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Stores without Price Scanners a Concern for  
Australian Shoppers?*

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## **Are Non-Itemized Purchase Receipts Issued by Stores without Price Scanners a Concern for Australian Shoppers?**

### ***Abstract***

Significant number of consumers in Australia patronize non-scanning stores in spite of not being issued itemized receipts for the goods they purchase. In order to understand the attitude of consumers to receipts that give only limited information, shoppers exiting non-scanning stores were surveyed for their use of purchase receipts. This study compares consumers' use of purchase receipts issued by non-price scanning stores and those issued by price scanning stores. It appears that shoppers are largely indifferent to the details on the purchase receipt except when they are concerned with returning or exchanging the item(s) purchased.

### **Key Words**

Price scanning, purchase receipts

### **Introduction**

Price scanning has been part of retail culture for the last twenty years. The technology among other things, allows consumers and the retail firm to record information such as the amount payable, date, time, and quantity of items purchased/sold. This information allows both consumers and stores to keep accurate records including proof of purchase and lay away facilities.

Electronic scanning checkout systems operate in all Australian supermarkets and in a large number of retail stores managed by independent operators. According to estimates of the Australian Retailers' Association, around 60 percent of all grocery products bought by Australian households in 2001 were price scanned.

Nonetheless, the amounts of purchases made in stores that are not equipped with price scanners are still significant. Despite the benefits of scanning technology to both stores and customers, only about 38 percent of all Australian retailers in 2001 were equipped with price scanners at the checkout counters, i.e. price scanning stores (PS). The continued patronage of retailers that are not equipped with price scanners i.e. non-price scanning stores (NS) is what prompted this research study.

### **Literature Review**

According to Murdoch (1996) the scanners which retailers have long claimed are a boon to customers, because they reduce store overhead costs, reduce wait time in lines, and give register tapes that list both product and price, have been denounced as rip-off machines by consumer activists. Grimsley, (1994) reported that the New York Public Interest Research Group complained to The Washington Post that "Scanner errors are built into the system" to pad store profits.

Some of the seminal work in the study of consumer response to price scanning by Clodfelter (1998) points out that in the 1970's when consumers were first presented with scanning at the store checkout, it was not uncommon for them to believe that scanners were being used to intentionally overcharge them. There is no explicit record of such consumer suspicion in Australia. In fact, research conducted in New Zealand by Garland (1992) established that rather than being disadvantaged by price scanning, New Zealand customers were being charged on an average 31 cents less in every 100 NZ dollars spent. This error was ostensibly due to some items being passed on to the consumer without being charged. In another study, Garland and McGuinness (1992) found that items on promotion had a higher error rate than regularly priced goods

and price accuracy also varied by store ownership, day of the week and time of the day.

An official study designed to determine how accurate scanners are, conducted in the USA by the Federal Trade Commission, the National Institute of Standards and Technology (1995) on pricing accuracy for 17,928 items in 294 department, discount, drug, food, and other retail stores, found that accuracy ranged from 100 percent in 66 stores to less than 90 percent in 34 stores. The study also notes that, in comparison, manual entry of prices by a cashier resulted in 4.4 percent to 16 percent errors in the prices charged to consumers.

Saleh (1989) claims that retailers that do not upgrade to latest technologies find themselves falling behind their competitors. However, retail industry executives believe that these stores by virtue of having sustained their business over many years without scanning technology, are not particularly concerned about the potential of increased labour productivity at the checkouts, the inconvenience to their customers like slow checkouts and issue of non itemised receipts. In view of customers continued patronage of stores that do not scan prices, are these retailers not convinced that upgrading their technology would increase their competitiveness? Is it that retailers are inhibited by consumers' suspicion of price scanners? How useful do consumers find purchase receipts that give the details of items that they purchase from price scanning stores?

While pricing accuracy in scanning stores has attracted some research interest, there seems to be no evidence of studies of why some customers prefer to regularly shop at stores that do not scan the products for prices; in other words the specific attitude of such customers remains largely undocumented.

Also, there is a lack of literature on customers' expectations of the amount of information on purchase receipts. According to Gyling (1976), it is commonly recognised that the purchase receipt is a documented acknowledgement of good (s) bought/sold, and thus gives legality to the purchase transaction. Furthermore, purchase receipts often carry promotional offers alongside, or on their reverse, of which customers can take advantage. Several retailers have their own, or are partners in, loyalty programs and their store patrons are entitled to seek loyalty points from items bought in the stores. Moreover, most stores in Australia allow shoppers to return, or exchange, items bought within reasonable time from the date of purchase, provided they are able to show evidence of the receipt describing the transaction.

