevertheless, the number of new performance measures after analysing the underlying meaning of each performance measure (i.e. using latent content analysis), increased in most departments compared to the results from the manifest content analysis. Overall, the total number of new performance measures across the nine departments resulting from the latent content analysis was 482, representing 28.22% new performance measures of the total number of performance measures when cost measures were excluded. The percentage of the latent new performance measures of the 9 departments ranged from 13.45% (Department of Justice) to 49.56% (Department of Treasury and Finance).

Overall, the number of new performance measures observed in the latent content analysis was higher than that of the manifest content analysis by 90. This represents a 22.96% difference between the manifest and latent content analyses of new performance measures. The rate of agreement between the manifest and latent content analyses in the classification of new performance measures was also calculated. The results revealed that if performance measures were indicated as "nm" under categories of "2000-01 Actual" and "2001-02 Target", they tended to be reported as being new performance measures when considering their latent content. There was a significant rate of agreement between the manifest and latent content analyses in this aspect with a frequency of the agreed new measures of 379. The overall percentage of agreement in the classification of new performance between the manifest and the latent content analyses was 96.68%, with the individual departments having a rate of agreement ranging from 85.0% to 100.0%.

Table 7.1: Departmental New Performance Measure Counts in the Victorian Budget Papers

Departments (Department of)	Budget Papers 2002/03										
	Total Performance Measures (Excluding Cost Measures)	New Measures (nm) as shown under Categories of "2000-01 Actual" and " 2001-02 Target" * (Manifest Content Analysis)	% New Measures (nm) (Manifest Content Analysis)	Latent New Measures **	% New Measures (Latent Content Analysis)	Differences between Manifest and Latent New Measures	% Difference between Manifest and Latent New Measures	Agreed New Measures ***	% Agreed New Measures	Disagreed New Measures **** (New Measures Resulting from Latent Analysis but they are not Indicated as "nm")	% Disagreed New Measures
Education and Training	126	30	23.81	32	25.40	2	6.67	29	96.67	3	9.38
Human Services	211	33	15.64	41	19.43	8	24.24	33	100.00	8	19.51
Infrastructure	249	47	18.88	55	22.09	8	17.02	45	95.74	10	18.18
Innovation, Industry and Regional Development	228	37	16.23	62	27.19	25	67.57	37	100.00	25	40.32
Justice	171	14	8.19	23	13.45	9	64.29	13	92.86	10	43.48
Natural Resources and Environment	265	87	32.83	92	34.72	5	5.75	85	97.70	7	7.61
Premier and Cabinet	124	40	32.26	35	28.23	-5	-12.50	34	85.00	1	2.86
Tourism, Sport and the Commonwealth Games	108	19	17.59	30	27.78	11	57.89	19	100.00	11	36.67
Treasury and Finance	226	85	37.61	112	49.56	27	31.76	84	98.82	28	25.00
Grand Total	**1708**	**392**	**22.95**	**482**	**28.22**	**90**	**22.96**	**379**	**96.68**	**103**	**21.37**

Note:

*** New Measures (nm) as shown in the"2000-01 Actuals" and "2001-02 Target"** means that the number of new performance measures is derived from the manifest content analysis by simply counting the number of nm as shown in the categories of "2000-01 Actual" and "2001/02 Target" in the 2002/03 Victorian budget papers.

**** Latent New Measures** means that the number of new performance measures is derived from the latent content analysis of researchers, by evaluating the underlying meaning of each performance measure.

***** Agreed New Measures** means the agreement between the manifest and the latent content analyses in the classification of new performance measures. In other words, new performance measures resulting from the manifest content analysis, indicated as "nm" under categories of "2000-01 Actual" and "2001-02 Target", are also classified as new performance measures when considering their latent content.

******Disagreed New Measures** means there is not agreement between the manifest and the latent content analyses in the classification of new performance measures. In other words, new performance measures resulting from the latent content analysis are not classified as new measures in the budget papers as they are not shown as "nm" when considering their manifest content.

Nevertheless, the new performance measures resulting from the latent content analysis were not always classified as "new measures" or indicated as "nm" when considering their manifest content. There was high disagreement in the classification of new performance measures between the latent and the manifest content analyses in this aspect, with a frequency of disagreed new measures of 103. The overall percentage of disagreement in the classification of new performance measures between the latent and the manifest content analyses was 21.37%, with individual departments having a rate of disagreement ranging from 2.86% to 43.48%.

As noted previously, this study used the number of new performance measures resulting from the latent content analysis to calculate the novelty rate of performance measures for each government department. When interpreting the result of the novelty rate provided by this study, it should take in to account that about two-fifths (21.37%) of new performance measures used in the calculation of novelty and survival rates in this study as resulting from the latent content analysis, were not indicated as "nm" in the budget papers.

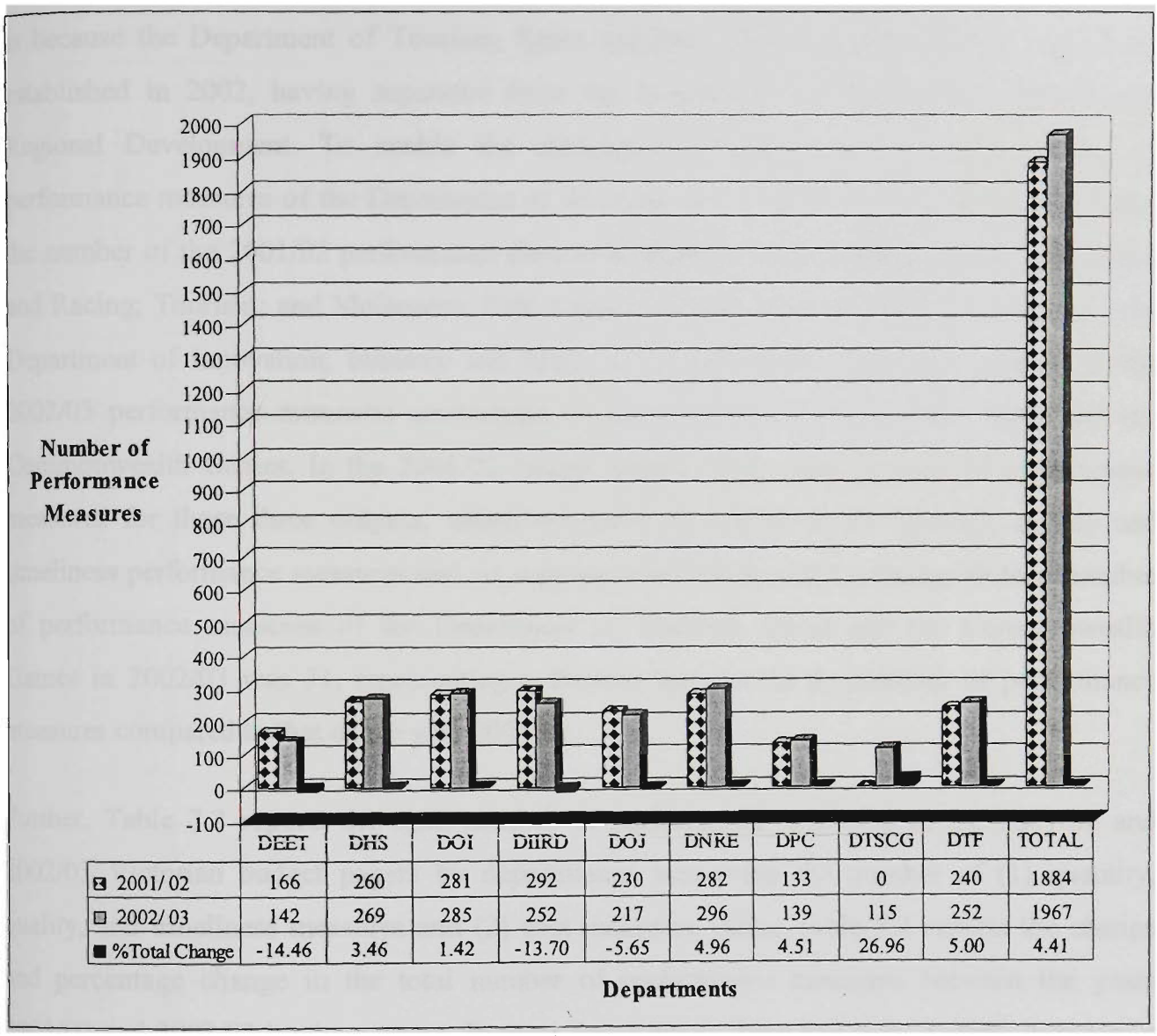
7.3 Content Analysis Results

In the present study, the consistency of the presentation of performance measures generated by OBB over time are discussed under three aspects: the change in total number of performance measures over a two year period of 2001/02 and 2002/03; the survival rate; and the novelty rate.

7.3.1 Performance Measures Count

One way to examine the stability or consistency of the presentation of performance measures over time is to observe the rate of change in the number of performance measures over time. To investigate the quantity of performance measures, the number of performance measures and percentage change in the total number of performance measures over the two years of 2001/02 and 2002/03 were calculated. The graph in Figure 7.1 demonstrates the number of performance measures by department, the total number of performance measures and percentage change in the number of performance measures over the two year period of 2001/02 and 2002/03.

Figure 7.1: Number of Performance Measures (Including Cost Measures)



	DEET	DHS	DOI	DIIRD	DOJ	DNRE	DPC	DTSCG	DTF	TOTAL
2001/02	166	260	281	292	230	282	133	0	240	1884
2002/03	142	269	285	252	217	296	139	115	252	1967
%Total Change	-14.46	3.46	1.42	-13.70	-5.65	4.96	4.51	26.96	5.00	4.41

Figure 7.1 demonstrates that the total number of performance measures in the 2001/02 Victorian budget papers was 1884. The number of performance measures varied in individual departments. The number of performance measures in 2001/02 ranged from 133 (Department of Premier and Cabinet) to 292 (Department of Innovation, Industry and Regional Development). In the 2002/03 Victorian budget papers, the total number of performance measures was 1967. The number of performance measures in 2002/03 ranged from 115 (Department of Tourism, Sport and the Commonwealth Games) to 296 (Department of Natural Resources and Environment).

As can be seen in Figure 7.1, the number of performance measures in the 2001/02 budget papers for the Department of Tourism, Sport and the Commonwealth Games, was zero. This is because the Department of Tourism, Sport and the Commonwealth Games, was newly established in 2002, having separated from the Department of Innovation, Industry and Regional Development. To enable the calculation of change in the total number of performance measures of the Department of Tourism, Sport and the Commonwealth Games, the number of the 2001/02 performance measures related to three outputs (Sport, Recreation and Racing; Tourism; and Melbourne 2006 Commonwealth Games), was extracted from the Department of Innovation, Industry and Regional Development and then compared to the 2002/03 performance measures counterpart of the Department of Tourism, Sport and the Commonwealth Games. In the 2001/02 budget papers, there were in total 84 performance measures for those three outputs, which consisted of a total of 78 quantity, quality and timeliness performance measures and six cost measures. As a result, a change in total number of performance measures of the Department of Tourism, Sport and the Commonwealth Games in 2002/03 was 31, representing a 26.96% increase in the number of performance measures compared to that of the year 2001/02.

Further, Table 7.2 reports the total number of performance measures in the 2001/02 and 2002/03 Victorian budget papers by departments, separating the number of (1) quantity, quality, and timeliness measures and (2) cost measures. Also, Table 7.2 reports the change and percentage change in the total number of performance measures between the years 2001/02 and 2002/03 by department. In most departments there had been a slight increase in the quantity of performance measures over the two year period. Only three departments decreased the number of performance measures in their departments. These were, the Department of Education and Training; the Department of Innovation, Industry and Regional Development; and the Department of Justice. On the whole, there was a low turnover rate of performance measures.

Table 7.2: Summary of Departmental Performance Measure Counts in the Victorian Budget Papers

Departments	Number of Performance Measure Counts						Change in Total Number of Performance Measure Counts +Increase/ - Decrease (compare to 2001/02)	% Total Change + Increase / - Decrease
	2001/02 Victorian Budget Papers *			2002/03 Victorian Budget Papers **				
	Quantity Quality Timeliness	Cost	Total	Quantity Quality Timeliness	Cost	Total		
Department of Education and Training	149	17	166	126	16	142	-24	-14.46
Department of Human Services	198	62	260	211	58	269	9	3.46
Department of Infrastructure	245	36	281	249	36	285	4	1.42
Department of Innovation, Industry and Regional Development	265	27	292	228	24	252	-40	-13.70
Department of Justice	185	45	230	171	46	217	-13	-5.65
Department of Natural Resources and Environment	251	31	282	265	31	296	14	4.96
Department of Premier and Cabinet	117	16	133	124	15	139	6	4.51
Department of Tourism, Sport and the Commonwealth Games	Report in the Department of Innovation, Industry and Regional Development. See Note below for comparison information.			108	7	115	31	26.96
Department of Treasury and Finance	213	27	240	226	26	252	12	5.00
Total	**1623**	**261**	**1884**	**1708**	**259**	**1967**	**83**	**4.41**

* In the 2001/02 Victorian budget paper, there were eight departments for the 2001/02 budget.

** In the 2002/03 Victorian budget paper, there were nine departments for the 2002/03 budget. The new department was the Department of Tourism, Sport and the Commonwealth Games, separated from the Department of Innovation, Industry and Regional Development.

Note:

To enable the calculation of change in the total number of performance measures of the Department of Tourism, Sport and the Commonwealth Games: The number of 2001/02 performance measures related to three outputs (Sport, Recreation and Racing; Tourism; and Melbourne 2006 Commonwealth Games), were extracted from the Department of Innovation, Industry and Regional Development and then compared to the 2002/03 performance measures counterpart of the Department of Tourism, Sport and the Commonwealth Games. In the 2001/02 budget papers, there was a total of 84 performance measures for those three outputs, which comprised 78 quantity, quality and timeliness performance measures and six cost measures. As a result, the change in total number of performance measures in the Department of Tourism, Sport and the Commonwealth Games in 2002/03 was 31, representing a 26.96% increase in the number of performance measures compared to that of the year 2001/02.

Overall, the total number of performance measures across the nine departments in 2002/03 increased by 83 compared to that of 2001/02. The overall percentage increase in the total number of performance measures over the two year period was 4.41%, with individual departments having a rate of change in the total number of performance measures over the two year period ranging from -14.46% (Department of Education and Training) to +5.00% (Department of Treasury and Finance).

It should be noted that the number of performance measures in some departments decreased because some outputs, which contained a number of performance measures, had been transferred between departments. Specifically, the *Employment Services* output, including 17 performance measures, was transferred from the Department of Education and Training to the Department of Innovation, Industry and Regional Development. As a result, there was a large decrease in the total number of performance measures for the Department of Education and Training.

Additionally, three outputs (namely: *Sport, Recreation and Racing*; *Tourism*; and *Melbourne 2006 Commonwealth Games*), which included 84 performance measures, were transferred from the Department of Innovation, Industry and Regional Development to the Department of Tourism, Sport and the Commonwealth Games. Further, the *Major Public Construction and Land Development* output, which included 12 performance measures, was transferred from the Department of Innovation, Industry and Regional Development to the Department of Infrastructure. As a result, there was a noticeable decrease in the total number of performance measures for the Department of Innovation, Industry and Regional Development.

In summary, this study found that, on the whole, there was a small increase (4.41%) in the quantity of performance measures in the Victorian budget papers over the two year period from the year 2001 to 2002. Thus, it can be concluded that there was high stability in the total number of performance measures over time. This result contradicts the finding of Carlin and Guthrie (2001a) that there was a high overall growth rate (32.5%) in the total number of performance measures in the Victorian budget papers over the three year period from the year 1999 to 2001.

In the next sections the survival rates and novelty rates resulting from the latent content analysis will be discussed. Table 7.3 presents the summary results of the survival rate and novelty rate (excluding cost measures) separately for each of the nine departments as well as the overall survival rate and novelty rate of performance measures contained in the 2001/02 and 2002/03 Victorian budget papers. The full content analysis results of the novelty and survival rates for every output of the nine departments were tabulated and are presented in Appendix 4.

7.3.2 Survival Rate

As stated earlier, to enable the calculation of the survival rate of the Department of Tourism, Sport and the Commonwealth Games using 2001/02 as the base year, the number of performance measures for the year 2001/02 (78 performance measures) were extracted from the Department of Innovation, Industry and Regional Development and reported in the Department of Tourism, Sport and the Commonwealth Games for the year 2001/02 (see Table 7.3).

The content analysis of performance measures revealed that overall there was a low survival rate of performance measures contained in the 2001/02 budget papers (see Table 7.3). On the whole, three quarters (75.54%) of performance measures survived and continued to be reported in the 2002/03 budget papers. The survival rates of the nine departments ranged from 53.52% (Department of Treasury and Finance) to 100.00% (Department of Tourism, Sport and the Commonwealth Games). The low survival rate of performance measures found in this study is consistent with the results of Carlin and Guthrie (2001a) and the Public Accounts and Estimates Committee (2001). As low survival rates were observed, in many circumstances performance measures were reported in the form of target data without the actual outcomes data. The inability to compare the target and actual outcomes indicated the weakness of the budget system in Victoria with reference to performance evaluation. This will lead to a lack of accountability in the budgetary system.

