An Evaluation of On-line Grocery Services in Australia from a Consumers' Viewpoint

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Abstract

Study of online grocery shopping, particularly in relation to the evaluation of web sites that facilitate this service, has been limited in number. To enrich the existing studies, this paper assesses various Australian web sites in the grocery sector employing the Extended Web Assessment Method (EWAM). This tool was specifically created for the assessment of electronic commerce applications based on a consumers' viewpoint. The findings indicate that, in general, most web sites have not fully met the expectations of consumers. Strengths and weaknesses of the web sites are addressed. All this provides additional understanding of consumers' expectations in online grocery shopping and valuable insights into the slow uptake of online grocery shopping in Australia.

Keywords

Web evaluation, Australian grocery industry, online shopping, adoption of innovation.

INTRODUCTION

The advance of the Internet technology has enabled businesses to reach consumers in dispersed geographical locations easily. Despite some concerns with security issues, the use of online shopping has been increasing in the last few years (Australian Retailers Association 2000, Park et al. 1998, Morgan 1998). One of the Internet business applications that has received much attention in the last few years is online grocery shopping (Morganosky and Cude 2000). Online grocery shopping has many potential benefits to consumers, particularly in terms of convenience and time saving (Park et al. 1998, Palmer et al. 2000, Barnett and Alexander 2003). In addition, the retailers will ultimately reap significant benefits as online grocery shopping will lead to more efficient use of personnel and simplification of building infrastructure (Australia Retailers Association 2000, Slonae 2000). Therefore, online grocery shopping has been an attractive retail channel in many regions, notably the United States, Europe and Australia (Schuster and Sporn 1998, Morgan 2000, Morganosky and Cude 2000).

While it appears to be easy for supermarkets or other grocers to offer online grocery shopping service facilitated by the Internet, there are actually many factors that need to be addressed carefully in order to successfully operate an online business (Palmer et al. 2000, Van der Heijden 2000). Besides issues related to business models, value proposition and organisational set-up, one of the most important factors is the overall design of the web site as the primary interface with the consumer in online shopping. Consumers need to feel comfortable and confident with the online systems, from getting the information about the products, ordering, paying, tracking to receiving the products (Barnett and Alexander 2003, Freeman 2003). Nevertheless, in general, few Internet merchants have ever tried to assess their web sites from a consumer perspective to reveal weaknesses and trigger improvements. This may attribute to some failure cases reported in the literature (see for example, Mahajan and Srinivasan 2002, Helft 2001, and Bulkeley 2004). It is therefore crucial for supermarkets or any grocers wishing to offer a successful online service to be aware of the importance of the overall design of web sites that facilitate online grocery shopping.

Previous studies have indicated that despite its many potential benefits, online grocery shopping has not been widely used in many regions (Schuster and Sporn 1998, Kutz, 1998, Kurnia and Chen 2003, Kurnia 2003). In addition, there has been a very limited study conducted in exploring the reasons for the slow uptake of online grocery shopping, particularly in relation to the web sites used to facilitate the service (Morganosky and Cude 2000, Freeman 2003). In Australia, there has been only one study found in the literature, which looks into the current state of online supermarket usability in Australia by assessing three Australian web sites (Freeman 2003). While this study has provided invaluable insights into the current state of the Australian web sites in the grocery sector, it only offers partial insights into the slow uptake of online grocery shopping in Australia and a limited understanding of consumers' expectations in this area, partly due to the limited number of the web sites assessed and the design of the study, respectively.

This study, therefore, was designed to provide a more comprehensive assessment of various Australian web sites in the grocery sector based on a consumers' point of view. For this purpose, the Extended Web Assessment Method (EWAM), an

evaluation tool that was developed at the University of Applied Sciences Basel in Switzerland was employed. With this tool, six Australian grocers' web sites were evaluated in terms of their performance in various transaction phases including information, agreement, settlement, and after-sales phase.

In general, the findings of the study indicate that the Australian web sites in the grocery sector have not fully met the expectations of consumers in various transaction phases. Some improvements (although not required immediately based on the result of the strategy evaluation using the EWAM tool) are still needed by most Australian supermarkets and online grocers. Some strengths and weaknesses of the web sites assessed are also addressed in this study. Thus, these findings provide additional understanding of consumers' expectations in online shopping and insights into the slow uptake of online grocery shopping in Australia. They can help practitioners in general and grocers in particular to better design online shops. Besides, this study has demonstrated the usefulness of the EWAM model in understanding consumers' expectations in online grocery shopping.

In the next section, a brief literature review of the online grocery shopping is presented, followed by a description of the Extended Web Assessment Method (EWAM) used in this study. The research design employed and the findings of the study are then discussed. Finally, some conclusions are drawn and the limitations to this study are outlined.