### **Problem Definition**

There is a significant section of the Australian buying public who continue to patronise stores without price scanning facilities that do not issue receipts that describe in any form or manner the items purchased besides indicating the amount payable. It appears that shoppers at non-price-scanning stores are prepared to forfeit these benefits, or, is it simply that most shoppers do not give much consideration to information given on the receipts.

This research seeks to compare the usage and attitudes of customers to purchase receipts issued by non-price scanning (NS) stores and by price scanning (PS) stores; in regard to the following behavioral variables:

- A. Miscellaneous use of purchase receipts.
- B. Take-up of special offers promoted on purchase receipts.
- C. Keeping record of points earned from purchases that contribute to loyalty programs.

D. Exchange/return of merchandise to the store.

## Research Hypotheses

With regard to each of the above behavioural variables hypotheses 1 to 9 were defined:

### A. Miscellaneous use of purchase receipts.

NS stores, unlike the PS stores, do not provide customers with *itemised* purchase receipts. It is a moot point whether customers who keep away from NS stores do it because they are not able to compare the accuracy of prices charged on the purchase items with the shelf prices. The following hypothesis (1) was, therefore, formulated:

*Using purchase receipts to check price accuracy: -----1*

$H_0$ : there is no difference in NS store customers' behaviour of using purchase receipts issued by PS and NS stores to check price accuracy.

$H_A$ : there is difference in NS store customers' behaviour of using purchase receipts issued by PS and NS stores to check price accuracy.

Both PS and NS stores issue receipts that indicate the total purchase amount and the date of purchase. However, PS store purchase receipts also specify the purchased items, unit and total prices, time of payment, and the goods and services tax (GST) amount. As customers of PS stores are in a position to make far greater use of information provided on purchase receipts than NS store customers, it would be instructive to explore whether there is a difference in usage of purchase receipts issued by PS and NS stores. The following 6 pairs of hypotheses (2-7) and alternative hypotheses were therefore defined (see

Table I, column 1 and 2).

*Using purchase receipts for the purpose of keeping track of expenditure: -----2*

$H_0$ : there is no difference in the use of purchase receipts issued by PS and NS stores for the purpose of keeping track of expenditure.

$H_A$ : there is difference in the use of purchase receipts issued by PS and NS stores for the purpose of keeping track of expenditure.

*Using purchase receipts for the purpose of keeping track of credit card spending-----3*

$H_0$ : there is no difference in the use of purchase receipts issued by PS and NS stores for the purpose of keeping track of credit card spending.

$H_A$ : there is difference in the use of purchase receipts issued by PS and NS stores for the purpose of keeping track of credit card spending.

*Using purchase receipts for the purpose of comparing prices: ----- 4*

$H_0$ : there is no difference in the use of purchase receipts issued by PS and NS stores for the purpose of comparing prices.

$H_A$ : there is difference in the use of purchase receipts issued by PS and NS stores for the purpose of comparing prices.

*Using purchase receipts for tax purpose:- 5*

$H_0$ : there is no difference in the use of purchase receipts issued by PS and NS stores for tax purposes.

$H_A$ : there is difference in the use of purchase receipts issued by PS and NS stores for tax purposes.

**B. Take-up of special offers promoted on purchase receipts.**

*Take-up of special offers promoted on purchase receipts:* ----- 6

*H<sub>0</sub>:* there is no difference in the use of purchase receipts issued by PS and NS stores in regard to take-up of special offers.

*H<sub>A</sub>:* there is difference in the use of purchase receipts issued by PS and NS stores in regard to take-up of special offers.

**C. Keeping record of points earned from purchases that contribute to loyalty programs**

*Membership of loyalty programs:* -----7

*H<sub>0</sub>:* there is no difference in the use of purchase receipts issued by PS and NS stores for docking points to a loyalty program.

*H<sub>A</sub>:* there is difference in the use of purchase receipts issued by PS and NS stores for docking points to a loyalty program.

**D. Exchange/return of merchandise**

Retail stores to reduce risk and facilitate customer-buying decisions, especially in those stores where greater perceived risk of purchase is involved, often apply a return policy. With the freedom to return items, shoppers feel less inhibited in making purchases from the stores. One would expect an increase in shopper’s confidence if the purchase receipt briefly described the item(s) that they purchased. In the event of any dissonance, the propensity of the customer is to rely on this substantiation of purchase, in order to exchange or return the item to the store. In view of this inclination, the following hypotheses were formulated:

*Exchanging / returning merchandise bought from PS stores:* ----- 8

*H<sub>0</sub>:* Itemised receipts do not influence shoppers to exchange or return an item bought from PS stores.