Table 7.3: Summary of the Results of the Survival Rates and Novelty Rates

Departments	Number of Performance Measures in the Victorian Budget Papers					Survival Rate (%)**	Novelty Rate (%)***
	2001/02 (Quantity Quality Timeliness Measures)	2002/03 (Quantity Quality Timeliness Measures)	Withdrawn Performance Measures	Unchanged Performance Measures	New Performance Measures*		
Department of Education and Training	149	126	55	94	32	63.09	25.40
Department of Human Services	198	211	28	170	41	85.86	19.43
Department of Infrastructure	245	249	51	194	55	79.18	22.09
Department of Innovation, Industry and Regional Development	265	228	99	166	62	62.64	27.19
Department of Justice	185	171	37	148	23	80.00	13.45
Department of Natural Resources and Environment	251	265	78	173	92	68.92	34.72
Department of Premier and Cabinet	117	124	28	89	35	76.07	28.23
Department of Tourism, Sport and the Commonwealth Games	78****	108	0	78	30	100.00	27.78
Department of Treasury and Finance	213	226	99	114	112	53.52	49.56
Total	**1623**	**1708**	**475**	**1226**	**482**	**75.54**	**28.22**

* The number of new performance measures resulting from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

**** To enable the calculation of the survival rate of the Department of Tourism, Sport and the Commonwealth Games using 2001/02 as the base year, 78 quantity, quality and timeliness performance measures extracting from the Department of Innovation, Industry and Regional Development, were reported in the Department of Tourism, Sport and the Commonwealth Games for the year 2001/02.

7.3.3 Novelty Rate

Overall there was a high novelty rate of performance measures contained in the 2002/03 budget papers (see Table 7.3). On the whole, slightly more than a quarter (28.22%) of performance measures was initiated in the 2002/03 budget papers. The novelty rates of the nine departments ranged from 13.45% (Department of Justice) to 49.56% (Department of Treasury and Finance). The high novelty rate of performance measures found in this study is

consistent with the results of Carlin and Guthrie (2001a). As high novelty rates were observed, performance measures were reported without the actual outcomes data. Further, because of the early publication of performance information in the budget papers, when new performance measures are initiated in the budget papers, the actual outcomes data might not be available for up to two years. As performance information cannot be used to compare target and actual results, it is unlikely that performance will be assessed. This will restrict the performance evaluation and the accountability process in Victorian budgetary system.

7.4 Summary

The empirical investigation of performance measures in the 2001/02 and 2002/03 Victorian budget papers indicated that on the whole, there was only a small increase (4.41%) in the quantity of performance measures over the two year period. Therefore, there is high stability of performance measures over time in terms of the total number of performance measures. However, this finding must be regarded cautiously because a small change in the quantity of performance measures alone is inadequate to verify the consistency of the presentation of performance measures over time. Specifically, because existing performance measures might be eliminated or new performance measures may be initiated, the survival rates and novelty rates were also examined in this study. Overall, the results demonstrated a surprisingly low survival rate (75.54%) and a high novelty rate (28.22%) of performance measures in the 2001/02 and 2002/03 Victorian budget papers respectively, over the two year period studied. The low survival rate and high novelty rate of performance measures indicated that there was a high inconsistency in the presentation of performance measures.

As a result of having low survival rates and high novelty rates, in many circumstances the performance data were reported only in the form of targets without the actual performance data. The empirical analysis revealed that no actual data for many performance measures were available to enable a comparison and evaluation of performance targets against actual outcomes. This finding raises a question about whether performance evaluation in Victorian government departments can be performed effectively. This leads to further questions about the current accountability system of Victorian government departments.

Whilst there had not been significant growth in the total quantity of performance measures, users of budget papers were still unable to compare the corresponding performance measures of the different years and the actual and target performance data of performance measures

over time. This is because the performance measures were frequently discontinued or initiated for consecutive years. The content analysis finding also supports the survey finding (Table 5.17), where it was found that approximately half (48.3%) of the respondents had a negative view regarding the consistency of the presentation of performance information over time. The results from both content analysis and the survey indicated that in practice, performance information in Victoria budget papers lacked the comparability qualitative characteristic, as proposed by SAC3 (AARF 1990c), especially in terms of the consistency of the presentation of performance measures over time. This finding is supported by the concern raised in the public hearings on the review of the accrual budget document, including budget papers and performance information, for enhancing the format and content of the budget documents, organised by the Joint Committee of Public Accounts and Audit (2001, p.16):

> "...with performance measures. We feel that, although the performance measures at a lot of the jurisdictional levels are improving, there is a fair way to go to improve those performance measures to ensure that you have consistency from period to period..."

The lack of this quality points to a critical weakness in the Victorian budget papers in providing performance information that is useful to the budget paper users, and which assists users to make or evaluate decisions. Therefore, the claimed benefit that OBB would enhance accountability in the public sector by providing superior output performance information, was not substantiated by the content analysis and survey findings. In the next chapter conclusions, implications and recommendations of the present study will be outlined.

CHAPTER 8

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

8.1 Introduction

In this chapter summaries and conclusions of the main findings of the survey questionnaire are presented in relation to the two research questions and six propositions. The main findings of the content analysis are also reviewed. Three implications are discussed: theoretical implications; methodology implications; and practical implications. Normative frameworks are also provided regarding the reporting of performance information in the budget papers as well as the implementation of OBB in government departments. Finally, the significant contributions and limitations of this study as well as areas for further research are identified.

8.2 Research Summary

As discussed in Chapter 1, the main aim of this study was to assess the usefulness of OBB in practice within Victorian government departments in terms of the usefulness of information generated by OBB within the 2002/03 Victorian budget papers and the consequences of using OBB in the Victorian public sector. To achieve the main aim of this study, two research questions were developed. First, ***how useful is the information generated by OBB within the Victorian budget papers?*** Secondly, ***what have been the consequences of using OBB in Victorian government departments?*** These two questions were answered by testing six propositions which were evaluated using survey questionnaire data. The theoretical framework used as a basis for a discussion of the usefulness of information generated by OBB, was the decision-usefulness model as it is reflected in the Statements of Accounting Concepts, with particular reference to SACs 2 and 3. For the discussion of the consequences of using OBB in the public sector, the budget process model and the OBB concepts were used as the theoretical bases. The research data for this study were collected using a mail survey questionnaire and the content analysis of the 2001/02 and 2002/03 Victorian budget papers.

In summary, this study achieved its ten specific aims as outlined in Chapter 1. The first aim was to examine the usefulness of the budget papers in terms of the usefulness of items within the budget papers, the output performance information, and the total output

cost information. The survey results in Table 5.13 revealed that most items in the budget papers were not very useful to users. On the whole, the respondents perceived that each item in the budget papers was moderately useful, with the mean scores of the usefulness of various items in the budget papers ranging from 2.75 to 3.46 on a scale of 1 to 5. Users rated the statistical performance information as being the most useful item with a mean score of 3.46, and the Treasurer's speech as being the least useful item with a mean score of 2.75.

For the usefulness of various types of performance measures, the cost measure was the most useful performance measure and the timeliness measure was the least useful performance measure (Table 5.15). Further, less than half (40.5%) of the respondents were satisfied with the overall quality of performance information in the budget papers (Table 5.17). Therefore, there is a great opportunity for improving the quality of performance information in the budget papers in order to better satisfy users. Moreover, the survey data showed that performance information in the Victorian budget papers considered in accordance with SAC3 was generally not comparable, not highly relevant and not very reliable for users. However, it was understandable by users (Table 5.17). Given an absence of a number of qualitative characteristics of performance information in accordance with the SAC3, the role of budget papers to discharge accountability is highly questionable.

Regarding the quality of total output cost information, whilst the total output cost information in the Victorian budget papers considered in accordance with SAC3 was generally unusable, not comparable and not highly relevant to users, it was to some extent understandable and reliable (Table 5.24).

The survey results in respect of the qualitative characteristics of performance information were similar to those of the total output cost information. According to the results of mean scores' ranking in Tables 5.17 and 5.24, this study found that the *understandability* characteristic was the qualitative characteristic that best satisfied budget paper users, followed by *reliability*; *relevance*; and *comparability*. Overall, these findings suggest that performance and total output cost information in the budget papers noticeably lacked the *comparability* characteristic. Particularly, the survey data in Tables 5.17 and 5.24 revealed frequent occurrences of non-compliance with SAC3.

Additionally, another significant issue arising from this study was the lack of usability of total output cost information. In view of the lack of the usability characteristic, the usefulness of information is highly questionable. These findings suggest that present budget papers, to a large extent, do not meet the objective of providing useful information for decision making. There is clearly an urgent need for departments to review the quality of their performance information. Further, without highly reliable information, there is also the question of whether the present budget papers are misleading rather than informative for budget papers users.

The second aim of this study was to investigate the readership and the comprehension difficulties of various items in the Victorian budget papers from the user's perspective. On the whole, this study found that users did not thoroughly read each item in the budget papers. The mean scores for the thorough reading of various items in the budget papers ranged from 2.70 to 3.57 on a scale of 1 to 5. The reason that respondents did not thoroughly read some items in the budget papers might be because they had difficulty in understanding those items or they perceived that those items were not useful. Survey data demonstrated that exactly half (50%) of the respondents reported having difficulty understanding various items in the budget papers. According to the percentage ranking, users indicated that the financial statement was the most difficult item (24.7%) and the Treasurer's speech was the least difficult item for budget paper users (2.2%) (see Table 5.12). All financial and statistical items were rated ahead of descriptive items as being more difficult to understand for budget paper users. These findings supported the findings of the usefulness of items in budget papers (see mean scores' ranking in Table 5.13). As respondents indicated that financial and statistical items (i.e. the financial statements, the statistical performance information and the output cost information) were more difficult to understand than descriptive items (i.e. the descriptive contribution of outputs to department objectives, the descriptive explanation of outputs, and the descriptive contribution of outputs to government outcomes), they rated financial and statistical items (i.e. the financial statements and the output cost information) as being less useful than descriptive items. Further, the bivariate analysis results in Table 6.7 demonstrated that there is a strong correlation between the difficulty of some items in the budget papers and their usefulness. In particular, the comprehension difficulties in the financial statements and the output cost information items affected the perceived usefulness of those items.

In conclusion, the budget papers are currently not effective in communicating with users because they are presently, at best, not thoroughly read and useful to users. Further, some items such as financial statements and statistical performance information were difficult for users to understand. These findings suggest that current budget papers are not very useful to users. It was argued in Chapter 3 that usefulness should be the primary objective of financial reporting. Therefore, the people who prepare budget papers should find a way to improve these papers by increasing the quality of performance information and the total output cost information.

The third aim was to examine the purposes for using the budget papers. This study found that the *accountability purpose* was the most common purpose of public official users for using budget papers (76.3%) and that *other* purposes were the least common purpose (25.8%)(see Table 5.10). This finding suggests that the purposes identified by SAC2 (AARF 1990b) quite adequately represented the purposes given by public officials for using the budget papers. Nevertheless, the application of SAC2 to the public sector may have failed in assisting public official users of the budget papers to evaluate and make decisions about the allocation of resources. Only one-third of the respondents specified that they used the budget papers for the purposes of "evaluating decisions about the allocation of resources" (36.6%) and for "making decisions about the allocation of resources" (32.3%).

The fourth, fifth and sixth aims of the study were to examine the relationships between the usefulness of information in the budget papers and a number of variables: the readership; the comprehension difficulties; the purposes for using the budget papers; the qualitative characteristics of information; and the personal characteristics of the users. The bivariate analysis of the relationship between these variables based on the results of the Chi-square statistic test fulfilled these three aims. The results of this test will be summarised in Sections 8.3.1, 8.3.2 and 8.3.3 under the summary of the proposition-testing for Research Question 1.

The seventh aim was to explore the general knowledge and understanding of public officials about the OBB systems and performance measures. The results of the descriptive analysis revealed that the majority of the respondents (91.5%) could be classified into the high knowledge group, obtaining at least 50% correct answers. Thus,

it can be concluded that overall, public officials had a good understanding of the key terms and concepts of OBB and performance information as defined by the AARF (1990b); the VDTF (1997b); the Commonwealth Department of Finance and Administration (1998); and the SCRCSSP (1999). Nevertheless, the results in Table 5.3 demonstrate that most respondents incorrectly answered two questions regarding the definitions of outputs (74.7%) and OBB (72.1%). This raises questions about the effectiveness of the implementation of the OBB systems and the manner in which the OBB is implemented. It is possible that misunderstanding the budgetary concept might decelerate the effectiveness and successful implementation of OBB systems in Victorian government departments.

The eighth aim was to investigate the consequences of using OBB in Victorian government departments in order to validate the claimed benefits of OBB regarding the improvement of decision making, accountability and organisational operations. This aim was accomplished based on the results of the descriptive analysis, crosstabulations, and the Chi-square statistic test. A summary of the results for this aim will be presented in Section 8.4 under the summary of the proposition-testing for Research Question 2.

The ninth aim, to identify factors affecting the use of performance information in Victorian departments, was achieved by a multivariate analysis based on the results of the logistic regression. It was found that the only variable affecting the use or non-use of performance information at the 95% confidence level was the variable, *checking for accuracy of performance measures*, with the statistically significant Wald statistic value of 0.006 (Table 6.32). Therefore, it can be concluded that if performance measures were checked for accuracy, public official users would be likely to use performance information generated by OBB.

The final aim of this study was to evaluate the *comparability* qualitative characteristic of output performance measures. This aim was achieved based on the results of the content analysis of all performance measures in the 2001/02 and 2002/03 Victorian budget papers of the nine Victorian departments. The results of the content analysis will be summarised in Section 8.5 under the summary of the results of the content analysis. The next section will present a summary of the survey results of proposition-testing.

8.3 A Summary of the Results of Research Question 1: The Usefulness of Information Generated by OBB within Budget Papers

Three propositions were tested to answer Research Question 1 relating to the usefulness of budget papers, in particular the items within the budget papers, the output performance information, and the total output cost information. The major findings and conclusions of each proposition are summarised in the following sections.

8.3.1 The Usefulness of Items within the Budget Papers

In conclusion, the bivariate analysis results based on the Chi-square test support Proposition 1 that there is a relationship between the perceived usefulness of items within the budget papers and four variables: (a) the readerships of items within the budget papers: the financial statements, the descriptive explanation of outputs, and the descriptive contribution of outputs to government outcomes; (b) the comprehension difficulties of the financial statements and the output cost information; (c) the purposes for using the budget papers: for making decisions about the allocation of resources, to evaluate decisions about the allocation of resources, and other purposes; and (d) the personal characteristics of the users such as age, the completion of a formal course of study in accounting, and responsibility or principal task. Nevertheless, the results in Table 6.7 indicate that there was no relationship between the frequency of use of budget papers and any of the four groups of the above variables.

The important findings are summarised below.

1. The usefulness of the *Treasurer's Speech* was not influenced by readership; comprehension difficulties; the purposes for using the budget papers; and the personal characteristics of the users.

2. The usefulness of the *financial statements* was a function of the readership; the comprehension difficulties; the purposes for using the budget papers; and the personal characteristics, (i.e., age; the completion of a formal course of study in accounting; and responsibility or principal task).

   2.1 Users who thoroughly read the financial statements item tended to perceive that financial statements were useful.

   2.2 Users who had comprehension difficulties with the financial statements tended to perceive that this item was not useful.

2.3 Users who used budget papers for the purpose of making and evaluating decisions about the allocation of resources tended to report that the financial statements were useful. On the other hand, users who used the budget papers for other purposes tended to indicate that the financial statements were not useful.

2.4 Older users tended to indicate that the financial statements were not useful.

2.5 Users who had completed a formal course of study in accounting tended to report that the financial statements were useful.

2.6 Users who had responsibility or had a principal task in the area of finance, budgeting, and accounting tended to report that the financial statements were useful. On the other hand, users who had responsibility in the area of policy and planning as well as performance review or evaluation tended to report that the financial statements were not useful.

3. The usefulness of the *statistical performance information* was a function of the completion of a formal course of study in accounting. Users who had completed a formal course of study in accounting tended to find that the statistical performance information was useful.

4. The usefulness of the *descriptive explanation of outputs* was a function of the readership and the purposes for using the budget papers. Users who read this item thoroughly tended to discover that it was useful. Further, users who used the descriptive explanation of outputs for the purpose of making decisions about the allocation of resources tended to find that this item was useful.

5. The usefulness of the *descriptive contribution of outputs to department objectives* was a function of the purposes for using the budget papers. Users who used the descriptive contribution of outputs to department objectives for evaluating decisions about the allocation of resources tended to find that this item was useful.

6. The usefulness of *the descriptive contribution of outputs to government outcomes* was a function of the readership. Users who thoroughly read the descriptive contribution of outputs to government outcomes tended to discover that it was useful.

7. The usefulness of the *output cost information* was a function of the comprehension difficulties and the purposes for using the budget papers. Users who had difficulty understanding the output cost information tended to report that this item was not useful. Further, users who used the budget papers for evaluating decisions about the allocation of resources tended to find that the output cost information was useful.

These findings have important implications for people who prepare or set standards for financial reports because they have an obligation to report useful information to all users, not just a select few. Therefore, people who prepare financial reports must experiment with alternative methods to achieve this important goal. Practically, they should consider these four factors: the readership; the comprehension difficulties; the purposes for using the budget papers; and the personal characteristics of users when they provide information to different users.