ONLINE GROCERY SHOPPING

As the grocery consumers' needs are increasing, grocery shopping can be a very tedious and mundane task. As a result, many consumers are becoming more convenience oriented and demanding value-added services to save their time (Liebmann 1998). Several other factors explaining the demand for more convenient ways to buy groceries include greater labour-force participation by women, a greater number of dual-income and thus higher-income households, and a greater number of single parent and elderly households with various resource constraints (Park et al. 1998).

Grocery retailers are able to 'create value' along two dimensions of convenience (Kinsey and Senauer 1996). Firstly, a retailer can improve convenience by enabling consumers to increase the number of tasks that can be accomplished within a single trip to the retailer. This can be achieved through expanding product assortments in the store and add a variety of services, such as cleaning, banking, floral and video rental. On the other hand, convenience can also be enhanced by reducing the amount of time required to complete the shopping task. Those retailers who introduce express checkout lanes and offer drive-up service to allow consumers to pick up their groceries without getting into the store create value along the second dimension of convenience (Kinsey and Senauer 1996).

The introduction of online grocery shopping has the potential to reduce the time spent on the grocery shopping by consumers and, thus, creates value along the second dimension of convenience (Morganosky and Cude 2000, Slonae 2000). This new retail channel has become a realistic option for an increasing number of consumers since the number of people with computer facilities such as personal computers, modems, and subscription to online services at home or in the workplace is also increasing (Park et al. 1998). Therefore, originated from the Unites States in the late

1980s, online grocery shopping has been attractive to retailers and grocery consumers in many regions (Schuster and Sporn 1998, Morgan 2000, Morganosky and Cude 2000, Slonae 2000).

There are two different practices of online grocery retailers (Morganosky and Cude 2000). The first one is called 'Online Retailers'. These are basically virtual supermarkets since they only exist online. Typically, they pick and fill consumers' orders through the use of a warehouse that stores a variety of products. Products are then delivered to consumers weekly (Morganosky and Cude 2000, Kirsner 1999). Some online retailers in the United States also offer other services such as dry-cleaning and video rentals alongside grocery items. In addition, others provide consumers with a special unit, containing refrigerated and frozen sections, which is installed in the consumers' garage at no extra cost. A flat monthly fee for the service is charged to each consumer for the service provided, which includes one delivery per week (Lundegaard 1997, Morganosky and Cude 2000). In general, online retailers are able to offer low cost services to consumers because they do not incur costs associated with operating brick and mortar stores (Palmer et al. 2000)

The second practice is called 'Online Grocery Shopping Service'. This service is typically offered by existing supermarkets. Consumers' orders are picked from a local supermarket and then delivered to the consumers. In some cases, the consumers visit the supermarket to pick up their orders. The cost of using online grocery shopping service varies, depending on the individual retailers and services required. Some retailers offer free delivery for orders above a certain minimum amount (Morganosky and Cude 2000). However, it is actually difficult for such retailers to offer low costs or other incentives such as free delivery to online customers since these customers actually introduce extra costs related to picking and packing goods as well as delivery, in addition to the costs associated with running the brick and mortar operations (Palmer et al. 2000). Therefore, unless new and more efficient delivery systems for online goods are introduced, the costs of using online grocery shopping service of any supermarket are normally high.

In Australia, two major supermarket chains, Woolworths (Safeway) and Coles, have also offered an online grocery shopping service to consumers. At present, Woolworths offer the online grocery shopping service to approximately 200 suburbs in Sydney, under the name 'Woolworths (Safeway) HomeShop'. Home deliveries are handled by the existing fleet of trucks and vans. There is a minimum order of $50 required for the service, with 7.5% handling fees and $6 delivery fee. Coles supermarkets offer the online service to consumers in 25 suburbs in Melbourne and 41 in Sydney under the banner of 'Colesonline'. They do not impose any minimum order any longer and the delivery fee charged varies between $7.95 and $9.95, depending on the time selected and the area (Colesonline 2003). Coles handle home deliveries through the Australian postal system, which allows for refrigerated vehicles and seven days a week delivery (Palmer et al. 2000).

In addition, a number of online retailers such as ShopFast, Groceries4U, AussieShopper, and GreenGrocer, have been established to serve more specific regions of Australia. ShopFast, for example, delivers to Sydney, Central Coast and Wollongong, while AussieShopper focuses on Brisbane area, GreenGrocer operates in both Sydney and Melbourne and Groceries4U serves consumers in Adelaide metropolitan area. Most of these virtual supermarkets offer competitive prices to a wide range of grocery items and emphasize on the freshness and quality of their products, as well as the convenience they offer. Furthermore, some offer incentives

such as free delivery or movie tickets to valued customers with orders over $100 (Anonymous 2002, Anonymous 2003, Scott 2003).

