Exploring the Roles of External Parties in ECR Adoption: An Australian Study

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ABSTRACT
The adoption of Efficient Consumer Response (ECR) by the grocery industry has become increasingly important in order to stay competitive. Due to the inter-organizational nature of ECR, its adoption involves various parties with different and conflicting objectives and requires the concerted efforts of supply chain members. As a result, ECR adoption has proved to be extremely difficult in many regions. Employing a multiple case study, this study demonstrates that external parties within the grocery industry play a major role in assisting organizations within the Australian grocery industry to adopt ECR and, therefore, have the potential to promote the growth of ECR. A number of possible roles that external parties can play in promoting ECR are discussed in the paper.

Keywords: Efficient Consumer Response, technology adoption, inter-organizational system.

INTRODUCTION
Due to the increasing global competition, adoption of inter-organizational systems (IOS), particularly those enabled by Electronic Commerce (EC) technologies, is becoming important for organizations to stay competitive (Simchi-Levi et al. 2000). Many organizations within a supply chain have made a joint effort and are working to improve the efficiency of product and information flow within the entire supply chain. This will, in turn, enable organizations to be responsive to the need of the consumers, who are becoming more demanding in terms of prices and quality of products (Johnston and Lee 1997; Manhattan Associates 1998; Doherty and King 1998).

Efficient Consumer Response (ECR) is a grocery supply chain management, which is designed to make the industry more efficient and responsive. It promotes initiatives in the area of store assortment, product development and introduction, promotion, and product replenishment. These four strategic initiatives of ECR are supported by two process innovations: Category Management and Continuous Replenishment Program. These two programs are in turn supported by a number of enabling technologies: barcode / scanners, Electronic Data Interchange, Computer-Aided Ordering, alternative distribution methods (such as cross-docking, Direct Store Delivery, Vendor-Managed Inventory), and Activity-Based Costing (Kurt Salmon Associates 1993).

As an example of an IOS, ECR cannot be adopted by individual organizations in isolation from other trading partners as it requires the concerted effort of participants in the same supply chains and external parties within the industry such as standard bodies or regulators (Damsgaard and Lyttinen 1998; Johnston and Gregor 2000). In addition, multiple decision-making units, which normally have different and
conflicting interests and objectives, are involved in IOS adoption. Furthermore, ECR adoption involves significant changes to an organization's culture, structure, business relationships and working practices over time (Boon et al. 1994; Crook and Kumar 1998). Therefore, despite the many potential benefits of ECR, its adoption has been slow in many regions, notably in Europe, America and Australia.

There have been a number of studies (see for example, Harris et al 1999; Kurt Salmon Associates 1995; 1997; Kurnia et al 1998, Kurnia and Johnston 2003) conducted to explore the adoption process of ECR in various regions. However, none of the previous studies, particularly in Australia, has looked into the role of external/third parties in the adoption process. In fact, due the inter-organizational nature of ECR, these external parties may play an important role in assisting organizations within the grocery industry to adopt ECR (Damsgaard and Lyytinen 1998).

To address the gap in the literature, this study therefore aims to explore how external parties assist organizations within the Australian grocery industry in adopting ECR. For this purpose, a multiple case study with a number of external parties within the Australian grocery industry was conducted. The findings indicate that external parties play an important role in assisting organizations with their ECR adoption process through advising the industry members, conducting research on behalf of the industry, educating the industry members of the benefits of ECR, promoting the potential of ECR and facilitating working groups to achieve certain goals within the industry. Although this study was conducted in Australia within the context of ECR adoption, the findings will be valuable for other countries or other industries attempting to adopt any innovations that cross individual organization’s boundaries.

In the next section, the multiple case study research method is described. Then the findings of the study, summarising possible roles that external parties can play in promoting the growth of ECR in Australia, are discussed. Finally conclusions are drawn and some limitations are addressed.

**THE MULTIPLE CASE STUDY**

For the purpose of this study, a multiple case study was used as it enabled us to collect rich information from various external parties of the Australian grocery industry regarding their involvement in ECR adoption. The unit of analysis used for this study was individual organisations that were considered external parties. Potential participants included trade associations, standard bodies and consultancies who also deal with the grocery industry. A list of trade associations, standard bodies and consultancies that deal with ECR in Australia was identified through an online search.

This study employed a combination of the convenient sampling and the theoretical sampling techniques. The researchers began contacting various potential participants identified from the online search and started with any organisations that were willing to participate. After each interview, data were analysed and related concepts were identified. The next participants were then chosen based on the emerging concepts identified in the previous cases, but the selection was also based on the availability and willingness of the participants. In the last two interviews, the researchers did not obtain much new information because what was reported by the participants was similar to what had been obtained from the previous interviews. When this theoretical saturation was achieved, the data collection was therefore terminated. In total, there were seven organisations involved in this study and nine individuals were interviewed. Details of the participants are summarised in Table 1.