8.3.2 The Usefulness of Output Performance Information

Overall, the bivariate analysis results based on the Chi-square test support Proposition 2 that there is a relationship between the usefulness of output performance information, in terms of the usefulness of various types of performance measures and the frequency of use of various types of performance measures, and (a) the purposes for using the budget papers to make and evaluate decisions about the allocation of resources; (b) the qualitative characteristics of performance information, that is, relevance, reliability, comparability, and understandability; and (c) the personal characteristics of the users such as length of time in the current or a similar job, and responsibility or principal task (see Table 6.15).

8.3.3 The Usefulness of Total Output Cost Information

The bivariate analysis results based on the Chi-square test support Proposition 3 that there is a relationship between the usefulness of the total output cost information in terms of the usefulness of cost measures as well as the frequency of use of cost measures, and (a) the purposes for using the budget papers to make and evaluate decisions about the allocation of resources; and (b) a qualitative characteristic of the total output cost information, *relevance*. There was no evidence that the usefulness of the total output cost information, both in terms of the usefulness of cost measures and the frequency of use of cost measures, was related to any of the personal characteristics of the users (see Table 6.18)

8.3.4 Conclusion

Importantly, the bivariate analysis confirms that the perceived usefulness of the budget papers and the information within it, are related to the readership; the comprehension difficulties; the purposes of using the budget papers, the qualitative characteristics of

information; and some of personal characteristics. Thus, knowing more about the nature of the users, the purpose for which the information is being used, and the qualitative characteristics of information can contribute to enhancing the usefulness of the information.

8.4 A Summary of the Results of Research Question 2: The Consequences of Using OBB in the Public Sector

Three propositions were tested to answer Research Question 2. The major findings and conclusions of each proposition are presented in the following sections.

8.4.1 The Impact of OBB on Decision Making

Most of the survey data supported Proposition 4 that OBB has an impact on decision making. This study found that a majority of public officials (77.8%) used performance information generated by OBB especially for performance evaluation (62.4%) (see Tables 5.18 and 5.19). Further, as reported in Table 5.25, most respondents indicated that OBB increased their awareness of cost (62.6%) and provided a means of estimating the cost consequences of expanding or contracting any outputs (54.4%). Moreover, almost half of the respondents indicated that the output structure provided a clearer idea about the costs of products and services than the program structure (48.4%). This means that OBB and the output structure were used and perceived as a useful means for decision making regarding the costs of products and services, including the cost consequence of contracting outputs. One of the aims of OBB is to encourage management to focus its budget allocation decision on outputs rather than inputs. About half of the respondents reported that management focused more on outputs than on the use of resources (49.5%). Therefore, OBB had an impact on decision making because it had changed the focus of most managers so as to be based on outputs. Therefore, this study concludes that OBB has an impact on decision making in those aspects.

Nevertheless, on the whole, the survey findings suggested that significant allocation and reallocation of resources did *not* occur through the use of OBB. One way to measure the usefulness of a budget system is to determine the extent to which it shifts financial resources of the organisation from one area to another. Less than half (40.0%) of the respondents indicated that the use of OBB resulted in the reallocation of resources (see Table 5.25). Further, only about two-fifths of the respondents reported that performance

information and total output cost information influenced their decisions about the allocation of resources (such as funding approvals) (see Tables 5.17 and 5.24).

Another measure of the usefulness of a budget system is the extent to which costs are cut or saved as a result of using the system. Many respondents (45.1%) indicated that the use of OBB did not lead to cost cutting and cost saving. This survey result suggests that OBB tended *not* to be useful in cutting and saving costs. Based on these two imperfect measures of usefulness, it might be argued that OBB had only a minor impact on the decision making of public officials regarding resource allocation decisions and cost cutting and savings.

8.4.2 The Impact of OBB on Accountability

On the whole, the results obtained by the survey questionnaire partly support the proposition that the use of OBB enhances accountability. Most survey data supported the proposition that the use of OBB enhanced *public accountability*. However, it did not strongly support the proposition that *management accountability* was strengthened with the introduction of OBB.

For the present study accountability was considered in two aspects: public accountability and management accountability. First, the issue of *public accountability* was considered in respect to the integrity of the performance information and the responsibility for outputs and performance reporting. The issue of performance audits is important from the point of view of accountability (Glynn and Murphy1996). This is because departments cannot confirm the validity or integrity of their performance information if the data are not subjected to an audit.

According to the survey results, most respondents indicated that performance measures in their organisations were checked for accuracy (75.6%) (see Table 5.22); performance audits by external auditors had been undertaken in their organisations (69.2%) (see Table 5.21); and corrective action had been taken in their organisations when there was a variance between budgeted and actual performance measures (67.0%). Therefore, these findings supported the integrity of performance information in Victorian departments and lend support to the proposition that OBB enhances *public accountability*.

Further, this study found that most respondents had a positive perception to most of statements representing the impact of OBB on *public accountability* (see Table 5.29). In conclusion, as a result of having integrity of performance information, a clearer responsibility of outputs, clearer views of performance measures to assess outputs, an increased awareness of better performance and outcomes evaluation, as well as a clear view of who was accountable for measuring and reporting performance, the proposition that the use of OBB enhanced *public accountability* was supported.

Second, *management accountability* was considered in respect to the volume of budgetary documentation and the time given to consider the budget. Approximately half of the respondents responded that departments were faced with a significant increase in the volume of information in budgetary documents (54.4%) but directors and managers did ***not*** have more time to consider the budget (46.2%) (see Table 5.29). As a result of not having more time to consider the budget but having to deal with a greater volume of budgetary documentation, management was unlikely to thoroughly read information provided in budgetary documents and might have fewer questions about the budgets. Consequently, it was unlikely that management would be more accountable as a result of using OBB.

8.4.3 The Impact of OBB on Organisational Operations

The survey results suggested that OBB had a minor positive impact on the organisational operations of government departments. This is because most respondents perceived that OBB had not been effective or had little impact on most of the issues regarding the improvement of organisational operations.

The survey results indicated that OBB appeared to increase the involvement of top management rather than lower level management in the budget formulation process (see Table 5.31). Almost half (46.7%) of the respondents indicated that lower level management had *not* become more involved in the budget formulation process. One measure of the worth of a budget system is the extent to which it gets more employees involved in the budget process (Herzlinger 1979; Schick and Hatry 1982). Thus, the lack of lower-level management involvement in the budget formulation found in this study is of considerable concern.

Many respondents also indicated that OBB had increased their workloads (46.8%) and training related to outputs and outcomes specification was *not* provided for employees at all levels in their organisations (59.4%). To assist employees to become familiar with a new budgetary system and learn how to make it operational, training is an important part of facilitating the implementation process. Therefore, a lack of training may contribute to the unsuccessful implementation of OBB in government departments.

Further, about half of the respondents specified that OBB had not been *very effective* or *effective* in improving organisational operations with respect to reducing/eliminating ineffective services/products; reducing duplicated activities or services; improving responsiveness to customers; and improving outputs/service quality (see Table 5.36). Thus, the claim that the introduction of OBB assists in the improvement of organisational operations is not substantiated by most of the data.

Additionally, respondents indicated some problems with the implementation of OBB. Half of the respondents (50.0%) reported that "defining appropriate performance measures" had been a significant problem in their organisations. This finding raises a question about the quality, in particular the accuracy, and the usefulness of performance measures in the budget papers provided by the departments. Moreover, many respondents (44.0%) indicated that "specifying outcomes" had also been a significant problem in their organisations. If outcomes cannot be identified or are inaccurately presented, it is unlikely that the government's desired outcomes and community needs will be achieved. Consequently, value for money is not enhanced. Thus, this study concludes that OBB had a minor positive impact on the organisational operations of government departments.

However, most respondents believed that OBB had a positive impact on their organisational operations in some areas. As reported in Table 5.32, most respondents reported that they had a better understanding of government operations and the outputs to be produced or delivered because of OBB (61.5%) and that OBB improved organisational operations by linking the budget and performance over time (59.8%). Additionally, many respondents indicated that OBB was *not* too complex and difficult to operate (57.6%) and it did *not* require changes in their organisational structures to align it with the output structure (45.7%). Commonly, organisational change can be

problematic and if enforced from the top, it can create resistance to the introduction of OBB. As OBB was ***not*** too difficult to operate and departments generally had not changed their organisational structure, it is possible that OBB can be operated in government departments without significant resistance from employees.

8.4.4 The Overall Usefulness of OBB

One way to measure the perceived overall usefulness of a budget system is to examine whether organisations plan to continue to use the budgeting system. If management perceives a benefit in using OBB or finds OBB useful, presumably management will continue to use OBB. Following this assumption, as a majority of respondents (90.0%) indicated that their departments should continue OBB (see Table 5.38), it may be concluded that departments in general found OBB useful. However, most respondents (74.4%) stated that their departments should continue to use OBB with some modifications. Further, one-tenth (10%) of the respondents perceived that their departments should discontinue the use of OBB.

These findings raise questions about why OBB needs to be modified and what are the features of OBB that need to be modified? The present study did not examine why respondents would like to modify or discontinue the OBB system. These questions offer an opportunity for future research to identify what areas in government departments need to be improved and modified in order to effectively continue OBB and successfully achieve the benefits claimed for this budgeting system.

Whilst the reasons for discontinuing OBB are beyond the scope of this study, there are some possible explanations. First, respondents who saw no perceivable benefits from the system but reported an increase in their workload, appeared to have sound reasons for desiring a modification of the system. Further, it is possible that some respondents would like their departments to discontinue the use of OBB because they felt that the disadvantages such as cost were greater than the benefits received. The crosstabulation results support this argument. In particular, this study found that the public officials who indicated that their departments should discontinue the use of OBB tended to perceive that the benefits of OBB were ***not*** greater than its costs, or were undecided about whether the benefits of OBB were greater than its costs. Additionally, the survey results, after collapsing the adjacent highest two categories, revealed that few

respondents (14.1%) reported that the benefits of OBB were ***not*** greater than its costs (Table 5.33). As few respondents indicated that the costs of OBB were greater than its benefits, there appeared to be a small number of respondents who perceived that their departments should discontinue the use of OBB.

8.4.5 Conclusion

The results of this study indicated that OBB did ***not*** have a significant impact on government departments. According to the mean score values on the scale of 1 to 5, the respondents to the survey seemed to find OBB ***not*** significantly useful in improving organisational operations (mean score = 2.99); assisting in decision making (mean score = 3.15); or enhancing accountability (mean score = 3.25) (see Tables 5.31, 5.25, and 5.29 respectively). Further, according to the mean scores' ranking, respondents indicated that the most effective consequence of using OBB was the impact on decision making (mean score = 3.02), followed by the impact on accountability (mean score = 2.57) and the impact on organisational operations (mean score = 2.47) (see Table 5.36). However, these results should be carefully interpreted because mean scores for each impact are approximately equal to or lower than 3.00. This means that on average, most respondents were undecided or tended to have a negative perception that OBB had neither been useful nor very effective in their organisations.

8.5 A Summary of the Results of the Content Analysis: The Consistency of the Presentation of Performance Information in the Victorian Budget Papers

On the whole, this study found that the quantity of performance measures, observed in the *manifest content analysis,* of nine departments in the Victorian budget papers over the two year period from the year 2001 to 2002 had been slightly increased (4.41%). Nevertheless, this study found a low survival rate (75.54%) and a high novelty rate (28.22%) from the *latent content analysis* of the performance measures of the nine departments. Whilst there was a high stability in the total number of performance measures over time, the presentation of performance measures did not provide comparable data over time because of the low survival rate and high novelty rate of performance measures.

This study concludes that there was a high inconsistency in the presentation of performance measures over time because of the high number of performance measures being initiated or eliminated in the consecutive years. As a result of having low survival

rates and high novelty rates, in many circumstances the performance data were reported only in the form of targets. Given that no actual performance data are provided, performance information cannot be used to evaluate performance by comparing the target and the actual data. Consequently, performance information will not be useful in facilitating performance evaluation, improving performance or enhancing accountability.

This content analysis finding is consistent with the survey finding that about half of the respondents (48.3%) *strongly disagreed* or *disagreed* that the presentation of performance information was consistent over time (Table 5.17). It can be concluded that the inconsistency of the presentation of performance measures does not enable the comparability of performance data over time. According to SAC3 (AARF 1990c), consistency over time is one of key characteristics that financial reporting should possess. Consequently, it may reasonably be assumed to also be a key requirement of budget presentation. However, the content analysis and the survey findings indicate that in practice, the quality of the comparability qualitative characteristic in terms of the consistency of the presentation of performance measures over time did not satisfy SAC3 requirements. Therefore, the claimed benefit that OBB provided superior performance information which would lead to better decision making and enhancing accountability in the public sector was not significantly verified by both the survey and content analysis data.

8.6 Implications of the Study

This study has a number of important implications in the areas of financial reporting and public sector budgeting systems in state governments. In the following sections, three types of implications are discussed: theoretical implications; methodological implications; and practical implications.

8.6.1 Theoretical Implications

The theoretical implications for government budget papers are discussed in respect of the decision-usefulness model reflected in SAC2 and SAC3. As for the theoretical implications in the area of public sector budgeting systems, two theoretical frameworks were discussed: the budget process model and the OBB concepts.

8.6.1.1 Theoretical Implications for Financial Reporting

As stated earlier, government departments are required to prepare financial disclosures according to reporting requirements such as the accounting conceptual framework. However, such legitimate reporting requirements do not exist for departments when preparing the output performance information in the budget papers. This study therefore adopted the Statement of Accounting Concepts, specifically, SAC2 (AARF 1990b) and SAC3 (AARF 1990c), as the frames of reference for the discussion of the purposes for using the budget papers and the quality of performance information within the budget papers.

The findings of this study extend the validity or invalidity of the decision-usefulness model and the Statements of Accounting Concepts in four specific ways.

First, findings from the survey questionnaire support the validity of the purposes of using financial reporting identified by SAC2 as also being relevant to budgeting. This is because the reasons for using the budget papers in accordance with SAC2 are for the most part those given by the public official users. However, according to the decision-usefulness model, this study found that information within the budget papers did not quite adequately meet the needs of public official users in assisting them to evaluate and make decisions about the allocation of resources as proposed by SAC2.

Second, in practice, this study found that the qualities of performance information and the total output cost information in the budget papers were not in accordance with SAC3 (AARF 1990c). Also, the findings in this study clearly suggested the lack of a *comparability* characteristic both for performance information and the total output cost information in the budget papers. Further, in view of the decision-usefulness model, this study found that less than half of the respondents were satisfied with the overall quality of performance information and the total output cost information in the budget papers. Therefore, the budget papers currently do not on the whole provide useful performance information and total output cost information to meet the needs of most public official users.

Third, the bivariate analysis results confirm concepts underlying the accounting conceptual framework as also being relevant to budgeting, in that the purposes of use of

financial reporting, in particular government budget papers and the qualitative characteristics of information, can influence the extent to which information in the budget papers will be perceived as useful to users. Hence, the implication for the decision-usefulness model and the SAC, is that the qualitative characteristic according to SAC3 and the purposes of using the budget papers according to SAC2 can play an important role in increasing the perceived usefulness of information in budgeting as well as financial reporting.

Finally, the bivariate analysis results also reveal that the readership, the comprehension difficulties, and personal characteristics appear to be a significant determinant of the perceived usefulness of information in the budget papers. Thus, knowing more about these variables can contribute to enhancing the perceived usefulness of the budget papers and better satisfy the needs of users.

Given that this study applied the SACs as a frame of reference, this study has provided evidence that currently the objective of the SAC model when applied to budgeting, to satisfy user needs, was not fully achieved. Evidence on the relationships of variables in the conceptual framework of this study, provides the preparers of budget papers with reason for concern about the difference between user personal characteristics and the purposes for using the budget papers. Moreover, researchers need to be cautious about assuming that different users will similarly interpret the usefulness of such information. Future researchers should be aware of these relationships before interpreting the results of the perceived usefulness of information in their studies.

8.6.1.2 Theoretical Implications for Public Sector Budgeting

On the whole, this study found that budget practice, at this stage, did not entirely match budget theory. The important implication for a theoretical understanding in the field of public sector budgeting is the weak evidence of the closeness of the fit between normative theory (what ought to happen) and descriptive theory (what is actually happening in the field) regarding the definitions of OBB and outputs, as currently used. As most of the respondents were not able to properly identify the definitions of outputs and OBB, this may be seen as a substantial limitation to the implementation of OBB. Consequently, the budget practice of focusing on outputs and outcomes is unlikely to be effectively accomplished.

Moreover, the findings suggest that normative budgetary theory concepts of focusing on outputs and outcomes rather than inputs, increasing the commitment of service quality, as well as improving service delivery, were not applied to a considerable extent by budgetary practitioners in Victorian government departments. Since OBB was introduced with the aim of improving output or service quality delivered to customers (VDTF 1997b; Commonwealth Department of Finance and Administration 1998; Western Australia Treasury Department 2000), these significant negative findings are contrary to the concept of quality improvement. Thus, it is unlikely that the quality of service delivery will be improved.

Overall, the findings extend the understanding of whether OBB in practice is used as the basis for decision making, relating inputs to outputs and to outcomes according to the budget process model. The findings have shown that at one level budgeting under OBB in Victorian government departments has gone beyond focusing on inputs and moved towards focusing on outputs and outcomes. However, this claim was not substantially confirmed. Specifically, about half (49.5%) of the respondents perceived that management now focused more on outputs than the use of inputs. Further, almost half of the respondents indicated that OBB was *very effective* or *effective* in increasing awareness of, and focus on, outcomes (45.7%). Further, the high awareness of outcomes evaluation by most respondents (58.2%) suggests that the operation of OBB in practice tended to move further towards focusing on outcomes. Therefore, the movement of budgeting under OBB, to focus on outputs and outcomes, rather than inputs is confirmed but not overwhelmingly so.