THE EXTENDED WEB ASSESSMENT METHOD (EWAM)

The Web Assessment Method is a sound method based on scientific principles but is also oriented to offer e-shop operators advice for improvement of their services. It defines an evaluation grid with a set of criteria for appraising the quality and success of existing e-commerce applications (Selz and Schubert 1997; Schubert and Selz 2000). In addition to a rigorous focus on consumer perspectives, success in implementing an offer of products and services is considered with reference to the specific features of the electronic medium (Schubert 2003). This method, developed in 1997, represents a step toward an all-embracing evaluation of e-commerce applications from the customer's point of view. It was fundamentally revised in the summer of 2000.

The EWAM Tool

The Extended Web Assessment Method builds on the original Web Assessment Method and integrates findings from the Technology Acceptance Model and several alternative approaches (Barnes and Vidgen 2001, Zhang and von Dran 2001, Liu et al. 2000, Van der Heijden 2000, and Spiliopoulou 2000). The evaluation grid defined by the method is made up of a set of criteria with which to appraise the quality and success of e-commerce applications (Selz and Schubert 1997; Schubert 2003). The criteria are shown in the EWAM tool (Appendix 1). The focus is on consumer perspectives and the features of the Internet as a medium. A successful e-commerce application must meet the needs of the user in accordance with "Perceived Usefulness" (Criteria USEF1–USEF15) and "Ease of Use" (Criteria EOU1–EOU8). Under the headword "Trust" (Criteria TRUST1–TRUST2), questions about the subjective norm are also taken into account. A success or quality feature must be assigned to one of these categories. Within these three categories, the criterion is allotted to one of the four transaction phases of electronic markets (information, agreement, settlement, and after-sale), to the community component, or to the category "Final Section" which concerns all phases. Compared with the original Web Assessment Method, EWAM has been extended to include the after-sale phase and the final section.

The success and quality criteria are formulated in general terms and are valid in every sector, but are differentiated by their importance ratings. In order to take due account of the differences between the individual sectors, criteria are given weights corresponding to the different sector profiles and their relevance in the sector. Thus, for instance, being up to date with information is of greater importance for a supplier of financial information (e.g., stock brokerage, real-time share prices) than for a supplier of consumer goods. On the other hand, the choice of generic services (EOU 5) (e.g., tracking a parcel) is of lesser importance for an enterprise that distributes digital goods (e.g., software) than for one that delivers books.

The assessment procedure involves two steps, as illustrated in Figure 1. Firstly, each assessor is asked to evaluate the web sites allocated. The assessor can rate each item in a category based on a scale of: -2 (very bad), -1(bad), +1 (good), +2 (very good), as depicted in Figure 1. Then in the second step, the assessor is asked to rate

the importance of each item for the relevant sector, using the same tool. Each criterion can be rated based on a scale of -2 (very unimportant), - 1 (unimportant), +1 (important), +2 (very important). The lower the importance value of a criterion, the smaller the impact of this attribute on the overall score.

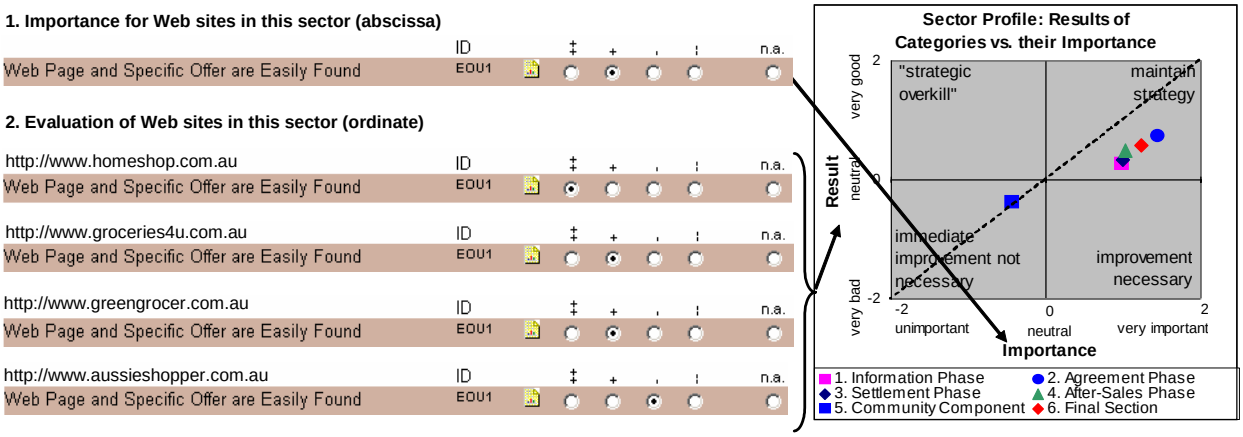

Figure 1: Two-Step Assessment: (1) Importance Ratings, (2) Web Site Evaluation

A result for any category should ideally lie on or above the diagonal on the evaluation grid shown in Figure 1. The grid contains recommendations for strategies dependent on the results in the various categories, as summarized in Table 1.