*H<sub>A</sub>:* Itemised receipts influence shoppers to exchange or return an item bought from PS stores.

*Exchanging / returning merchandise bought from a NS store:* -----9

*H<sub>0</sub>:* Itemised receipts do not influence shoppers to exchange or return an item bought from NS stores.

*H<sub>A</sub>:* Itemised receipts influence shoppers to exchange or return an item bought from NS stores.

**Research Method**

The research methodology included the administration of a structured questionnaire among grocery shoppers of NS stores. This survey was conducted over a two-week period, among shoppers across Melbourne, Australia, who exited 14 randomly selected independent retail stores of varying sizes. These stores sold commonly purchased items and do not employ price scanners. The stores included were four general merchants, three green grocers, three butcheries, three bakeries and one delicatessen. The survey inquired about shoppers’ treatment of purchase receipts issued by these NS stores as well as any PS stores that they frequented (responses of customers that do not patronize PS stores were not considered in the data analysis). The Mann-Whitney *u*-test<sup>1</sup> was applied to test the above-stated

<sup>1</sup> It is a non-parametric equivalent to the t test that tests whether two independent samples are from the same population. It is more powerful than the median test since it uses the ranks of the cases. The test statistic, *u*, indicates the number of times a value in the first group precedes a value in the second group, when values are sorted in ascending order.

hypotheses with regard to the use of purchase receipts.

### Research Findings and Discussions

From 425 shoppers (234 women and 191 men with median age of 34 years) surveyed,

392 (86.6 percent) claimed to shop from both NS and PS stores. The responses of the 33 respondents who did not shop at PS stores were excluded from further analysis. The results of the analysis are discussed below and their summary is presented in Table 1.

**Table 1: Mann-Whitney *u*-Test Results for the Treatment of Purchase Receipts**

Hypothesis	Shopping Practices	Test statistic <i>U</i>	Significance level (2-sided)	Decision
1	Using purchase receipts to check price accuracy	2006.0	0.159	H <sub>0</sub>
2	Using purchase receipts for the purpose of keeping track of expenditure	9468.5	0.219	H <sub>0</sub>
3	Using purchase receipts for the purpose of keeping track of credit card spending	9485.5	0.232	H <sub>0</sub>
4	Using purchase receipts for the purpose of comparing prices	10118.0	0.908	H <sub>0</sub>
5	Using purchase receipts for tax purposes	9172.0	0.055	H <sub>A</sub> **
6	Take-up of special promotion offers	10929.0	0.178	H <sub>0</sub>
7	Membership of a loyalty programs	18763.0	0.130	H <sub>0</sub>
8	Exchanging/returning an item purchased from PS stores	17116.0	0.003	H <sub>A</sub> ***
9	Exchanging/returning an item purchased from NS stores	17104.5	0.000	H <sub>A</sub> ***

Note: \* at the 10% level; \*\* at the 5% level; \*\*\* at the 1% level; H<sub>0</sub> - null hypothesis; H<sub>A</sub> - alternative hypothesis.

Applying the Mann-Whitney *u*-statistic to test the hypothesis (1) that there is no difference in NS store customers' behaviour of using purchase receipts to check price accuracy was not rejected.

Therefore, the sample evidence does not support the claim that non-itemised receipts issued by NS stores are perceived as an impediment for their customers to shop there because of the inability to check for price accuracy. Itemisation of the receipt is the

only way one can readily establish the accuracy of the price charged; yet the consumers do not seem to be overly concerned that they are deprived of this facility. This finding corroborates what Langrehr and Robinson (1979) established that less than 17 percent of customers actually checked their receipts for pricing accuracy.

The Mann-Whitney *u*-test was applied to test the remaining hypotheses (2-7) that there is no difference in the use of purchase receipts issued by PS and NS stores to “keep track of expenditure”, “keep track of credit card spending”, “compare prices”, “tax purposes”, “take-up of special offers”, and “docking points to a loyalty program”.

The findings reveal that for each of the usages of the purchase receipts, except using receipts for tax purposes, the null hypotheses could not be rejected, not even at the 10 percent level of significance. In other words, there is no difference in the use of purchase receipts by customers issued by PS and NS stores. The corollary of these findings is that the form and character of purchase receipt is not an issue why customers of PS stores also shop regularly at NS stores.