Additionally, the conclusive findings from this study contribute to the theoretical understanding of OBB concepts in at least four aspects.

(a) The Newness of the OBB Idea

Survey results revealed that a small number (13.0%) of the respondents believed that OBB was a *new* concept (Table 5.3). On the other hand, a significant proportion (80.4%) of the respondents reported that the concept of OBB was *not* a new idea. As a majority of the respondents believed that OBB was not a new concept, it is possible that they would use budgets for decision making in the same way that they had previously used budgets. Therefore, a question is raised about whether OBB systems will operate

differently from the previous budgeting systems by focusing on outputs and outcomes. Further, questions arise about whether OBB can make different budget allocations to achieve the claimed benefits such as improving decision making, accountability, and government operations.

(b) The Link between Outputs and the Government's Desired Outcomes can be Demonstrated and Measured

Most respondents (68.1%) indicated that the connection or link between outputs and the government's desired outcomes *could* be demonstrated and measured in practice. This finding practically validates the theoretical concept of OBB under the budget process model because it suggests that budgeting under OBB in Victoria could be operated by moving forward to link outputs to outcomes.

(c) The Extent to which Outcomes are More Easily Measured via the Use of OBB

The survey results showed that it was unclear whether outcomes were more easily measured via the use of OBB. Whilst about one-third (38.1%) of the respondents perceived that outcomes were more easily measured via the use of OBB, a similar proportion of respondents (35.8%) provided the opposite view (See Table 5.29). However, as less than half of the respondents perceived that outcomes could be easily measured via the use of OBB, it can be concluded that, at this stage, the measurement of outcomes was difficult to implement. Therefore, it is unlikely that those outcomes can be achieved. Consequently, this study concluded that OBB, as operated at this time, would face a problem in successfully achieving one of the theoretically main goals of OBB (South Australia Department of Treasury and Finance 1997b; VDTF 1997b; Queensland Treasury 1998b; and Commonwealth Department of Finance and Administration 2000), which is to achieve outcomes of the government.

(d) The Extent to which OBB Focuses on Long Term Perspectives

The survey results, to some extent, support the concept that OBB emphasizes a long term perspective. Most respondents (54.4%) were of the view that OBB provided a means of estimating the cost consequences of expanding or contracting any outputs. Nevertheless, whilst almost half (45.6%) of the respondents indicated that the use of OBB enhanced long-term planning (Table 5.25), only one-third (38.5%) of the respondents perceived that OBB allowed assessment of long-term financial

implications. Thus, the conclusion that OBB emphasizes a long term perspective is supported but not overwhelmingly so. This study further concludes that OBB in practice still cannot work perfectly as a means of assisting public officials to focus on long term perspective budgeting. In summary, the findings support the concept of OBB according to the budget process model that the link between outputs and outcomes is possible. However, the measurement of outcomes is still difficult to implement.

8.6.2 Methodological Implications

A number of methodological implications can be utilised as guidelines for the methodology used in future studies.

First, this study used the recipient list of the budget papers as a method to identify users of the budget papers, because people who are on the budget paper recipient list are likely to be people who use the budget papers and are more likely to have authority to make decisions in the allocation of resources. In order to ensure that the perspectives of both the budget papers users and the government department officials were reflected, the methodology used for this study focused on internal budget papers users. Consequently, the population of this study was selected by focusing on the budget papers users who were also public officials within government departments. Further, as the respondents had experience with OBB, the analysis of this group allowed a deeper understanding of the usefulness of OBB.

Second, the development of a number of questionnaire items within the present study for assessing the usefulness of information in the budget papers and examining the consequences of using OBB, provided a unique survey questionnaire instrument which may be useful for future research in the area of government financial reporting and budgeting systems. Although the survey instrument developed and used in this study was valid and reliable, the measurement items can be refined or other items can be added for improving the validity and reliability of the survey instruments in future studies. Alternatively, future research could deploy this survey questionnaire instrument for use in replication studies with the same target population to redefine the instruments or in studies with other target populations.

Third, this study used factor analysis as a methodology to confirm the validity of all questionnaire items in every dimension of the qualitative characteristics of information according to SAC3. To date, no previous government accounting studies have specifically tested the construct validity of questionnaire items using factor analysis as a methodology in their studies to confirm the validity of their questionnaire items under each dimension of the qualitative characteristics of information in accordance with SAC3.

Fourth, this study used the concepts of survival rate and novelty rate based on the previous work of Carlin and Guthrie (2001a) to originally develop comprehensive rules to be applied when performing a latent content analysis of performance measures. These rules have not been precisely defined in any previous public sector accounting studies (see Section 4.6.7). Other studies can apply or further modify the rules developed by this study to satisfy the aims of their studies.

Fifth, although it is often assumed that there exists a relationship between the personal characteristics of users and the perceived usefulness of items in financial reporting, this relationship has not been tested as a formal hypothesis for the information in budget papers. In the present study, the usefulness of each item in budget papers was tested for independence with a number of personal characteristic variables by way of the Chi-square test of independence.

Finally, this study identified the problems with data collection and administration of the questionnaire (see Chapter 4: Section 4.5.8) as well as problems in developing the content analysis worksheets (see Chapter 4: Section 4.6.3). These problems can be taken into account in future studies in order to improve the response rate and ensure the reliability and validity of the findings.

8.6.3 Practical Implications

This study identified a number of practical implications in the areas of government financial reporting and public sector budgeting systems. Normative frameworks for reporting the information in budget papers and implementation of OBB are discussed in the next section.

8.6.3.1 Practical Implications for Financial Reporting

The bivariate analysis provided evidence that the personal characteristics of users affected the perceived usefulness of information in the budget papers. This may suggest that some potential users do not have the necessary skills and knowledge to use the information within the budget papers. This study found some relationships between the personal characteristics of users (e.g. completing formal course in accounting and having a principal task in finance, budgeting, and accounting) and the perceived usefulness of various items. This has important implications for the design and content of the budget papers. For example, for the most part users who had completed a formal course of study in accounting or had a principal task in the area of finance, budgeting, and accounting tended to report that the financial statements were useful. Further, given the finding that the financial statement was the most difficult item for users to understand, an attempt to simplify financial statements might be considered as an option for preparers. Alternatively, training and education programs to promote better understanding of the financial statements should be useful for non-accounting background public official users.

Additionally, the findings of this study should be of concern to preparers, who should apply such information in designing, planning, and implementing specific and effective communication programs for promoting the use of budget papers. Further, a more rigorous communication program could also be designed to meet the needs of each particular group of users. As the budget papers should be readable, informative, and credible, preparers need to concern themselves with what information to report, and how best to report it. Preparers must also be concerned with language as well as content.

Further, this study found that non-financial items or descriptive items such as the descriptive explanation of outputs, the descriptive contribution of outputs to department objectives, and the descriptive contribution of outputs to government outcomes, were read more thoroughly and also rated as more useful than the financial statements item. The low ranking of financial items in terms of readership and usefulness and the high ranking of comprehension difficulties suggest that preparers should look at the nature of the information in the budget papers and keep in mind that financial figures alone are not sufficient to ensure understandable, readable, useable, and useful communications to users. An implication of this finding is that preparers should provide narrative

explanation additional to the financial information in the budget papers because it is important to enhance the usability of the information.

According to the mean scores ranking (see Tables 5.8 and 5.13), the Treasurer's speech was the lowest-ranked item in terms of both readership and usefulness. However, this item was the least difficult item to understand in the budget papers, with only a small number (2.2%) of users reporting difficulty in understanding. The low readership and usefulness rankings of the Treasurer's speech suggest that the Treasurer's speech was not a very useful means of communication to users. This finding raises the question of why the Treasurer's speech is easy to understand but is not read or is not useful. An implication of this finding is that the preparers of the budget papers might want to identify the cause of ineffectiveness of the Treasurer's speech to enhance its overall usefulness. In order to establish credibility or enhance usefulness, it is imperative that preparers honestly discuss both past successes and failures, and also communicate information about future events in an unbiased manner.

Finally, the survey results (Table 5.17) revealed that most respondents (55.1%) indicated that material performance information was omitted in the budget papers. This finding needs to be addressed and corrected immediately by the preparers of the budget papers to enable users to have more confidence in the information in the budget papers. Therefore, an audit of the reliability of the performance data reported in the budget papers should be conducted. Further, this study found that defining appropriate performance measures had been a significant problem in government departments that implemented OBB (Table 5.34). As inappropriate performance measures might be used to measure performance, then the need for an independent audit of the appropriateness of the performance information, in this context, is important.

8.6.3.2 A Normative Framework for the Reporting of Information in the Budget Papers

The results of the survey questionnaire and content analysis are integrated to develop a normative framework for the reporting of information in the budget papers of government departments. On the whole, this study found that the budget papers were, at that time, not effective in communicating with users. This study emphasises that the quality of performance information and the total output cost information needs to be addressed and further improved to make the budget papers more useful to users.

Consequently, information generated by OBB in the budget papers might be used and hence influence the budget allocation decisions of public officials. The recommendations include:

1. Simplifying financial statements item in the budget papers so that users will better understand them or providing training and education to prospective users of public sector budget papers.
2. Providing narrative explanations in addition to financial information in the budget papers because it is important to enhance the understandability and usability of the information.
3. Discussing honestly both the past successes and failures, and also providing information about future events in an unbiased manner.
4. Providing cost per unit measures in the budget papers in addition to the total output cost information to make information usable and facilitate budget allocation decisions.
5. Providing performance information and total output cost information that possess all four qualitative characteristics of information: relevance, reliability, comparability and understandability, as specified below.

   5.1 Relevance

   5.1.1 Stating clear objectives so that performance can be judged against those objectives.

   5.2 Reliability

   5.2.1 Checking performance measures for accuracy in order to increase the use of performance information.

   5.2.2 Conducting performance audits to enable users to have more confidence in using the information in the budget papers.

   5.3 Comparability

   5.3.1 Including both actual and target outcomes (as specified prior to the year) of every performance measure reported within the budget papers to enable comparison of the actual performance for the year, and permit the evaluation of the performance of departments. The prior year's actual comparative data to be presented to assist users with comparability over time.

5.3.2 Providing a consistent presentation of performance measures so that comparisons can be made over time and across departments. However, this does not mean limiting the further improvement of performance measures.

5.3.3 Standardising the presentation of the total output cost to enable a comparison of the output cost information of government departments against private sector counterparts.

5.4 Understandability

5.4.1 Explaining technical terms and abbreviations used in the context of performance measures. Alternatively, explanations in less technical terms are also required to ensure that information is provided to users in language that they can understand.

5.4.2 Explaining significant variances in the performance information.

5.4.3 Discussing favorable or unfavorable variances between the actual performance and the output targets presented in the budget papers.

Implementing these recommendations together with providing training and education programs for prospective users will enhance the usefulness of budget papers and lead to the information needs of users being better satisfied. In short, preparers can employ the specific survey findings of this study to design and improve the content of the budget papers. In particular, the findings about the lack of the usability, comparability, relevance, and reliability characteristics of information can help preparers to focus on the improvement of these qualities of information in the budget papers.

8.6.3.3 Practical Implications for the Implementation of OBB

There are a number of implications for budgeting in government departments. The survey findings indicate that most respondents identify a number of ineffective areas and problems resulting from the implementation of OBB. These ineffective areas are used to develop specific recommendations which can be used in general as a precaution for governments considering the adoption of OBB. In particular, the following recommendations can also be used as a guide for government departments to implement OBB and to improve OBB operations.

8.6.3.4 A Normative Framework for the Implementation of OBB

There appears to be a need for action to reduce a significant gap between budget theory and budget practice in a number of areas. The recommendations for making OBB more effective will now be proposed.

1. The significant confusion surrounding the definitions of OBB and outputs amongst public officials has to be addressed and resolved immediately so that OBB can be effectively implemented and the possible benefits of OBB can be achieved. Clearly, rigorous and standardised definitions of OBB should be provided across the departments. Further, departments should provide a training program about the concept of OBB to public officials at all levels.
2. Management should receive greater encouragement to focus on outputs and outcomes rather than inputs.
3. The awareness of and focus on outcomes as well as factors that affect outcomes should be further improved. Management should not concentrate only outputs and overlook outcomes.
4. The concepts of the commitment to service quality of government departments as well as the improvement of outputs or services quality should be highlighted.
5. Government needs to improve communication with the public about performance in order to enhance accountability.
6. The increased workload of public officials as a consequence of adopting OBB needs to be further examined because it can create resistance in public officials to the implementation of OBB. As respondents perceived that their workload had increased because of OBB, they might resist full implementation of OBB. This might impede the successful implementation of OBB in public sector organisations.
7. A significant problem of defining appropriate performance measures in government departments needs to be resolved quickly. For example, departments should encourage training in the development and use of performance measures. Because of the problem arising from the introduction of OBB, the need for training particularly in defining appropriate performance measures is essential. Performance measurement is an important part of OBB. If the full potential of OBB is to be realised then performance measures need to be accurately developed and used.

8. Departments should provide more opportunities for lower-level management to participate in the development of the budget. Through participation in the budget process, public officials may become interested in budgeting and feel a greater sense of responsibility.
9. Departments should provide a training program to give public officials at ***all levels*** the skills and knowledge that they need to implement the OBB systems, especially in specifying outputs and outcomes. By having the training, public officials could develop their understanding of those concepts. Consequently, public officials could become effective OBB implementators, which would enable the successful implementation of OBB in government departments.
10. The operation of OBB should be improved to assist public officials to allocate or reallocate resources. This could be done by improving the quality of information in budget papers as described in Section 8.6.3.1.
11. Departments need to encourage public officials to make more use of performance information in setting objectives and in allocating resources. Additionally, managers at all levels need to have clear views of their objectives so that performance can be judged against those objectives. As a result of having clear objectives, departments will be facilitated to be more accountable for the achievement of outcomes. Departments should also pay more attention to outcomes evaluation.
12. If the aim of OBB is to emphasise the long term perspective, there is a need to improve the current operations of OBB in enhancing long-term planning and facilitating the assessment of long-term financial implications in government departments.

8.7 Contributions of the Study

The present study was intended to be exploratory in order to provide empirical information on the usefulness of information generated by OBB in the budget papers and the actual consequences of using OBB in government departments. Further, this study provides empirical knowledge of the implementation of OBB in government departments that did not exist before. Additionally, it provides a comprehensive empirical investigation of the performance measures in the budget papers by using content analysis.

The OBB conceptual framework developed in this study provides a useful conceptual framework for other public sector financial reporting researchers. It allows for the development of a more sophisticated understanding concerned with the factors influencing the perceived usefulness of information in government financial reporting and the consequences of using OBB. As described in Chapter 3, most previous studies focused on the usefulness of information in private sector annual reports. Few studies focused on the usefulness of public sector annual reports and even fewer focused on the usefulness of budget papers. Therefore, the results of this study contribute to overcoming the lack of knowledge about the usefulness of the budget papers.

The findings of this study significantly contribute to knowledge regarding a number of theories such as the decision-usefulness model, the SACs, the budget process model and OBB concepts. This study also provides evidence on the closeness of fit between the descriptive and normative budgetary theory. Further, this study not only makes significant contributions to its theoretical frameworks but also has practical contributions in enhancing knowledge about the usefulness of the budget papers and OBB. In particular, an important contribution of this study is an ability to provide a framework for improving both information in budget papers to better meet user needs and the current operation of OBB.

In summary, the findings expand the theoretical literature on government financial reporting and public sector budgeting systems including the use of performance measurement. This study provides information to help future researchers to better understand how users perceived the usefulness of information in budget papers. As few previous studies examined the quality of performance information, the present study is important because it investigated the dimensions of the purpose of using budget papers and the quality of information based on SACs 2 and 3 respectively. No previous studies have used the concepts under SACs 2 and 3 as the main factors to specifically hypothesize and test their relationships with the perceived usefulness of government budget papers.

Also through having used the accounting conceptual framework as a frame of reference for this study, there is some increased understanding about the actual practice in accordance with the accounting conceptual framework, especially in respect of budget

papers reported by government departments. This study provides information on how users presently use budget papers to make decisions and how preparers could provide better quality information to facilitate better decisions. By providing a greater understanding of the practical issues, the researcher hopes that preparers of government budget papers can develop budget papers that better satisfy user needs.

In terms of public budgeting systems, this study is significant because the issue of the usefulness and effectiveness of an alternative budgetary system, such as OBB, in the new era of public management environment is receiving increasing attention not just in Australia but also globally. However, empirical data on the consequences and the effectiveness of using OBB in practice within government departments is limited.

Further, little empirical data exist about how government departments have implemented OBB and used performance measures to support decision making. This study fills this gap by providing empirical data to advance the understanding of the usefulness of OBB in practice, in terms of its impact on decision making, accountability, and organisational operations. This study also has implications for other states by providing empirical data on the current status of the Victorian output-based budgeting system. Lessons learned from the problems relating to the implementation of OBB raised in this study are useful not just for the Australian government but also for other foreign governments who are interested in implementing OBB.