Strategy	Results
'Strategic Overkill'	Entries in the upper left field indicate (very) good results in a (rather) unimportant category.
'Maintain Strategy'	Entries in the upper right field indicate (very) good results in (very) important categories.
'No immediate improvement necessary'	Entries in the lower left field indicate (very) poor results in (rather) unimportant categories.
'Improvement necessary'	Entries in the lower right field indicate (very) poor results in (very) important categories.

Table 1. Strategies in the Evaluation Grid.

Data Collection and Analysis

Data are collected over the Internet with an on-line questionnaire (the EWAM tool) that retains the most of the usual structure of the original tool (Selz and Schubert 1997; Schubert and Selz 2000). An assessor conducting an evaluation with the EWAM tool begins by recording the URL of the web site under examination and assigning it to a sector. Then s/he needs to conduct the two-step assessment procedure as described in the previous section for each web site evaluated.

In data analysis, the EWAM tool defines three profiles for drawing up meaningful evaluations of any web site under examination:

- *Sector Profile:* the profile of the relevant sector.
- *Company Profile:* the profile of the web site.
- *Best Practice Profile:* the profile of the best of breed in the relevant sector.

The web site of interest (company profile) can then be compared to the sector average, to the best practice profile, or to one of its competitors. EWAM judges web sites purely from the customer's point of view.

Personal Web Assessment Report

Based on the web site assessment, a Personal Web Assessment Report that contains the following analyses and graphical representations is produced:

1. *Summary of individual criteria* and results in the categories "Information Phase," "Agreement Phase," "Settlement Phase," "After-sale Phase," "Community Components," "Final Section," and calculation of the total score.
2. *Comparison* of the web sites examined with the sector average and the sector best practice in a quantitative and graphical analysis, taking no account of the importance ratings of the criteria.
3. *Graphic comparison* of the results of the first six categories (1, 2) with the importance ratings for company and sector profiles.
4. Comparison as in (2) above, but taking full account of the *importance ratings* of the criteria.

RESEARCH DESIGN

The participants of this study were students enrolled in the Electronic Commerce subject in 2003 at the Department of Information Systems at the University of Melbourne in Australia. This enabled the web sites to be assessed based on a consumers' point of view. For the purpose of this study, all Australian web sites in the grocery sector were searched and in the end, six operational web sites were identified. Each web site to be evaluated was assigned to four tutorial classes. A tutorial class consists of 20 students on average. Although the participation was voluntary, each student was encouraged to perform the evaluation since the participation meant extra practice in preparation for a subsequent assignment.

Table 2 summarises the number of participants assessing each web site evaluated in this study. As shown on the table, the number of responses for the web sites varied from 5 to 56. Although for a few web sites the number of participants was quite low, subsequent qualitative evaluations by the authors revealed the plausibility and usefulness of the results.

	No. of Assessors
Greengrocer	50
AussieShopper	33
ShopFast	13
Groceries4U	18
Colesonline	9
Homeshop	39

Table 2. The number of assessors for each web site.

Before the evaluation process started, the students were thoroughly instructed in the use of the EWAM tool. The training of the assessors is an important learning process that confronts them with the basics of high-quality e-commerce services. Data were submitted by the students online and analysed centrally at the University of Applied Sciences Basel in Switzerland. For each web site, a personal web assessment report was produced.

STUDY FINDINGS AND DISCUSSIONS

In this section, the importance of assessment criteria as rated by the participants is first examined. Then the results of the assessment of the web sites are discussed comprehensively.

The Importance of Assessment Criteria

Table 3 summarises the aggregated result for each category. The rating is based on a five-point scale: from unimportant (-2) to very important (+2), as described above.