This study also found that there is a significant positive correlation between the *use of purchase receipts* for tracking expenditure and take up of special offers advertised on the purchase receipts issued both by PS and NS stores. This finding indicates that the purchase receipt is an effective promotional medium. Furthermore, if the receipts are used for tracking expenditure, it will continue to provide a vehicle for the product/service to press its claim for preference from the consumer, long after the promotion offer has matured. More and more retailers in Australia are appreciating this opportunity not only to add to their income by selling space on purchase

receipts, but also providing an opportunity to the customer to get added value from the store purchase.

On the basis of the Mann-Whitney *u*-statistic, the null hypothesis with respect to hypotheses 8 and 9 (itemized receipts do not influence shoppers to exchange/return an item from PS stores and NS stores respectively) was rejected in favour of the alternative hypothesis. Thus, based on the sample evidence it can be claimed, at the 1 percent level of significance, that itemised purchase receipts influence shoppers to exchange or return an item to both PS and NS types of stores. This finding is especially surprising in the case of NS stores, because one would not expect “exchange” or “return” to be an *option* when items are purchased from butcheries and bakeries, which in this research sample constituted 50 percent of the NS stores.

NS retailers tend to group their merchandise into broad product categories (indicated by codes on the purchase receipt), each of which attracts a specific class of GST. The codes are pre-programmed into the cash register and are used to calculate the GST for the item purchased based on the unit sales price. While there is no description of the item, what appear on the purchase receipt is the category code, the date of purchase, the item’s unit price and the GST amount.

This research did not specifically uncover how NS stores typically handle returns/exchange. Anecdotal evidence however suggests that these retail stores accept purchase receipts as proof of purchase and recognize their merchandise from the category code. The stores simply make cash refunds or charge the difference in price, if any, of the items returned or exchanged.

NS retail stores continuously operate a visual check of shelf stock and arrange for replenishment from the warehouse or the

supplier, when the store manager believes that the stock has been depleted to some critical level. These stores also typically do an end-of-year physical stock take based on retail prices.

### **Limitations and Future Research**

This study did not attempt to establish any typical relationships between variations in shoppers' demographic characteristics like age, income, employment status and household sizes and the usage and attitude towards the purchase receipts. Despite a reasonable sample size, this study was precluded from testing some of the intended relationships because of insufficient degrees of freedom (responses) with respect to the relevant variables. In other words, insufficient representation of the various cohorts in the sample constrained establishing the profile of the typical NS and PS customers.

As per Dash *et al.* (1976) customers' choice of store is driven by a sense of risk of an unfavourable outcome. They believe that consumers' perception of risk is largely influenced by their income and education. This study does not make any association between customer's income/education and shoppers' perception of risk in PS and NS stores. This research does not establish whether additional information on itemized purchase receipts would help those with higher income and education to reduce risk of purchase in NS stores.

Furthermore, the research did not associate the type of technology used at the cash counter and the possible effect of different technologies on the attitude of customers to purchase receipts issued by the stores. This could be particularly relevant because the literature documents that different scanning technologies produce

different level of price scanning errors and operator fatigue.

### **Summary**

The findings in this study suggest that the form and character of the purchase receipt is not an issue among Australian shoppers in their choice of NS stores or PS stores. This investigation demonstrates that there is no difference in the way customers use the purchase receipts issued by NS and PS stores (except for claiming tax deductions). However, shoppers indicated a strong preference for itemized receipts when they are concerned with returning or exchanging the item (s) purchased.

The outcome of this study also indicates a significant positive correlation between the uses of purchase receipts for tracking expenditure and take up of special offers advertised on the purchase receipts. Furthermore, the non-itemized receipts issued by NS stores were not perceived as an impediment to shop in those stores because of customers' inability to check for price accuracy. Thus, based on this study, it does not appear that Australian consumers feel disadvantaged by shopping in NS stores.

### **Implications and Conclusion**

There is no gain saying that retailers who do not employ scanning technology are unable to do so because of the significant cost of investment. This is particularly true for small businesses whose resources are relatively slim. Further, introduction of scanning technology now require the business to be EDI (Electronic Data Interchange) enabled as well, because scanning technology implicitly would also manage the store's inventory and its ordering processes. Integration of POS

technology with the rest of the store operations would require a radical change in the firm's management culture in terms of its commitment to technology maintenance and upgrade. Not many stores may be prepared for this shift particularly if POS implementation threatens the store's ability to be a low cost provider and the benefits of price scanning to customers who shop there are only at best moderately apparent. In fact, as long as long as these retailers are able to provide the desired merchandise to their customers together with a quick checkout, they may not have any compelling reason to upgrade their POS systems. An investment by small retailers in scanning technology could be considered imprudent because in a small economy, such as Australia, achieving economies of scale before being overcome by obsolescence would be challenging.

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