8.8 Limitations of the Study and Recommendations for Future Research

There are several limitations that should be taken into consideration when interpreting the results of this study. The limitations, however, present opportunities for future research. Firstly, the scope of this study was limited by its population frame which included only Victorian government departments. The population only included budget paper users who were on the budget paper recipient list of the VDTF. Since this study aimed to investigate the perceptions of both the users of budget papers and public officials employed by government departments, the population that satisfied both specific objectives was therefore relatively small.

To investigate the usefulness of budget papers, it is recommended that further research extend the size of the population to include not only public official users but also the external users of budget papers such as people who access budget papers through the government bookshop (Information Victoria), libraries, and the Internet. This may lead to a broader understanding of the needs of users.

Further, to investigate the consequences of using OBB, future budgetary system researchers could also increase the size of the population to include larger numbers of public officials from each government department. It also may be useful to investigate the perceptions of users and public officials in other states and compare them in order to detect any differences in their perceptions about the quality of performance information in budget papers and the effectiveness of the implementation of OBB.

The results of this study may have been different if external users had been included, a broader range of public officials had been selected, or the response rate had been higher. Moreover, the implications of this study may have been enhanced if the number of states had been increased. However, as discussed in Chapter 1, there are strong justifications for believing that the findings from this study conducted in Victoria may have more general application to other jurisdictions in Australia.

Secondly, this study is important in itself, but some findings cannot be compared with earlier findings because no studies empirically tested the relationship of the usefulness of information in the budget papers and variables such as readership; comprehension difficulties; purposes of using budget papers; personal characteristics of users and qualitative characteristics of information especially through the SAC model. The validity of the present study's conclusions will be strengthened when viewed in conjunction with other studies that have reached similar conclusions. Therefore, future research should replicate this study and study budget papers to validate the findings of the present study.

Additionally, due to the exploratory nature of the present study and the comparatively new budgeting system of OBB in Australia, a number of studies need to be conducted in order to provide a deeper understanding of OBB and the relationship between the perceived usefulness of information in budget papers using the accounting conceptual

framework as a frame of reference. Although the findings from the present study have contributed to knowledge in the area of government financial reporting and public budgeting systems, additional future studies are needed to verify the validity and reliability of the present study.

Finally, non-parametric statistics were used in this study because the population size was quite small, and the researcher did not make an assumption of normality. Further, as the survey data for testing the propositions in this study were treated as a nominal or an ordinal scale, the chi-square statistic test was used to identify any relationships between two variables. According to Zikmund (1997) parametric statistics are appropriate when the data are interval or ratio scale and the sample size is large. Future research can attempt to replicate this study with a larger population and use other parametric statistical methods if the nature of their data meets the assumptions such as being an interval scale or is normally distributed.

Apart from the recommendations for future research based on its limitations, the findings of this research provide a great opportunity for future researchers to further examine a number of issues raised by this study. These issues are:

1. Identifying the external users of budget papers and examining their information needs in order to validate the concept under SAC2 and SAC3 in integrating the perspectives of internal and external users.
2. Conducting focus groups or group interviews of both internal and external users of budget papers to determine their information needs and their preference for reporting practices.
3. Investigating the reasons why some items in the budget papers were not being read or useful. In particular, identifying the reasons for the relative lack of the usefulness of the Treasurer's speech and financial statement items.
4. Examining the causes of the low usage of the budget papers for the purposes of evaluating decisions about the allocation of resources and making decisions about the allocation of resources.
5. Investigating the cause of dissatisfaction with the overall quality of both performance and the total output cost information in the budget papers.

6. Identifying what kind of cost information users need and actually use to make decisions. Also examining the additional calculations or adjustments that users must perform to be able to use the total output cost information in budget papers for budget allocation decisions.
7. Evaluating the quality of performance information in one jurisdiction by considering before and after use of OBB.
8. Determining the nature of lower level management involvement in budgetary decision making.
9. Investigating the barriers of the effectiveness of OBB in the areas of focusing on outputs and outcomes and improving communication with the public about performance.
10. Examining the causes of the apparently low survival rates and high novelty rates of performance measures in Victorian budget papers.
11. Investigating why public officials would like to modify or discontinue the use of OBB and what are the areas that need to be modified.
12. Investigating whether after training program employees better understood the concept of OBB, which levels of the employees had received the training, and what kind of training they received.
13. Resolving the problem of the inconsistency of the presentation of performance measures.

8.9 Summary

This study emphasises that the needs of the users of budget papers must take precedence over the interests of the preparers of those reports. This study examined the usefulness of budget papers from the user's perspective. A number of possible reasons have been offered to explain the lack of usefulness (to the extent that budget papers have been shown to be not very useful). Firstly, some items in the budget papers are too difficult to understand. Secondly, users lack an accounting background or have a specific purpose for using budget papers. Finally, there appear to be a lack of qualitative characteristics of performance information and the total output cost information in the budget papers. Many individual users may understand the budget papers but be dissatisfied with the quality of comparability, reliability, and relevance characteristics of information in these

papers. In fact, the survey and content analysis data in this study illustrated the lack of *comparability* of performance information in the budget papers.

The content analysis observations also revealed that the presentation of performance measures did not provide highly comparable data as a result of the high novelty rates and low survival rates. Further, in many cases the actual performance data is not up-to-date or is unavailable, thus inhibiting performance feedback or an evaluation process. Therefore, OBB in practice at this stage, does not achieve its claimed benefit of providing superior performance information to enhance better decision making and increase accountability in the public sector. These reasons may explain why the budget papers are currently not very useful. It is now the responsibility of government departments and the people who prepare the budget papers to improve the content of the budget papers in order to better satisfy users needs. In particular, this study suggests that the quality of performance information and the total output cost information need to be addressed and further improved to make the budget papers more useful to users.

Further, the consequences of using OBB in public organisations were investigated in terms of their impact on decision-making, accountability and organisation operations. Survey findings indicated that most respondents were confused or did not correctly understand the definitions of outputs and OBB. Most respondents believed that OBB meant budgeting by focusing on outputs. However, reviews of all Australian Treasuries' guides illustrate that one of the objectives of introducing OBB is to focus on achieving the government outcomes, not only focus on the outputs. In order for OBB to achieve its claimed benefits and be successfully implemented, the first step initiated should be to standardise and clearly provide rigorous definitions of OBB across the governments. This study found that several gaps exist between budget theory and budget practice in respect of OBB. Recommendations for improving the operation of OBB were also provided in this study. The author hopes that the discussion in this thesis contributes to the ongoing improvement and understanding of knowledge in the areas of government budget papers and public sector budgeting systems, in particular OBB.

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APPENDICES

Appendix 1

OBB Survey Questionnaire

Questionnaire for the Survey on the Usefulness of Output-Based Budgeting (OBB) in the Victorian Government

VICTORIA UNIVERSITY

Section A: Output-Based Budgeting and Performance Measures

To what extent do you agree or disagree with each of the following statements?
(For each item please tick the box which best reflects your response)

		Agree	Don't Know	Disagree
1	OBB is a ***new*** concept.	3	2	1
2	***Outputs*** are products or services produced or delivered by a department for both internal and external customers.	3	2	1
3	***Outcomes*** are the government's desired or intended impacts on the community.	3	2	1
4	OBB means budgeting by focusing on ***outputs***, not outcomes.	3	2	1
5	The connection or link between outputs and the government's desired outcomes ***cannot*** be demonstrated and measured in practice.	3	2	1
6	***Efficiency*** is the extent to which resources are minimized for a given level of output.	3	2	1
7	***Effectiveness*** is the extent to which actual outcomes are achieved.	3	2	1
8	To construct an output structure for budgeting, outputs are specified by ***directly*** transferring the old program structure to the new output structure.	3	2	1
9	Financial performance information alone, ***without non-financial*** measures of performance, is sufficient to assess whether entities have achieved their objectives.	3	2	1

Section B: The Usefulness of Information in the 2002/03 Victorian Budget Papers

The usefulness of items within budget papers

10. Did you receive the 2002/03 Victorian Budget papers?

a) ☐ Yes, I received: *(Please tick one or more)*

- O Treasurer's Speech (Budget Paper No.1)
- O Budget Statement (Budget Paper No.2)
- O Budget Estimates (Budget Paper No.3)
- O Budget Overview

b) ☐ No

11. How often do you use the Victorian budget papers?

(Please tick one)

a) ☐ Daily
b) ☐ Weekly
c) ☐ Monthly
d) ☐ Quarterly
e) ☐ Half yearly
f) ☐ Annually
g) ☐ Irregularly
h) ☐ Never use them

12. How thoroughly do you usually read the following items in the budget papers?

(Please tick one box for each item)	Read thoroughly				Do not read
a) Treasurer's speech	5	4	3	2	1
b) Financial statements	5	4	3	2	1
c) Statistical performance information	5	4	3	2	1
d) Descriptive explanation of outputs	5	4	3	2	1
e) Descriptive contribution of outputs to department objectives	5	4	3	2	1
f) Descriptive contribution of outputs to government outcomes	5	4	3	2	1
g) Output cost information	5	4	3	2	1

13. **For what purpose do you use the Victorian budget papers?** *(Please tick as many as apply)*

a) ☐ For making decisions about the allocation of resources.

b) ☐ To evaluate decisions about the allocation of resources.

c) ☐ For accountability purposes.

d) ☐ Other (Please specify) .....

.....

.....

.....

.....

14. **Which of the following items in the budget papers do you often have difficulty understanding?**

(Please tick as many as apply)

a) ☐ Treasurer's speech

b) ☐ Financial statements

c) ☐ Statistical performance information

d) ☐ Descriptive explanation of outputs

e) ☐ Descriptive contribution of outputs to department objectives

f) ☐ Descriptive contribution of outputs to government outcomes

g) ☐ Output cost information

h) ☐ None of the above

15. **How useful do you find the following items in the budget papers?**

(Please tick one box for each item)	Very useful				Not useful
a) Treasurer's speech	5	4	3	2	1
b) Financial statements	5	4	3	2	1
c) Statistical performance information	5	4	3	2	1
d) Descriptive explanation of outputs	5	4	3	2	1
e) Descriptive contribution of outputs to department objectives	5	4	3	2	1
f) Descriptive contribution of outputs to government outcomes	5	4	3	2	1
g) Output cost information	5	4	3	2	1

The usefulness of output performance information

16. **How useful are the various types of performance measures contained in the Victorian budget papers?**
(For each type please tick the box which best reflects your opinion)

	Very useful				Not useful
a) Quality measures	5	4	3	2	1
b) Quantity measures	5	4	3	2	1
c) Cost measures	5	4	3	2	1
d) Timeliness measures	5	4	3	2	1

17. **How often do you use performance measures contained in the Victorian budget papers?**
(Please tick one box for each item)

Performance measures	Daily	Weekly	Monthly	Quarterly	Half yearly	Annually	Irregularly	Never Use	Other
a) Quality measures									
b) Quantity measures									
c) Cost measures									
d) Timeliness measures									

18. According to your information <u>needs</u>, do you agree or disagree with the following statements about the quality of <u>performance information</u> contained in the Victorian budget papers?

(Please tick one box for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
a	The information influences my ***decisions*** about the allocation of resources (such as investing or funding approvals).	5	4	3	2	1
b	The information helps me make ***predictions.***	5	4	3	2	1
c	The information helps me ***confirm*** my past ***evaluations.***	5	4	3	2	1
d	The information assists me to ***correct*** my past ***evaluations.***	5	4	3	2	1
e	The information is a good presentation of the ***facts*** without bias.	5	4	3	2	1
f	***No*** material information is ***omitted.***	5	4	3	2	1
g	The information does ***not*** contain significant ***errors.***	5	4	3	2	1
h	The information does ***not*** contain deliberate ***misstatements.***	5	4	3	2	1
i	The information enables me to compare performance of ***an entity*** over ***different years.***	5	4	3	2	1
j	The information enables me to compare performance of ***different*** government departments at ***one time.***	5	4	3	2	1
k	The information enables me to compare performance of ***different*** government departments ***over time.***	5	4	3	2	1
l	The presentation of the information is ***consistent*** over time.	5	4	3	2	1
m	I am able to ***comprehend*** the meaning of the information.	5	4	3	2	1
n	The information is presented in an ***understandable*** format.	5	4	3	2	1
o	The information content is ***clear.***	5	4	3	2	1
p	Overall, I am ***satisfied*** with the quality of performance information contained in the budget papers.	5	4	3	2	1

19. Do you <u>use</u> performance information? If your answer is "YES", please also indicate <u>how</u> performance information has been used.

a) ☐ Yes, it has been used in: *(Please tick one or more)*

- O allocating resources
- O setting objectives
- O increasing productivity
- O purchasing outputs from alternative providers
- O performance evaluation
- O other ways (please specify) .....

.....

b) ☐ No

20. Do you think that performance information should be prepared by: *(Please tick one)*

a) ☐ management.

b) ☐ independent auditors.

c) ☐ management and verified by independent auditors.

21. Have performance audits by external auditors been <u>undertaken</u> in your organisation?

(Please tick one)

a) ☐ Yes

b) ☐ No

c) ☐ Don't know

d) ☐ No, but the intention is to have performance audits.

22. Are performance measures in your organisation <u>checked</u> for accuracy? If your answer is "YES", please also indicate <u>how often</u> they are checked.

a) ☐ Yes, performance measures are checked:

(Please tick one)

O Daily O Weekly O Monthly

O Annually O Other (please specify)

.....

b) ☐ No

c) ☐ Don't know

The usefulness of output cost information

23. According to your information <u>needs</u>, do you agree or disagree with the following statements about the quality of "<u>TOTAL output cost" information</u> provided in the Victorian Budget Estimates (Budget Paper No.3)?

(Please tick one box for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
a	The information is ***essential*** and ***influences*** my decisions about the allocation of resources (such as funding approvals).	5	4	3	2	1
b	The information does ***not*** contain significant ***errors.***	5	4	3	2	1
c	The information enables me to compare output costs of ***an entity*** over ***different years***.	5	4	3	2	1
d	The information enables me to compare output costs of ***different*** government departments.	5	4	3	2	1
e	The information enables me to compare output costs of ***government*** departments against ***private*** sector counterparts.	5	4	3	2	1
f	The information is presented in an ***understandable*** format.	5	4	3	2	1
g	I am able to ***comprehend*** the meaning of the information.	5	4	3	2	1
h	The information is ***usable*** for making decisions, without the need for any additional calculations or adjustments.	5	4	3	2	1
i	The "total output cost" information (without the cost per unit measure) is ***sufficient*** to make budget allocation decisions.	5	4	3	2	1
j	Overall, I am ***satisfied*** with the quality of output cost information contained in the budget papers.	5	4	3	2	1

Section C: The Consequences of Using OBB in Public Organisations

To what extent do you agree or disagree with each of the following statements?

(Please tick one box for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
24	The use of OBB results in the ***reallocation*** of resources.	5	4	3	2	1
25	Management now focuses ***more*** on outputs than the use of resources.	5	4	3	2	1
26	OBB ***increases*** my awareness of ***cost.***	5	4	3	2	1
27	OBB ***improves*** cost ***control.***	5	4	3	2	1
28	The use of OBB leads to cost ***cutting*** and cost ***saving***.	5	4	3	2	1
29	OBB allows assessment of ***long-term*** financial implications.	5	4	3	2	1
30	The use of OBB enhances ***long-term*** planning.	5	4	3	2	1
31	OBB facilitates in ***classifying*** expenditures so as to identify the direct costs.	5	4	3	2	1
32	OBB provides a means of estimating the ***cost consequences*** of expanding or contracting any outputs.	5	4	3	2	1
33	***Output*** structure provides a ***clearer*** idea about the costs of products and services than ***program*** structure.	5	4	3	2	1
34	The use of OBB encourages the ***use*** of cost/benefit analysis.	5	4	3	2	1

35. Do you use cost/benefit analysis? If your answer is "YES", please indicate how this information has been used.

a) ☐ **Yes, cost/benefit analysis has been used:** *(Please tick one or more)*

- O to select from alternative outputs.
- O to determine if an output can be justified.
- O to reduce or expand in particular outputs.
- O to change the resourcing of an output.
- O to select from various service delivery options.
- O in other ways (please specify).....

b) ☐ **No**

.....