Phase / Component	Importance (Range: -2 to +2)
1. Information Phase	0.97
2. Agreement Phase	1.44
3. Settlement Phase	0.99
4. After-Sales Phase	1.02
5. Community Component	-0.44
6. Final Section	1.23

Table 3: The Importance of Each Category Used in the Study

The results demonstrate that all categories except for the community component were perceived to be important. The probable reason for this is because unlike other products such as books, clothing or other general merchandise items which are normally purchased based on styles / preferences or recommendation, groceries are items that are needed everyday with a rather stable need. Therefore, the establishment of a virtual community to allow for consumers to share opinions about products is not required in the grocery sector. Consistently, the 'Recommendation Systems' criterion in the Information Phase was not found not to be important by the participants (scored at 0.19).

A closer look at the results reveals that the Accessibility of the Web Site (rated at 1.67), Structure of the Contents (1.57), Quantity of Information (1.18), Quality of the Content (1.24), and Passing on Price Benefits (1.35) are important criteria that the participants emphasised in the Information Phase. In the Agreement Phase, the participants considered the Design of the Ordering Procedure (1.78) and Models and Methods of Pricing (1.10) to be important. Furthermore, Integration of Generic Services (1.06) and Tracking and Tracing (1.02) were deemed to be crucial in the Settlement Phase, while Access to Customer Support (0.98) and Performance of Customer Support (1.06) were considered to be important criteria for the After-Sale Phase. Finally, the Availability of the System (1.47), the Design of the User Interface (1.49), Increasing Productivity by Gaining Time (1.29) and the Trustworthiness of the Web Site (1.60), which are criteria in the Final Section in the EWAM tool, were also cited as important by most participants.

Assessment of the Web Sites

Figure 2 depicts the summary of the overall evaluation of the web sites included in this study. The score is based on a five-point scale: from –2: very bad to +2: very

good. As shown in the figure, Colesonline appears to be the best site in the sector, whereas Groceries4U web site has the worst evaluation result. Other web sites require significant improvements in order to achieve a comparable quality web site as Colesonline, which is the best practice web site in this sector.

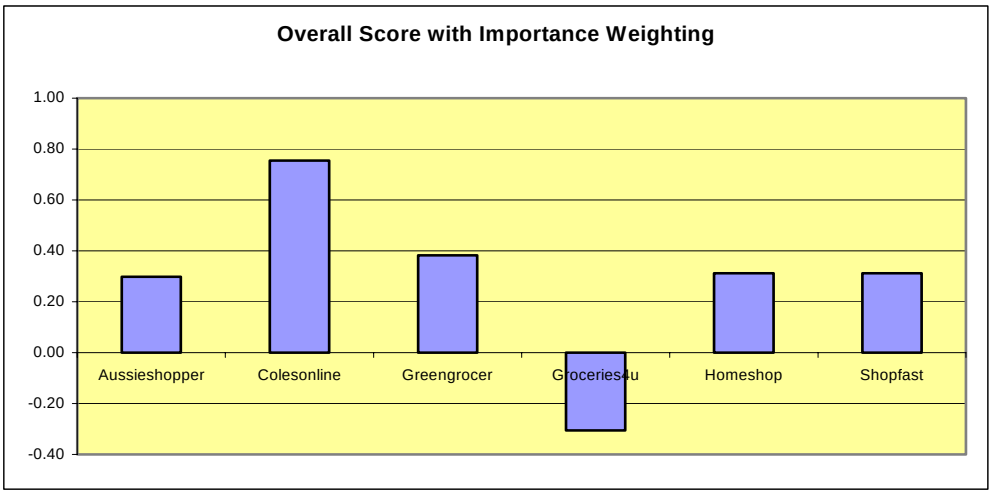

Figure 2: Summary of the Overall Web Evaluation

Figure 3 summarises the average score rated by the participants in each category / phase for all web sites evaluated in this study. It shows that the Best Practice Company was rated much higher than other companies in most of the categories involved in this study, particularly in the Agreement Phase (scored at 1.37), After Sales Phase (0.92) and the Final Section (1.07). Only Colesonline received a positive rating by the participants for the Community Component (scored at 0.31). The performance of the rest of the sites evaluated varies across all categories. Aussieshopper and Homeshop, for example, have a moderate performance in the Agreement Phase (scored at 0.76 and 0.71, respectively) and the Final Section (0.44 and 0.77), but not in other categories. Greengrocer has a consistent performance across the categories (scored between 0.29 and 0.71), except for the Community Component (-0.09), while Shopfast has a moderate performance in all categories (scored between 0.30 to 0.64) except for the Information Phase (0.18) and Community Component (-0.46). Groceries4U was rated very poorly in all categories (scored below 0.11), particularly in the Information Phase (-0.32), Community Component (-0.31) and Final Section (-0.15). Except for Groceries4U, most web sites assessed in this study have a rather good performance only in the Agreement Phase and the Final Section, but each category was scored less than one by the participants. This indicates that most participants were not satisfied with these sites in general.

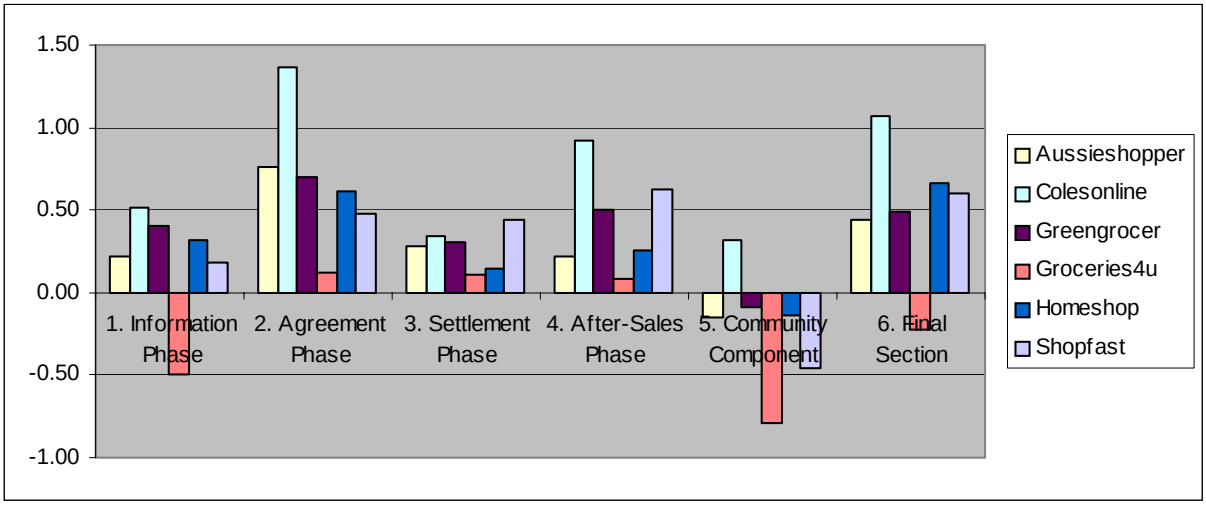

Figure 3: Summary of the Score Obtained in Each Category for All Web Sites

Figure 4 shows the assessment figure with the perceived user expectations for the Best Practice Company (Colesonline). The ideal situation is achieved when all the categories lie on or above the diagonal as shown on the figure. Consistent with the above findings, the figure depicts that for Colesonline, three phases including the Agreement Phase, After-Sales Phase and Final Section lie exactly on the diagonal and they are within the 'Maintain Strategy' zone. This indicates that these three categories have a good performance, as the users' expectation meet the actual assessment. Two other items, the Information and Settlement Phases, are below the diagonal but still within the 'Maintain Strategy' zone. A further analysis indicates that Colesonline particularly has a high performance for Accessibility of the web site and Products (scored at 1.73), Quality of the Content (1.26), Models and Method of Pricing (1.16), Access to Customer Support (1.16), Availability of the System (1.45) and Trustworthiness of the web site (1.40). The community component of Colesonline, however, has a reasonably good performance, although this component is not considered as important. Therefore, this item lies on the 'Strategic Overkill' zone in Figure 4.

The above findings were confirmed by the qualitative analysis of Colesonline conducted by the authors. The site does have a pleasant user interface with information about various aspects (for example items on special, clearance aisle, information and support, payment and price policy) organised in a logical way. Furthermore, the use of hypermedia to describe products is consistent and appropriate. In addition, the site enables consumers to make use of their experience in shopping in the physical supermarket by organising products by aisles. The ordering procedure, in particular, highlights the strength of Colesonline, as it provides consumers with a very clear procedure. The 'Buy' button is located next to each item and the 'Shopping Basket' is always apparent to consumers, so that they can fill in or modify the quantity of each product as required in case of a change of mind during the process. The site also facilitates a simple recommendation system by allowing consumers to keep track of previous orders.