To what extent do you agree or disagree with each of the following statements regarding the consequences of using OBB? *(Please tick one box for each statement)*

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
36	OBB increases my awareness of better ***performance.***	5	4	3	2	1
37	OBB increases my awareness of the ***outcomes evaluation.***	5	4	3	2	1
38	Outcomes are ***more*** easily measured via the use of OBB.	5	4	3	2	1
39	OBB leads to ***clearer*** responsibility for the delivery of outputs.	5	4	3	2	1
40	OBB ***increases*** the commitment to service quality.	5	4	3	2	1
41	It is ***clear*** now who is accountable for measuring and reporting performance in my organisation.	5	4	3	2	1
42	Managers at all levels have clearer views of their ***objectives*** because of OBB.	5	4	3	2	1
43	Managers at all levels have clearer views of their ***performance measures*** to assess outputs because of OBB.	5	4	3	2	1
44	Budgetary documentation has ***increased*** significantly in volume since the use of OBB.	5	4	3	2	1
45	Executive directors and managers have ***more*** time to consider the budget since the use of OBB.	5	4	3	2	1
46	Corrective ***action*** has been taken in my organisation when there is a ***variance*** between budgeted and actual performance measures.	5	4	3	2	1
47	For the purpose of expenditure appraisal, ***output*** classification of expenditure is ***more*** useful than ***program*** classification.	5	4	3	2	1
48	OBB ***increases*** the cost of correcting errors because of the rigidity of output structure (e.g. a change in one element or structure of output results in change reverberating throughout every element in the same group).	5	4	3	2	1
49	OBB ***improves*** the effectiveness of resource allocation and budgeting in my organisation.	5	4	3	2	1
50	OBB ***improves*** organisational operations by linking budget and performance over time.	5	4	3	2	1
51	I have a ***better*** understanding of government operations and the outputs to be produced or delivered because of OBB.	5	4	3	2	1
52	OBB requires ***changes*** in my organisational structure to align with the output structure.	5	4	3	2	1
53	OBB ***increases*** the involvement of ***lower- level*** management in the budget formulation process.	5	4	3	2	1
54	OBB ***increases*** the involvement of ***top management*** in the budget formulation process.	5	4	3	2	1
55	Training related to output and outcome specification was provided for employees at ***all*** levels in my organisation.	5	4	3	2	1
56	OBB is too complex and ***difficult*** to operate.	5	4	3	2	1
57	OBB has ***increased*** my workload.	5	4	3	2	1
58	I believe that the benefits of OBB are ***greater*** than its costs.	5	4	3	2	1

59. Have any of the following items been problems in your organisation since the implementation of OBB?

(Please tick one box for each item)

		Very significant problem	Significant problem	Undecided	Somewhat of a problem	Not a problem
a	Specifying ***outputs***	5	4	3	2	1
b	Specifying ***outcomes***	5	4	3	2	1
c	Defining appropriate ***performance measures***	5	4	3	2	1
d	Calculating ***full costs*** of outputs	5	4	3	2	1

60. In your opinion, how effective has OBB been in your organisation with respect to the following statements?
(Please tick one box for each statement)

		Very effective	Effective	Undecided	Somewhat effective	Not effective
a	***Increasing*** awareness of, and focus on, ***outcomes.***	5	4	3	2	1
b	***Increasing*** awareness of ***factors*** that affect outcomes.	5	4	3	2	1
c	***Improving*** communication with the public about performance.	5	4	3	2	1
d	***Increasing*** the core budget discussions among departments and legislatures on ***outcomes.***	5	4	3	2	1
e	***Reducing*** duplicative activities or services.	5	4	3	2	1
f	***Reducing***/eliminating ineffective services/products.	5	4	3	2	1
g	***Improving*** responsiveness to ***customers.***	5	4	3	2	1
h	***Improving*** outputs/service ***quality.***	5	4	3	2	1

Section D: Questions about yourself and your organisation

61. What is your ***gender***? *(Please tick one)*

a) ☐ Male

b) ☐ Female

62. What is your ***age*** group? *(Please tick one)*

a) ☐ Under 30

b) ☐ 30-39

c) ☐ 40-49

d) ☐ 50-59

e) ☐ 60 and above

63. What is the highest level of ***education*** you have completed? *(Please tick one)*

a) ☐ Primary school

b) ☐ Secondary school

c) ☐ TAFE certificate

d) ☐ Bachelors Degree

e) ☐ Masters Degree

f) ☐ Doctorate

g) ☐ Other (Please specify).....

.....

64. Have you completed a formal course of study in ***accounting***? *(Please tick one)*

a) ☐ Yes

b) ☐ No

65. Have you ever had any formal educational training in which you became familiar with ***performance measures***? *(Please tick one)*

a) ☐ Yes b) ☐ No

66. How ***long*** have you been in your current ***job*** or similar job in the public sector? *(Please tick one)*

a) ☐ less than 2 years

b) ☐ 2-5 years

c) ☐ 5-10 years

d) ☐ Over 10 years

67. What is your area of responsibility or principal ***task*** in the organisation? *(Please tick one)*

a) ☐ Finance, budget and accounting

b) ☐ Policy and planning

c) ☐ Performance Review/Evaluation

d) ☐ Other (Please specify).....

.....

68. Which of the following do you feel is the ***best*** alternative for your organisation? *(Please tick one)*

a) ☐ Continue OBB substantially as it operates today.

b) ☐ Continue OBB with some modifications.

c) ☐ Discontinue OBB.

Thank you very much for completing the questionnaire

Appendix 2

Sample of Pilot Covering Letter

Pilot Study for Questionnaire on the Usefulness of Output-Based Budgeting (OBB) in the Victorian Government

VICTORIA UNIVERSITY

October 2002

Dear Sir/Madam,

I am currently undertaking a research project, which aims to assess the usefulness of Output-Based Budgeting within the Victorian State Government by evaluating the usefulness of information generated by OBB within the Victorian budget papers, as well as by investigating the consequences of using OBB on the Victorian public organisations. This questionnaire will be sent to public officers who are the recipients of the Victorian budget papers across nine Victorian government departments.

I would be grateful if you would kindly take your time to complete the enclosed questionnaire and give comments on the format and content of the questionnaire at your earliest convenience, preferably before 7 October 2002. Please help by giving your opinions regarding the following issues.

COMMENTS:

1. How long does it take for you to complete the questionnaire? _____ minutes
2. Is the format of the questionnaire easy to understand? ☐ Yes ☐ No
3. Are the instructions clear and easy to follow? ☐ Yes ☐ No
4. Is the terminology used in the questionnaire too technical and in need of clarification?
   ☐ Yes ☐ No
5. Do you have any difficulties in understanding the meaning of any questions?
   ☐ Yes, please specify which questions? _____
   ☐ No
6. Other comments:

   _____

   _____

   _____

If you have any queries or questions regarding this questionnaire, please contact me by e-mail at XXX or by telephone on XXX.

Thank you very much for your time and co-operation.

Yours faithfully,

Appendix 3

Sample of Survey Covering Letter

Questionnaire on the Usefulness of Output-Based Budgeting (OBB) in the Victorian Government

VICTORIA UNIVERSITY

26 November 2002

Dear Sir/Madam,

I am currently conducting research, which aims to assess the usefulness of Output-Based Budgeting (OBB) in practice within the Victorian State Government. The specific aims are to examine the usefulness of information generated by OBB within the 2002/03 Victorian budget papers, as well as to investigate the consequences of using OBB in the Victorian public sector.

It is hoped that the findings of this research will provide useful information in the areas of financial reporting and budgeting systems. It is also intended that the research provide information that would be of practical use for governments in assisting the development of guidelines for the reporting of output performance measures in public sector budget papers, as well as in improving OBB systems.

To achieve this contribution and to ensure the validity of results, your participation is essential. You are among the few public officers in Victoria who meet the criteria for participating in this research project. Your answers are therefore a very valuable contribution to the success of this research and will enable me to complete work on my doctoral degree. Your participation is voluntary; however your co-operation would be greatly appreciated.

The findings of this research will only be reported in an aggregated form. No findings which could identify any particular person or organisation will be published. All responses are anonymous, therefore you are not required to provide your name. Furthermore, your response will be treated in the strictest confidence and will not involve you in any risks. This research strictly follows the ethics rules issued by the Human Research Ethics Committee of the University. Only myself and the research supervisor can access the coded data of the completed questionnaire.

For the purpose of this research, ***Output-Based Budgeting*** involves: a) defining the government's objectives; b) defining outputs and outcomes to achieve objectives; c) budgeting and appropriation by outputs based on output structure; d) using performance indicators to measure outputs; e) reflecting full accrual cost; and f) separating purchaser and owner as well as purchaser and provider relationships.

It would be greatly appreciated if you would kindly complete the questionnaire and return it in the prepaid reply envelope at your earliest convenience, preferably by 17 December 2002. If you have any queries regarding this research project or would like to receive a complimentary copy of the summary results of this research, please contact me by e-mail at XXX or by phone on XXX or my supervisor, by e-mail at XXX or by phone on XXX.

Thank you very much for your time and co-operation.

Yours faithfully,

Appendix 4

Tabulation

of

Content Analysis Results

Department of Education and Training Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 4

Number of Output Summary Group 2002/03 4

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
School Education							
Primary Education							
Quantity	11	9	2	9	0	81.82	0.00
Quality	14	6	8	6	0	42.86	0.00
Total	25	15	10	15	0	60.00	0.00
Junior Secondary Education							
Quantity	10	8	2	8	0	80.00	0.00
Quality	10	11	5	5	6	50.00	54.55
Total	20	19	7	13	6	65.00	31.58
Senior Secondary Education							
Quantity	5	4	1	4	0	80.00	0.00
Quality	11	11	3	8	3	72.73	27.27
Total	16	15	4	12	3	75.00	20.00
Non-Government School Education							
Quantity	2	3	1	1	2	50.00	66.67
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	4	4	2	2	2	50.00	50.00
Student Welfare and Support							
Quantity	4	1	3	1	0	25.00	0.00
Quality	2	4	1	1	3	50.00	75.00
Total	6	5	4	2	3	33.33	60.00
Services to Students with Disabilities and Impairments							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	1	1	1	0	50.00	0.00
Total	4	3	1	3	0	75.00	0.00
Education Maintenance Allowance							
Quantity	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Student Transport							
Quantity	2	3	1	1	2	50.00	66.67
Quality	1	0	1	0	0	0.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	2	2	2	50.00	50.00
Training and Tertiary Education							
Training and further Education Places							
Quantity	5	5	1	4	1	80.00	20.00
Quality	4	9	0	4	5	100.00	55.56
Timeliness	1	1	0	1	0	100.00	0.00
Total	10	15	1	9	6	90.00	40.00
Adult and Community Education Places and Community Support							
Quantity	5	3	2	3	0	60.00	0.00
Quality	3	5	0	3	2	100.00	40.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	9	9	2	7	2	77.78	22.22
Employment Services #							
Quantity	9	Report in the Department of Innovation, Industry and Regional Development	9				
Quality	6		6				
Timeliness	1		1				
Total	16		16				

For the first time, in the 2002/2003 Victorian Budget Papers, the Employment Services output was transferred from the Department of Education and Training to the Department of Innovation, Industry and Regional Development. Therefore, performance measures of this output for the year 2002/2003 were counted and reported with the Department of Innovation, Industry and Regional Development.

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)**
Higher Education							
Quantity	4	3	2	2	1	50.00	33.33
Quality	3	2	1	2	0	66.67	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	8	6	3	5	1	62.50	16.67
Youth							
Youth Policy Coordination							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	1	0	1	0.00	100.00
Total	3	3	1	2	1	66.67	33.33

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Services to Youth							
Quantity	7	7	1	6	1	85.71	14.29
Quality	0	1	0	0	1	0.00	100.00
Timeliness	0	1	0	0	1	0.00	100.00
Total	7	9	1	6	3	85.71	33.33
Policy, Strategy and Information Services							
Policy, Strategy and Executive Services							
Quantity	2	5	0	2	3	100.00	60.00
Quality	2	1	1	1	0	50.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	7	1	4	3	80.00	42.86
International Education							
Quantity	4	4	0	4	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Public Information and Promotion							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Grand Total	149	126	55	94	32	63.09	25.40

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Department of Human Services Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 12

Number of Output Summary Group 2002/03 11

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Acute Health Services							
Admitted Services							
Quantity	2	3	0	2	1	100.00	33.33
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	4	0	3	1	100.00	25.00
Total	6	8	0	6	2	100.00	25.00
Non-Admitted Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Emergency Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Sub-Acute Care Services							
Quantity	3	4	0	3	1	100.00	25.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	7	8	0	7	1	100.00	12.50
Acute Training and Development							
Quantity	1	2	0	1	1	100.00	50.00
Total	1	2	0	1	1	100.00	50.00
Blood Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Private Hospital Regulation							
Quantity	1	0	1	0	0	0.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	2	0	2	0	0	0.00	0.00
Better Health Channel							
Quantity	2	0	2	0	0	0.00	0.00
Quality	1	0	1	0	0	0.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	4	0	4	0	0	0.00	0.00
Ambulance Services							
Ambulance Emergency Services							
Quantity	4	4	0	4	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Ambulance Non-emergency Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Embulance Services Training and Development							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Basic Life Support Program							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Mental Health							
Clinical Inpatient Care							
Quantity	1	1	1	0	1	0.00	100.00
Quality	0	1	0	0	1	0.00	100.00
Total	1	2	1	0	2	0.00	100.00
Clinical Community Care							
Quantity	2	1	2	0	1	0.00	100.00
Quality	0	2	0	0	2	0.00	100.00
Total	2	3	2	0	3	0.00	100.00
Psychiatric Disability Support Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Mental Health Service System Capacity Development							
Quantity	2	1	2	0	1	0.00	100.00
Quality	0	1	0	0	1	0.00	100.00
Total	2	2	2	0	2	0.00	100.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Aged and Home Care							
Positive Ageing							
Quantity	1	1	0	1	0	100.00	0.00
Quality	0	2	0	0	2	0.00	100.00
Total	1	3	0	1	2	100.00	66.67
Aged Care Assessment							
Quantity	1	2	0	1	1	100.00	50.00
Timeliness	1	2	1	0	2	0.00	100.00
Total	2	4	1	1	3	50.00	75.00
Aged Support Services							
Quantity	2	3	1	1	2	50.00	66.67
Total	2	3	1	1	2	50.00	66.67
Aged Residential Care							
Quantity	1	2	0	1	1	100.00	50.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	3	0	2	1	100.00	33.33
Aged Care Service System Development and Resourcing							
Quantity	2	1	2	0	1	0.00	100.00
Quality	0	1	0	0	1	0.00	100.00
Total	2	2	2	0	2	0.00	100.00
HACC Primary Health, Community Care and Support							
Quantity	1	1	0	1	0	100.00	0.00
Quality	0	1	0	0	1	0.00	100.00
Total	1	2	0	1	1	100.00	50.00
HACC Service System Development and Resourcing							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
Primary Health							
Community Health Care							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
School Nursing							
Quantity	1	2	0	1	1	100.00	50.00
Quality	1	3	0	1	2	100.00	66.67
Total	2	5	0	2	3	100.00	60.00
Primary Health Service System Development and Resourcing							
Quantity	1	3	0	1	2	100.00	66.67
Quality	0	1	0	0	1	0.00	100.00
Timeliness	0	1	0	0	1	0.00	100.00
Total	1	5	0	1	4	100.00	80.00
Dental Health							
Dental Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	5	5	0	5	0	100.00	0.00
Dental Service System Development and Resourcing							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
Public Health and Drugs							
Disease Prevention, Control and Surveillance							
Quantity	2	2	0	2	0	100.00	0.00
Quality	4	4	1	3	1	75.00	25.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	8	8	1	7	1	87.50	12.50
Drug Prevention and Control							
Quantity	5	5	1	4	1	80.00	20.00
Quality	2	1	1	1	0	50.00	0.00
Total	7	6	2	5	1	71.43	16.67
Drug Treatment and Rehabilitation							
Quantity	4	4	0	4	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Health and Social Development							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Environmental Health and Safety							
Quantity	2	1	2	0	1	0.00	100.00
Quality	1	1	0	1	0	100.00	0.00
Total	3	2	2	1	1	33.33	50.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Food and Activity							
Quantity	2	1	1	1	0	50.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	3	1	3	0	75.00	0.00
Biomedical Research, Ethics and Safety							
Quantity	2	1	1	1	0	50.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	3	2	1	2	0	66.67	0.00
Public Health Research, Information and Training							
Quantity	2	2	1	1	1	50.00	50.00
Quality	1	1	0	1	0	100.00	0.00
Total	3	3	1	2	1	66.67	33.33
Disability Services							
Intake Assessment							
Quantity	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Planning and Coordination							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	5	5	0	5	0	100.00	0.00
Primary Support							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	5	5	1	4	1	80.00	20.00
Community Participation							
Quantity	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Flexible Support Packages							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Community and Home Based Support							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Shared Supported Accommodation							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Specialist Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Congregate Care							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Training, Development and Innovation							
Quantity	2	1	2	0	1	0.00	100.00
Quality	1	0	1	0	0	0.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	2	3	1	1	25.00	50.00
Quality and Accreditation							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Strengthening Communities							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
Information and Advocacy Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Community Care							
Early Childhood Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Family and Community Support							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	5	5	1	4	1	80.00	20.00
Child Protection and Placement							
Quantity	2	2	0	2	0	100.00	0.00
Quality	3	5	0	3	2	100.00	40.00
Timeliness	1	2	0	1	1	100.00	50.00
Total	6	9	0	6	3	100.00	33.33
Juvenile Justice Services							
Quantity	2	3	0	2	1	100.00	33.33
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	7	0	6	1	100.00	14.29
Concessions to Pensioners and Beneficiaries							
Energy Concessions							
Quantity	3	3	0	3	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Water and Sewerage Concessions							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
Municipal Rates Concessions							
Quantity	1	1	0	1	0	100.00	0.00
Total	1	1	0	1	0	100.00	0.00
Trustee Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Housing Assistance							
Homelessness Assistance							
Quantity	4	4	0	4	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Long term Housing Assistance							
Quantity	6	6	0	6	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	9	9	0	9	0	100.00	0.00
Home Ownership and Renovation Assistance							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	2	0	1	1	100.00	50.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	4	0	3	1	100.00	25.00
Grand Total	198	211	28	170	41	85.86	19.43

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Department of Infrastructure Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 9