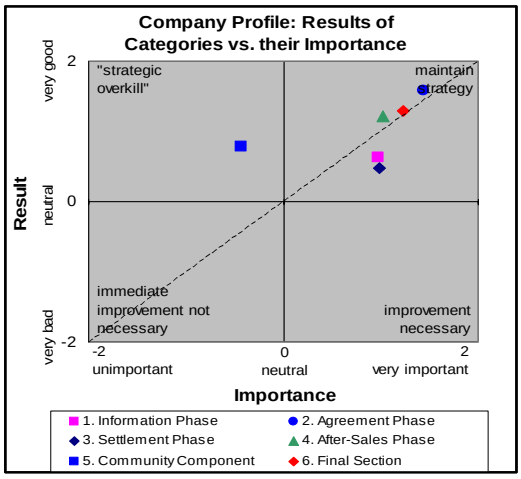

Figure 4: Strategy Evaluation for the Best Practice

Figure 5 shows the strategy analysis of Groceries4U which gives recommendations for improvements. Only the Agreement Phase, Settlement Phase and After-Sales Phase are situated in the 'Maintain Strategy' zone, but these categories are far below the diagonal. Thus the performance of these categories needs to be enhanced significantly. In particular, improvement is deemed necessary for the Information Phase and Final Section, since they lie in the 'Improvement Necessary' zone. A further analysis of the results suggests that the main problem areas of Groceries4U are specifically with the following items: Quantity of Information (-0.31), Quality of the Content (0.27), Passing on price benefits (-0.84), Recommendation Systems (-0.52), Use of Hypermedia (-0.39), and Design of the User Interface (-0.73). Although the Community Component was not rated good, no immediate improvement is required since this category was considered not to be an important one for the grocery sector, as described earlier.

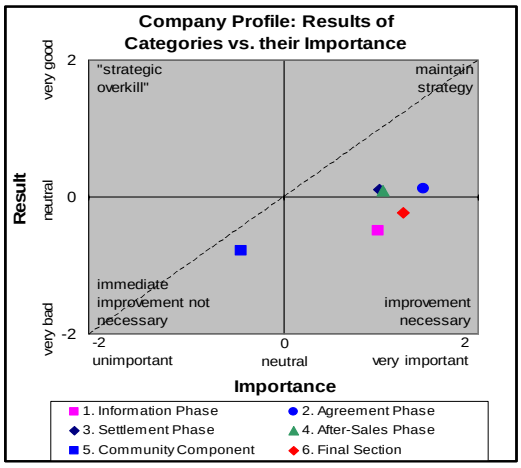

Figure 5: Strategy Evaluation for Groceries4U

A subsequent qualitative evaluation of Groceries4U conducted by the authors once again confirmed the above findings. It was found that the main page of the site contains too much information that is not necessarily important for consumers to

know before starting to shop online. Moreover, this arrangement of the information on the site is inconsistent and confusing. Besides, many pictures that describe the products are not available. In addition, the use of flashing images to indicate new items can be irritating to some consumers. The site particularly frustrates consumers due to its unclear ordering procedure. One of the ways to put items in the shopping basket is by entering the quantity for the products they wish to buy from the list of products and then clicking the 'Buy' button. This button, however, may not be apparent to consumers if the list is long since it is located far at the bottom of the list. Likewise, the 'Shopping Basket' is not readily viewable to consumers, since they need to click on the 'Go to Shopping Cart' button that is also located at the bottom of the list of products. Finally, with this approach of selecting products, the shopping trolley will not be updated instantly, which is likely to confuse the consumers.

Figure 6 depicts the strategy evaluation for the overall web sites evaluated in this study (the Sector Profile). In regard to the Sector profile, all items except for the community component are situated in the 'Maintain Strategy' zone, but they are quite far below the diagonal. This implies that there are still opportunities to improve most of the Australia web sites in the grocery sector, although the sites have a reasonable performance. A further look at the results demonstrates that none of the web sites offers 'Price Benefits' to consumers, with an average score of –0.47. Besides, only AussieShopper receives a positive rating (0.20) for the 'Tracking and Tracing' item in the Settlement Phase, while the average score for this item is –0.09. The community component lies on the diagonal and is situated in the 'Immediate Improvement not Necessary" zone. This means that although the community component of the Sector profile does not have a high score, it was not rated as important either. Therefore, no immediate improvement is required for this.

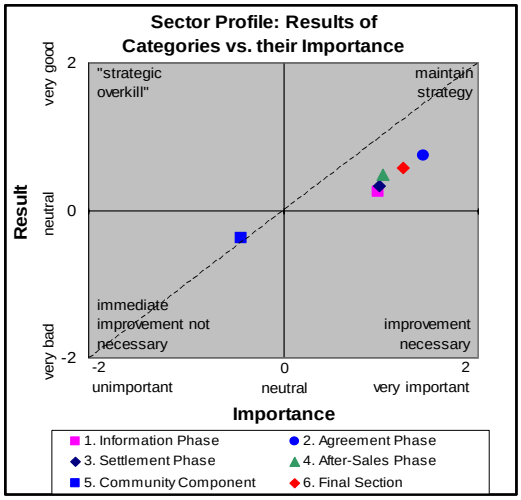

Figure 6. Strategy Evaluation for the Sector Profile

In summary, based on the results of the web evaluation of the Australian sites, the study reveals that the majority of the web sites still require some improvements in many areas as they still lack behind the performance of the Best Practice Company significantly. This lack of maturity of the Australian web sites in this sector could attribute to the slow acceptance of the online grocery shopping in Australia, among other factors. Therefore, by improving the web sites particularly in the specific areas identified in this study, the acceptance of online grocery shopping by the Australian consumers could likely be improved.

CONCLUSIONS

In this study, the Extended Web Assessment Method (EWAM) tool was used to assess six Australian web sites in the grocery sector. The tool was developed mainly based on the Technology Acceptance Model and various other approaches to web evaluation. This study has demonstrated the usefulness of the EWAM tool in assessing the performance of the web sites based on the consumers' expectations. The web assessment was complemented by subsequent qualitative analyses conducted by the authors. The findings indicate that, in general, the Australian web sites in the grocery sector still lack of sophistication. Most of the web sites assessed have not fully met the expectations of consumers. These online retailers and supermarkets still need to better understand consumers' expectations and improve the performance of their web sites accordingly in order to increase the satisfaction level of consumers.

Due to the specific nature of grocery items in which they are perishable, bulky, ordered frequently, and needed urgently, combined with issues related to storage, picking, packing and health, more challenges exist for grocers to operate online as more costs are involved. Therefore, one of the major weaknesses identified in this study is the inability of the web sites to pass on price benefits. However, as the number of online consumers is increasing, costs associated with the delivery time and transportation can be reduced. It is hence important for online retailers, particularly supermarkets to improve the efficiency of the logistics to handle online orders, so that the overall costs can be reduced, which may in turn accelerate the use of online shopping in Australia

One of the limitations to this study is that the number of the assessors for some web sites is small. Furthermore, the participants of this study might not be good representatives of the entire population of the Australian grocery consumers. Nevertheless, these limitations should not invalidate the findings obtained since almost all observations have been confirmed by the results of the subsequent qualitative analyses, as described in the paper. The understanding of consumers' expectations in online shopping as well as the strengths and weaknesses of the Australian web sites in the grocery sector addressed in this study will be invaluable for practitioners in any industry sectors, particularly in the grocery sector in order to improve their overall strategies.

A further study to assess a number of online grocers' websites in different regions and to compare the findings would be useful. Such a comparison would further enhance the understanding into consumers' expectations of online grocery services, as geographical locations, market structures and cultural issues are taken into consideration.

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APPENDIX 1: THE EXTENDED WEB ASSESSMENT METHOD (EWAM) TOOL

1. Information Phase
-> explanation

	ID	Your selection
Accessibility of the website and products	EOU01	++ + - -- n.r.
Structure of the contents	EOU02	++ + - -- n.r.
Quantity of information	EOU03	++ + - -- n.r.
Quality of the content	USEF01	++ + - -- n.r.
Passing on price benefits	USEF02	++ + - -- n.r.
Bundling products and services	USEF03	++ + - -- n.r.
Recommendation systems	USEF04	++ + - -- n.r.
Use of Hypermedia	USEF05	++ + - -- n.r.

2. Agreement Phase
-> explanation

	ID	Your selection
Design of the ordering procedure	EOU04	++ + - -- n.r.
Models and methods of pricing	USEF06	++ + - -- n.r.

3. Settlement Phase
-> explanation

	ID	Your selection
Integration of generic services	EOU05	++ + - -- n.r.
Integration of E-commerce applications	USEF07	++ + - -- n.r.
Tracking and tracing	USEF08	++ + - -- n.r.

4. After-Sales Phase
-> explanation

	ID	Your selection
Access to customer support	EOU06	++ + - -- n.r.
Performance of customer support	USEF09	++ + - -- n.r.

5. Community Component
-> explanation

	ID	Your selection
Access to a virtual community	EOU07	++ + - -- n.r.
Profiting from relations in the community	USEF10	++ + - -- n.r.
Benefiting from content available in the community	USEF11	++ + - -- n.r.
Customer empowerment generated by the community	USEF12	++ + - -- n.r.

6. Final Section
-> explanation

	ID	Your selection
Availability of the system	EOU08	++ + - -- n.r.
Design of the user interface	EOU09	++ + - -- n.r.
Increasing productivity by gaining time	USEF13	++ + - -- n.r.
Interaction	USEF14	++ + - -- n.r.
Personalization functions	USEF15	++ + - -- n.r.
Trustworthiness of the business partner (supplier)	TRUST1	++ + - -- n.r.
Trustworthiness of the website and the legal situation	TRUST2	++ + - -- n.r.