Number of Output Summary Group 2002/03 9

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Strategic Land Use and Infrastructure Planning							
Regional and Rural Strategies							
Quantity	4	1	3	1	0	25.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	3	3	3	0	50.00	0.00
Metropolitan Development Strategies							
Quantity	3	3	1	2	1	66.67	33.33
Quality	1	1	0	1	0	100.00	0.00
Timeliness	0	2	0	0	2	0.00	100.00
Total	4	6	1	3	3	75.00	50.00
Port Development Strategies							
Quantity	2	2	2	0	2	0.00	100.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	4	4	3	1	3	25.00	75.00
Research and Forecasting Information							
Quantity	1	0	1	0	0	0.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	2	0	2	0	0	0.00	0.00
Balanced Planning and Environmental System							
Planning System Development							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	1	1	1	50.00	50.00
Total	5	5	1	4	1	80.00	20.00
Planning Operations and Environmental Assessment							
Quantity	6	6	0	6	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	10	10	0	10	0	100.00	0.00
Heritage Conservation							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Regional and Urban Amenity Initiatives							
Quantity	4	3	1	3	0	75.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	2	1	2	0	66.67	0.00
Total	8	6	2	6	0	75.00	0.00
Environmental Strategies and Initiatives							
Quantity	3	3	0	3	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Supporting Local Government							
Local Government Sector Development							
Quantity	3	2	1	2	0	66.67	0.00
Quality	3	3	0	3	0	100.00	0.00
Total	6	5	1	5	0	83.33	0.00
Governance Support							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Grants Funding for Public Libraries and							
Quantity	4	3	1	3	0	75.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	5	1	5	0	83.33	0.00
Ports and Intermodal Geteways							
Ports and Intermodal Freight							
Quantity	4	3	4	0	3	0.00	100.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	6	5	5	1	4	16.67	80.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Passenger Interchange Development							
Quantity	8	6	4	4	2	50.00	33.33
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	10	8	5	5	3	50.00	37.50
Regional and Rural Transport Services							
Country/Interstate Rail Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	5	5	0	5	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Country Bus Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	5	0	5	0	100.00	0.00
School Bus Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Regional and Rural Transport Infrastructure							
Regional Public Transport Passenger and Freight Development							
Quantity	2	1	2	0	1	0.00	100.00
Quality	1	2	0	1	1	100.00	50.00
Timeliness	3	1	2	1	0	33.33	0.00
Total	6	4	4	2	2	33.33	50.00
Major Regional Road Projects							
Quantity	4	3	2	2	1	50.00	33.33
Quality	1	0	1	0	0	0.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	4	3	3	1	50.00	25.00
Regional Arterial Road Links							
Quantity	11	11	0	11	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	13	13	0	13	0	100.00	0.00
Regional Road Network Maintenance							
Quantity	4	3	3	1	2	25.00	66.67
Quality	1	6	1	0	6	0.00	100.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	6	10	5	1	9	16.67	90.00
Metropolitan Transport Services							
Metropolitan Train Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	4	4	0	4	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Metropolitan Tram Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	6	6	0	6	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Metropolitan Bus Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Metropolitan Transport Infrastructure and Public Development Projects							
Metropolitan Public Transport Development							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	3	1	1	2	50.00	66.67
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	5	1	3	2	75.00	40.00
Major Metropolitan Road Projects							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	5	0	5	0	100.00	0.00
Metropolitan Arterial Road Links							
Quantity	10	11	0	10	1	100.00	9.09
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	12	13	0	12	1	100.00	7.69

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Metropolitan Road Network Maintenance							
Quantity	4	3	3	1	2	25.00	66.67
Quality	1	6	1	0	6	0.00	100.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	6	10	5	1	9	16.67	90.00
Major Public Construction and Land Development#	Report in the Department of Innovation, Industry and Regional Development						
Quantity		4			4		
Quality		1			1		
Timeliness		6			6		
Total		11			11		

For the first time, in the 2002/2003 Victorian Budget Papers, the Major Public Construction and Land Development output were transferred from the Department of Innovation, Industry and Regional Development to the Department of Infrastructure. Therefore, performance measures of this output for the year 2001/2002 are not shown in this Table but are reported with the Department of Innovation, Industry and Regional Development.

Transport Safety and Accessibility	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)**
Taxi, Hire Car and Tow Truck Regulation							
Quantity	6	8	0	6	2	100.00	25.00
Quality	3	5	0	3	2	100.00	40.00
Timeliness	2	1	1	1	0	50.00	0.00
Total	11	14	1	10	4	90.91	28.57
Accessible Transport Initiatives							
Quantity	5	5	0	5	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Accident Blackspots							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Improvements							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Vehicle and Driver Regulation							
Quantity	6	6	0	6	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	10	10	0	10	0	100.00	0.00
Road Safety Initiatives and Regulation							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Public Transport Safety Initiatives and Regulation							
Quantity	2	2	0	2	0	100.00	0.00
Quality	3	3	1	2	1	66.67	33.33
Timeliness	7	4	3	4	0	57.14	0.00
Total	12	9	4	8	1	66.67	11.11
Marine Safety Initiatives and Regulation							
Quantity	9	7	2	7	0	77.78	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	2	2	1	1	33.33	50.00
Total	13	10	4	9	1	69.23	10.00
Grand Total	245	249	51	194	55	79.18	22.09

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

For the comparison purpose, the following Table was establised to enable the calculation of the Survival Rate and Novelty Rate by using the data for 2001/02 from the Department of Innovation, Industry and Regional Development and data for 2002/03 from the Department of Infrastructure.

Major Public Construction and Land Development	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Quantity	4	4	2	2	2	50.00	50.00
Quality	0	1	0	0	1	0.00	100.00
Timeliness	7	6	7	0	6	0.00	100.00
Total	11	11	9	2	9	18.18	81.82

Department of Innovation, Industry and Regional Development Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 6

Number of Output Summary Group 2002/03 4

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Innovation and Policy							
Strategic Policy							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	12	0	2	10	100.00	83.33
Total	5	15	0	5	10	100.00	66.67
STI Policy, Awareness and Biotechnology							
Quantity	6	7	1	5	2	83.33	28.57
Quality	1	1	0	1	0	100.00	0.00
Timeliness	5	7	0	5	2	100.00	28.57
Total	12	15	1	11	4	91.67	26.67
STI initiative Management							
Quantity	4	7	0	4	3	100.00	42.86
Timeliness	4	9	1	3	6	75.00	66.67
Total	8	16	1	7	9	87.50	56.25
Technology Commercialisation Program							
Quantity	13	17	0	13	4	100.00	23.53
Total	13	17	0	13	4	100.00	23.53
ICT Industry Development and E-Commerce							
Quantity	8	8	0	8	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
E-Government and ICT policy							
Quantity	4	5	0	4	1	100.00	20.00
Quality	1	1	0	1	0	100.00	0.00
Total	5	6	0	5	1	100.00	16.67
ICT Community Development							
Quantity	4	4	0	4	0	100.00	0.00
Quality	0	1	0	0	1	0.00	100.00
Timeliness	0	1	0	0	1	0.00	100.00
Total	4	6	0	4	2	100.00	33.33
E-Government Infrastructure							
Quantity	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Business							
Investment Facilitation and Attraction							
Quantity	8	10	0	8	2	100.00	20.00
Total	8	10	0	8	2	100.00	20.00
Business Development							
Quantity	10	12	2	8	4	80.00	33.33
Quality	0	1	0	0	1	0.00	100.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	13	16	2	11	5	84.62	31.25
Regional Strategic Leadership							
Quantity	2	3	0	2	1	100.00	33.33
Quality	2	0	2	0	0	0.00	0.00
Timeliness	5	5	0	5	0	100.00	0.00
Total	9	8	2	7	1	77.78	12.50
Rural Community Development							
Quantity	5	5	1	4	1	80.00	20.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	9	9	1	8	1	88.89	11.11
Regional Infrastructure Development							
Quantity	4	5	0	4	1	100.00	20.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	7	0	6	1	100.00	14.29
Regional Economic Development							
Quantity	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Regulation Reform							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Small Business Support and Online Business Services							
Quantity	10	10	0	10	0	100.00	0.00
Quality	5	5	1	4	1	80.00	20.00
Timeliness	4	4	0	4	0	100.00	0.00
Total	19	19	1	18	1	94.74	5.26

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Trade Measurement Development and Services							
Quantity	5	5	0	5	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	9	9	0	9	0	100.00	0.00
Effective Management of the Sale of Liquor							
Quantity	8	8	0	8	0	100.00	0.00
Quality	4	4	0	4	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	15	15	0	15	0	100.00	0.00
Industrial Relations							
Industrial Relations Services							
Quantity	2	3	0	2	1	100.00	33.33
Quality	1	2	0	1	1	100.00	50.00
Timeliness	7	6	1	6	0	85.71	0.00
Total	10	11	1	9	2	90.00	18.18
Industrial Relations Policy							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	3	0	2	1	100.00	33.33
Timeliness	4	3	1	3	0	75.00	0.00
Total	8	8	1	7	1	87.50	12.50
Employment Programs#	Report in the Department of Education and Training						
Policy and Labour Market Advice							
Quantity		1			1		
Quality		1			1		
Timeliness		2			2		
Total		4			4		
Community Employment Programs							
Quantity		2			2		
Quality		2			2		
Total		4			4		
Business Employment Programs							
Quantity		4			4		
Quality		2			2		
Total		6			6		
Migrant Employment Services							
Quantity		2			2		
Quality		2			2		
Total		4			4		

For the first time, in the 2002/2003 Victorian Budget Papers, the Employment Programs output was transferred from the Department of Education and Training to the Department of Innovation, Industry and Regional Development . Therefore, performance measures of this output for the year 2001/2002 are not shown in this Table but are reported with the Department of Education and Training.

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)**
Sport, Recreation and Racing#		Report					
Sport and Major Event Facilitation							
Quantity	7	in	7				
Quality	0		0				
Timeliness	6		6				
Total	13	the	13				
Sport and Recreation Industry Development							
Quantity	6		6				
Quality	2	Department	2				
Timeliness	5		5				
Cost		of					
Total	13		13				
Sport and Recreation Facility Development							
Quantity	10	Tourism,	10				
Timeliness	9		9				
Total	19	Sport	19				
Tourism#							
Tourism Marketing and Event Facilitation							
Quantity	14	and	14				
Quality	7		7				
Timeliness	2		2				
Total	23	the	23				
Tourism Industry and Infrastructure Development							
Quantity	2		2				
Quality	1	Commonwealth	1				
Total	3		3				
Melbourne 2006 Commonwealth Games#		Games					
Melbourne 2006 Commonwealth Games							
Timeliness	7		7				
Total	7		7				

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***

For the first time, in the 2002/2003 Victorian Budget Papers, three outputs (namely: Sport, Recreation and Racing; Tourism; and Melbourne 2006 Commonwealth Games) were transferred from the Department of State and Regional Development (currently called the Department of Innovation, Industry and Regional Development) to the Department of Tourism, Sport and the Commonwealth Games. Therefore, performance measures of this output for the year 2002/2003 are not shown in this Table but are reported with the Department of Tourism, Sport and the Commonwealth Games.

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)**
Major Projects							
Major Public Construction and Land Development ###		Report in the Department of Infrastructure					
Quantity	4		4				
Quality	0		0				
Timeliness	7		7				
Total	11		11				
Grand Total	265	228	99	166	62	62.64	27.19

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

For the first time, in the 2002/2003 Victorian Budget Papers, Major Public Construction and Land Development output were transferred from the Department of State and Regional Development (currently called the Department of Innovation, Industry and Regional Development) to the Department of Infrastructure. Therefore, performance measures of this output for the year 2002/2003 are not shown in this Table but are reported with the Department of Infrastructure.

For the comparison purpose, the following Table was establised to enable the calculation of the Survival Rate and Novelty Rate by using the data for 2001/02 from the Department of Education and Training and data for 2002/03 from the Department of Innovation, Industry and Regional Development.

Output Group / Year	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)**
Employment Programs							
Policy and Labour Market Advice							
Quantity	1	1	0	1	0	100.00	0.00
Quality	0	1	0	0	1	0.00	100.00
Timeliness	1	2	0	1	1	100.00	50.00
Total	2	4	0	2	2	100.00	50.00
Community Employment Programs							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Business Employment Programs							
Quantity	4	4	0	4	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Migrant Employment Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Department of Justice Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 13

Number of Output Summary Group 2002/03 13

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Public Safety Policy							
Crime and Violence Prevention							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Emergency Readiness Support							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Emergency Prevention and Response							
Metropolitan Fire and Emergency Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Rural and Regional Fire Services							
Quantity	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
State-wide Emergency Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Crime Prevention							
Police Presence in the Community							
Quantity	2	2	0	2	0	100.00	0.00
Quality / Timeliness	1	2	1	0	2	0.00	100.00
Total	3	4	1	2	2	66.67	50.00
Community Safety Programs							
Quantity	1	1	0	1	0	100.00	0.00
Quality / Timeliness	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Incident, Emergency and Event Management							
Response Readiness							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	5	0	5	0	100.00	0.00
Response to Incidents							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	1	0	1	0.00	100.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	3	2	2	1	1	33.33	50.00
Event Management							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Crime Identification and Investigation							
Investigation of Crimes against the Person							
Quantity	1	1	0	1	0	100.00	0.00
Quality	5	1	4	1	0	20.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	7	3	4	3	0	42.86	0.00
Investigation of Crimes against the Property							
Quantity	1	1	0	1	0	100.00	0.00
Quality	5	1	4	1	0	20.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	7	3	4	3	0	42.86	0.00
Investigation of Illegal Drug Activity							
Quantity	1	1	0	1	0	100.00	0.00
Quality	6	1	5	1	0	16.67	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	8	3	5	3	0	37.50	0.00
Road Safety							
Road Safety Strategies and Awareness							
Quantity	2	2	0	2	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Road Traffic Law Enforcement							
Quantity	1	1	0	1	0	100.00	0.00
Quality	3	1	3	0	1	0.00	100.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	3	3	2	1	40.00	33.33
Road Traffic Incident/Collision Management							
Quantity	1	1	0	1	0	100.00	0.00
Quality / Timeliness	1	0	1	0	0	0.00	0.00
Total	2	1	1	1	0	50.00	0.00
Supporting the Justice System							
Providing Justice Services							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Managing People in Police Custody							
Quantity	1	1	0	1	0	100.00	0.00
Quality / Timeliness	3	2	2	1	1	33.33	50.00
Total	4	3	2	2	1	50.00	33.33
Legal Support for Government							
Legal Policy and Law Reform							
Quantity	3	4	0	3	1	100.00	25.00
Quality	1	2	0	1	1	0.00	50.00
Timeliness	1	2	0	1	1	0.00	50.00
Total	5	8	0	5	3	100.00	37.50
Legal Advice to Government							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Privacy Regulation							
Quantity	2	3	2	0	3	0.00	100.00
Quality	1	1	1	0	1	0.00	100.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	4	5	4	0	5	0.00	100.00
Native Title Framework							
Quantity	2	1	2	0	1	0.00	100.00
Quality	1	1	1	0	1	0.00	100.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	3	3	1	2	25.00	66.67
State Electoral Roll and Elections							
Quantity	7	5	2	5	0	71.43	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	9	7	2	7	0	77.78	0.00
Registration of Births, Deaths and Marriages							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Dispensing Justice							
Public Prosecutions							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Forensic Evidence							
Quantity	1	1	1	0	1	0.00	100.00
Quality	0	1	0	0	1	0.00	100.00
Timeliness	2	2	2	0	2	0.00	100.00
Total	3	4	3	0	4	0.00	100.00
Matters in the Supreme Court							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Matters in the County Court							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Matters in the Magistrates' Court							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Matters in the Children's Court							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Matters in Coroner's Court							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Matters in the Civil and Administrative Tribunal							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Alternative Dispute Resolution							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Legal Aid							
Quantity	5	5	0	5	0	100.00	0.00
Quality / Timeliness	2	2	0	2	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Victims Support							
Quantity	4	3	1	3	0	75.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	5	1	5	0	83.33	0.00
Enforcing Court Orders							
Traffic Fines Processing							
Quantity	1	2	0	1	1	100.00	50.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	4	0	3	1	100.00	25.00
Enforcement Court Orders and Warrants							
Quantity	1	2	1	0	2	0.00	100.00
Quality / Timeliness	1	1	0	1	0	100.00	0.00
Total	2	3	1	1	2	50.00	66.67
Asset Confiscation Order Processing							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	4	4	1	3	1	75.00	25.00
Enforcing Correctional Orders							
Correctional System Management							
Quantity	1	1	0	1	0	100.00	0.00
Quality / Timeliness	1	1	0	1	0	100.00	0.00
Total	2	2	0	2	0	100.00	0.00
Prisoner Supervision and Support							
Quantity	3	3	0	3	0	100.00	0.00
Quality / Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Community Based Offender Supervision							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Protecting Consumers							
Consumer Awareness and Protection							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	4	4	0	4	0	100.00	0.00
Business Licensing and Registration							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Achieving Equal Opportunity							
Discrimination Prevention and Redress							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Advocacy and Guardianship							
Quantity	4	4	0	4	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Grand Total	185	171	37	148	23	80.00	13.45

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Department of Natural Resources and Environment Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 10

Number of Output Summary Group 2002/03 10

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Aboriginal Reconciliation and Respect							
Indigenous Community Building							
Quantity	0	4	0	0	4	0.00	100.00
Quality	0	2	0	0	2	0.00	100.00
Timeliness	0	3	0	0	3	0.00	100.00
Total	0	9	0	0	9	0.00	100.00
Reconciliation Through Partnerships of Government and Aboriginal Communities							
Quantity	5	4	3	2	2	40.00	50.00
Quality	2	1	2	0	1	0.00	100.00
Timeliness	2	1	2	0	1	0.00	100.00
Total	9	6	7	2	4	22.22	66.67
Address Dispossession of Aboriginal Land and Culture							
Quantity	0	4	0	0	4	0.00	100.00
Quality	0	1	0	0	1	0.00	100.00
Timeliness	0	1	0	0	1	0.00	100.00
Total	0	6	0	0	6	0.00	100.00
Administration of Legislation							
Quantity	2	0	2	0	0	0.00	0.00
Quality	1	0	1	0	0	0.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	4	0	4	0	0	0.00	0.00
Provision of Services							
Quantity	4	0	4	0	0	0.00	0.00
Quality	3	0	3	0	0	0.00	0.00
Timeliness	1	0	1	0	0	0.00	0.00
Total	8	0	8	0	0	0.00	0.00
Agriculture							
Services to Improve Market Access, Market Development and Consumer Confidence in Food and Agricultural Products							
Quantity	3	4	0	3	1	100.00	25.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	7	8	0	7	1	100.00	12.50
Development of Next Generation Technologies for Sustainable Agriculture							
Quantity	4	4	0	4	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Community, Farm and Industry Development Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Catchment and Water							
Catchment Information Services							
Quantity	4	4	1	3	1	75.00	25.00
Quality	2	0	2	0	0	0.00	0.00
Timeliness	2	2	1	1	1	50.00	50.00
Total	8	6	4	4	2	50.00	33.33
Community Land and Water Management							
Quantity	12	16	3	9	7	75.00	43.75
Quality	6	6	4	2	4	33.33	66.67
Timeliness	5	9	4	1	8	20.00	88.89
Total	23	31	11	12	19	52.17	61.29
Catchment and Water Resource Allocation and Access							
Quantity	8	7	1	7	0	87.50	0.00
Quality	6	6	1	5	1	83.33	16.67
Timeliness	5	10	4	1	9	20.00	90.00
Total	19	23	6	13	10	68.42	43.48
Conservation and Recreation							
Services for Management and Governance of Victoria's Parks							
Quantity	3	4	2	1	3	33.33	75.00
Quality	2	5	1	1	4	50.00	80.00
Timeliness	2	1	2	0	1	0.00	100.00
Total	7	10	5	2	8	28.57	80.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Biodiversity Conservation, Utilisation and Ecosystem Services							
Quantity	3	4	2	1	3	33.33	75.00
Quality	5	2	5	0	2	0.00	100.00
Timeliness	1	2	0	1	1	100.00	50.00
Total	9	8	7	2	6	22.22	75.00
Nature and Heritage Recreation and Tourism Services							
Quantity	4	2	4	0	2	0.00	100.00
Quality	1	3	1	0	3	0.00	100.00
Timeliness	1	2	1	0	2	0.00	100.00
Total	6	7	6	0	7	0.00	100.00
Energy and Greenhouse Policy Advice							
Greenhouse Policy Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Energy Policy Services							
Quantity	2	3	0	2	1	100.00	33.33
Quality	1	4	0	1	3	100.00	75.00
Timeliness	2	1	1	1	0	50.00	0.00
Total	5	8	1	4	4	80.00	50.00
Environment Protection							
Policy Frameworks, Regulations and Services to Enhance Air Quality							
Quantity	2	2	0	2	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Policy Frameworks, Regulations and Services to Enhance Water Quality							
Quantity	5	2	0	2	0	40.00	0.00
Quality	0	3	0	3	0	0.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Policy Frameworks, Regulations and Services to Protect Groundwater and the Land Environment from Pollution							
Quantity	1	1	0	1	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Services to Control Nise in the Community							
Quantity	1	1	0	1	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Policies, Regulations and Services to Reduce and Manage Waste							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	8	8	0	8	0	100.00	0.00
Neighbourhood Environment Improvement							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Fisheries							
Sustainable Fisheries Utilisation Services							
Quantity	4	4	0	4	0	100.00	0.00
Quality	9	7	2	7	0	77.78	0.00
Timeliness	2	3	0	2	1	100.00	33.33
Total	15	14	2	13	1	86.67	7.14
Industry and Community Compliance Services							
Quantity	10	10	0	10	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	14	14	0	14	0	100.00	0.00
Aquaculture and Fishing Industry Development							
Quantity	5	5	0	5	0	100.00	0.00
Quality	2	1	2	0	1	0.00	100.00
Timeliness	2	2	2	0	2	0.00	100.00
Total	9	8	4	5	3	55.56	37.50

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Forest and Fire Management							
Fire Prevention and planning							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Fire Operations							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Sustainable Forest Management Services							
Quantity	3	2	1	2	0	66.67	0.00
Quality	4	4	3	1	3	25.00	75.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	8	7	4	4	3	50.00	42.86
Sustainable Forest Production and Industry Development							
Quantity	3	5	2	1	4	33.33	80.00
Quality	1	2	0	1	1	100.00	50.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	8	2	3	5	60.00	62.50
Land Management and Information							
Public Land Management							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Land Information							
Quantity	2	1	2	0	1	0.00	100.00
Quality	4	2	3	1	1	25.00	50.00
Timeliness	4	4	1	3	1	75.00	25.00
Total	10	7	6	4	3	40.00	42.86
Minerals and Petroleum							
Minerals and Petroleum Regulation Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	3	3	0	3	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Minerals and Petroleum Industry Development and Information							
Quantity	3	3	1	2	1	66.67	33.33
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	1	5	1	83.33	16.67
Grand Total	251	265	78	173	92	68.92	34.72

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Note: There are the combination of several outputs appeared in the 2002/03 budget papers

1. Output *Policy Advice and Development* in the 2001/02 budget papers was restructured and renamed to become the output *Reconciliation Through Partnerships of Government and Aboriginal Communities* in the 2002/03 budget papers.
2. Output *Land Information* in the 2002/03 budget papers included two outputs from the 2001/02 budget papers: *Land Information Services* and *Land Definition.*

Department of Premier and Cabinet Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 7

Number of Output Summary Group 2002/03 4

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Strategic Policy Advice and Projects							
Strategic Policy Advice							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	2	0	1	1	100.00	50.00
Total	3	4	0	3	1	100.00	25.00
Policy Leadership Projects							
Quantity	0	6	0	0	6	0.00	100.00
Quality	0	3	0	0	3	0.00	100.00
Timeliness	0	3	0	0	3	0.00	100.00
Total	0	12	0	0	12	0.00	100.00
Community Engagement and Government Information							
Multicultural Affairs							
Quantity	4	4	1	3	1	75.00	25.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	9	9	1	8	1	88.89	11.11
Women's Policy							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Cost							
Total	5	5	0	5	0	100.00	0.00
Community Support Fund							
Quantity	3	3	0	3	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Government Information Services and Support							
Quantity	4	3	2	2	1	50.00	33.33
Quality	4	4	1	3	1	75.00	25.00
Timeliness	2	3	0	2	1	100.00	33.33
Total	10	10	3	7	3	70.00	30.00
Protocol and Special Events							
Quantity	3	4	0	3	1	100.00	25.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	8	9	0	8	1	100.00	11.11
Public Sector Management and Governance							
Advice and Support to the Governor							
Quantity	1	1	0	1	0	100.00	0.00
Quality	3	3	0	3	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Public Sector Employment and Conduct Services							
Quantity	6	1	6	0	1	0.00	100.00
Quality	4	3	1	3	0	75.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	12	6	7	5	1	41.67	16.67
Ombudsman Services							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Chief Parliamentary Counsel Services							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	7	7	0	7	0	100.00	0.00
Arts and Cultural Development							
Arts Development and Access							
Quantity	6	10	4	2	8	33.33	80.00
Quality	3	1	3	0	1	0.00	100.00
Timeliness	5	3	2	3	0	60.00	0.00
Total	14	14	9	5	9	35.71	64.29
Infrastructure and Cultural Facilities							
Quantity	6	5	1	5	0	83.33	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	8	7	1	7	0	87.50	0.00

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Portfolio Services and Policy							
Quantity	4	3	1	3	0	75.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	1	1	1	0	50.00	0.00
Total	8	6	2	6	0	75.00	0.00
Arts Portfolio Agencies							
Quantity	10	11	4	6	5	60.00	45.45
Quality	3	4	0	3	1	100.00	25.00
Timeliness	2	2	1	1	1	50.00	50.00
Total	15	17	5	10	7	66.67	41.18
Grand Total	117	124	28	89	35	76.07	28.23

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Department of Tourism, Sport and the Commonwealth Games Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02	2
Number of Output Summary Group 2002/03	3

For the first time, in the 2002/2003 Victorian Budget Papers, three outputs (namely: Sport, Recreation and Racing; Tourism; and Melbourne 2006 Commonwealth Games) were transferred from the Department of Innovation, Industry and Regional Development to the Department of Tourism, Sport and the Commonwealth Games.

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Sport, Recreation and Racing							
Sport and Major Event Facilitation							
Quantity	7	8	0	7	1	100.00	12.50
Quality	0	3	0	0	3	0.00	100.00
Timeliness	6	7	0	6	1	100.00	14.29
Total	13	18	0	13	5	100.00	27.78
Sport and Recreation Industry Development							
Quantity	6	7	0	6	1	100.00	14.29
Quality	2	3	0	1	2	50.00	66.67
Timeliness	5	6	0	6	0	120.00	0.00
Total	13	16	0	13	3	100.00	18.75
Sport and Recreation Facility Development							
Quantity	10	10	0	10	0	100.00	0.00
Timeliness	9	13	0	9	4	100.00	30.77
Total	19	23	0	19	4	100.00	17.39
Tourism							
Tourism Marketing and Event Facilitation							
Quantity	14	23	0	14	9	100.00	39.13
Quality	7	8	0	7	1	100.00	12.50
Timeliness	2	2	0	2	0	100.00	0.00
Total	23	33	0	23	10	100.00	30.30
Tourism Industry and Infrastructure Development							
Quantity	2	3	0	2	1	100.00	33.33
Quality	1	1	0	1	0	100.00	0.00
Total	3	4	0	3	1	100.00	25.00
Melbourne 2006 Commonwealth Games							
Melbourne 2006 Commonwealth Games							
Timeliness	7	8	0	7	1	100.00	12.50
Total	7	8	0	7	1	100.00	12.50
Commonwealth Games Coordination							
Timeliness	0	6	0	0	6	0.00	100.00
Total	0	6	0	0	6	0.00	100.00
Grand Total	78	108	0	78	30	100.00	27.78

* Number of new measures was derived from the latent content analysis

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$

Note: For the comparison purpose, the aboved Table was establised to enable the calculation of the Survival Rate and Novelty Rate by using the data for 2001/02 from the Department of Innovation, Industry and Regional Development and data for 2002/03 from the Department of Tourism, Sport and the Commonwealth Games.

Department of Treasury and Finance Performance Measure Counts in the Victorian Budget Papers

Number of Output Summary Group 2001/02 7

Number of Output Summary Group 2002/03 7

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
Strategic Policy Advice							
Financial Management Regulation and Compliance							
Quantity	2	9	2	0	9	0.00	100.00
Quality	3	3	2	1	2	33.33	66.67
Timeliness	2	4	2	0	4	0.00	100.00
Total	7	16	6	1	15	14.29	93.75
Strategic Policy and Research							
Quantity	1	1	0	1	0	100.00	0.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	3	3	0	3	0	100.00	0.00
Financial and Risk Management Policy Advice							
Quantity	2	4	2	0	4	0.00	100.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	3	1	0	3	0.00	100.00
Total	4	8	3	1	7	25.00	87.50
Economic, Regulatory, Environmental and Social Policy Advice							
Quantity	10	7	6	4	3	40.00	42.86
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	3	1	0	3	0.00	100.00
Total	12	11	7	5	6	41.67	54.55
Inter Government Financial Relations Policy Advice							
Quantity	6	5	4	2	3	33.33	60.00
Quality	1	2	0	1	1	100.00	50.00
Timeliness	2	1	2	0	1	0.00	100.00
Total	9	8	6	3	5	33.33	62.50
Taxation (State Revenue) Policy Advice							
Quantity	2	2	1	1	1	50.00	50.00
Quality	1	3	0	1	2	100.00	66.67
Timeliness	2	2	2	0	2	0.00	100.00
Total	5	7	3	2	5	40.00	71.43
Budget Formulation Advice							
Quantity	3	3	0	3	0	100.00	0.00
Quality	2	2	1	1	1	50.00	50.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	6	6	1	5	1	83.33	16.67
Gaming Policy Advice							
Quantity	4	5	1	3	2	75.00	40.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	1	1	1	0	50.00	0.00
Total	7	7	2	5	2	71.43	28.57
Statutory Insurance Advice							
Quantity	3	5	1	2	3	66.67	60.00
Quality	2	2	1	1	1	50.00	50.00
Timeliness	2	2	2	0	2	0.00	100.00
Total	7	9	4	3	6	42.86	66.67
Financial Management Services							
Financial Reporting and Control							
Quantity	7	5	2	5	0	71.43	0.00
Quality	6	4	3	3	1	50.00	25.00
Timeliness	10	8	2	8	0	80.00	0.00
Total	23	17	7	16	1	69.57	5.88
Financial Assets and Liabilities Management Services							
Quantity	4	6	4	0	6	0.00	100.00
Quality	1	1	1	0	1	0.00	100.00
Timeliness	2	2	2	0	2	0.00	100.00
Total	7	9	7	0	9	0.00	100.00
Taxation (State Revenue) Monitoring and Forecasting Services							
Quantity	8	3	6	2	1	25.00	33.33
Quality	4	4	0	4	0	100.00	0.00
Timeliness	2	2	1	1	1	50.00	50.00
Total	14	9	7	7	2	50.00	22.22
Budget Development and Production							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Portfolio Performance Review							
Quantity	3	2	2	1	1	33.33	50.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	3	2	2	1	1	33.33	50.00
Total	8	6	4	4	2	50.00	33.33

Output	2001/02	2002/03	Withdrawn	Unchanged	New*	Survival Rate (%)**	Novelty Rate (%)***
GBE Performance Monitoring Services							
Quantity	9	8	2	7	1	77.78	12.50
Quality	1	1	0	1	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	12	11	2	10	1	83.33	9.09
Taxation Compliance Services							
Quantity	7	0	7	0	0	0.00	0.00
Quality	2	0	2	0	0	0.00	0.00
Timeliness	4	0	4	0	0	0.00	0.00
Total	13	0	13	0	0	0.00	0.00
Risk Management Services							
Infrastructure Project Management							
Quantity	4	5	3	1	4	25.00	80.00
Quality	1	2	0	1	1	100.00	50.00
Timeliness	1	2	1	0	2	0.00	100.00
Total	6	9	4	2	7	33.33	77.78
Commercial Project and Risk Management							
Quantity	3	7	3	0	7	0.00	100.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	2	0	1	1	100.00	50.00
Total	5	10	3	2	8	40.00	80.00
Prudential Supervision							
Quantity	2	4	1	1	3	50.00	75.00
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	2	1	0	2	0.00	100.00
Total	4	7	2	2	5	50.00	71.43
Reform Services							
Resource Management Reform							
Quantity	3	4	0	3	1	100.00	25.00
Quality	3	2	2	1	1	33.33	50.00
Timeliness	4	3	2	2	1	50.00	33.33
Total	10	9	4	6	3	60.00	33.33
Resource Management Services							
Procurement Services							
Quantity	3	7	3	0	7	0.00	100.00
Quality	2	4	1	1	3	50.00	75.00
Timeliness	2	2	2	0	2	0.00	100.00
Total	7	13	6	1	12	14.29	92.31
Government Accommodation Services							
Quantity	2	3	1	1	2	50.00	66.67
Quality	2	3	0	2	1	100.00	33.33
Timeliness	1	1	0	1	0	100.00	0.00
Total	5	7	1	4	3	80.00	42.86
Government Land and Property Services							
Quantity	2	3	0	2	1	100.00	33.33
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	1	0	1	0.00	100.00
Total	4	5	1	3	2	75.00	40.00
Management of Motor Vehicle Leases							
Quantity	2	2	0	2	0	100.00	0.00
Quality	1	3	0	1	2	100.00	66.67
Timeliness	1	1	1	0	1	0.00	100.00
Total	4	6	1	3	3	75.00	50.00
Regulatory Services							
Regulation of Gambling							
Quantity	2	2	0	2	0	100.00	0.00
Quality	2	2	0	2	0	100.00	0.00
Timeliness	2	2	0	2	0	100.00	0.00
Total	6	6	0	6	0	100.00	0.00
Economic Regulatory Services							
Quantity	7	7	2	5	2	71.43	28.57
Quality	1	1	0	1	0	100.00	0.00
Timeliness	1	1	0	1	0	100.00	0.00
Total	9	9	2	7	2	77.78	22.22
Revenue Management Services							
Revenue Management Services to Government							
Quantity	3	4	1	2	2	66.67	50.00
Quality	4	4	1	3	1	75.00	25.00
Timeliness	3	4	1	2	2	66.67	50.00
Total	10	12	3	7	5	70.00	41.67
Grand Total	213	226	99	114	112	53.52	49.56

* Number of new measures was derived from the latent content analysis.

** Survival Rate (%) = $\frac{\text{Number of unchanged measures}}{\text{Total number of performance measures in the 2001/02 budget papers}} \times 100$

*** Novelty Rate (%) = $\frac{\text{Number of new measures for 2002/03 compared with those for 2001/02}}{\text{Total number of performance measures in the 2002/03 budget papers}} \times 100$