The multiple case study was conducted in August and September 2004. Data were collected through semi-structured interviews with managers or individuals who are involved in ECR for the Grocery Industry and a review of relevant business documents. The first few interviews were rather unstructured to enable us to obtain as much information as possible from the participants. The subsequent interviews were then more structured since some emerging concepts had been identified from the previous ones. The interview protocol is shown in the Appendix. Face-to-face interviews were conducted with the local participants while telephone interviews were conducted with those inter-state participants. Each interview took approximately one hour.

After each interview, using the transcribed field notes, all possible concepts/themes in relation to what external parties could do in assisting ECR adoption in Australia were identified. Then, these concepts were then compared across cases to identify the similarities and differences. Cross analysis of
the cases revealed further thoughts and stimulated more ideas from the data. Based on the cross case analyses, the concepts were further refined and then written systematically to ensure that all indicators supporting each concept identified from various cases have not been overlooked. In the end, from various concepts identified, possible roles of external parties were then defined, as discussed in the findings section. Details of the interview data are not included in this paper due to the word limit imposed.

THE PARTICIPANTS

Seven organizations participated in this study. The organizations encompass a wide range of external parties working on ECR in Australia today. They included three Trade Associations, three Consultancies and a Standard Body. A brief description of each participant is provided below. The organization names have been substituted to preserve anonymity. Table 1 outlines the participating organizations and the interviewees.

<table>
<thead>
<tr>
<th>Company</th>
<th>Organization Type</th>
<th>Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1</td>
<td>Trade Association</td>
<td>Deputy Chief Executive</td>
</tr>
<tr>
<td>TA2</td>
<td>Trade Association</td>
<td>Board Director</td>
</tr>
<tr>
<td>TA3</td>
<td>Trade Association</td>
<td>Board Member</td>
</tr>
<tr>
<td>SB1</td>
<td>Standard Body</td>
<td>Chief Operating Officer (COO), Executive Quality Systems Manager, Education &amp; Support Development Manager</td>
</tr>
<tr>
<td>C1</td>
<td>Business &amp; IT Consultants</td>
<td>Head of Consulting</td>
</tr>
<tr>
<td>C2</td>
<td>Business Consultants</td>
<td>Consultant</td>
</tr>
<tr>
<td>C3</td>
<td>Business &amp; IT Consultants</td>
<td>Head of Consulting</td>
</tr>
</tbody>
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Table 1 - Overview of the Multiple Case Study Participants

Trade Associations

TA1 is a national body representing Australian food manufacturers. This trade association provides input into policies, develops strategies and informs members on current activities from a supplier’s point of view. The board is made up of food manufacturers in the industry. The interviewee was the Deputy Chief Executive who has extensive experience in the Grocery Industry and is well recognized in Grocery Manufacturing and Australian ECR.

TA2 was set up in 1999 to bring together manufacturers and retailers to develop ECR in Australia. TA2’s business is to promote ECR to manufacturers and retailers in New Zealand and Australia. Its board is made up of retailers and manufacturers. TA2 membership holds 98% of the retail companies, most big manufacturers and around twenty small-medium sized manufacturers. A board director was the point of contact at TA2.

TA3 delivers and maintains ECR scorecards around the world. The scorecards contain Key Performance Indicators which rank organizations ECR capabilities. They play an important role in monitoring the progress of ECR in Australia. A board member of TA3 was interviewed.

Standard Bodies

SB1 is Australia’s leading barcode standards provider. In addition, SB1 provides barcode testing services and ECR education. They are a non-profit organization, have been established for over 25 years and have over 14,000 members. The board of SB1 is made up of twelve representatives from different industries including four retailers. Several participants were interviewed including the Chief Operating Officer (COO), Executive Quality Systems Manager and the Education and Support Development Manager. Both the COO and Education Manager have extensive experience working in the Grocery Retailing Industry and the Quality Systems Manager has experience in barcode standards.
Consultancies

C1 and C3 are both subsidiaries of a multi-national organization which spans from hardware, software development to business consulting. C1’s offices reside in Singapore and C3’s in Sydney. Head of Consulting participated in both organizations. C2 is also a well-recognized business consulting service organization with international branches. A consultant at C2 was interviewed.

POSSIBLE ROLES PLAYED BY EXTERNAL PARTIES

There are a number of roles that can be played by the external parties in encouraging ECR adoption that have been identified through the study. They include the roles as advisor, researcher, educator, promoter, and facilitator. The details of these roles are presented below.

Advisor

External parties offer advice and guidance to organizations within the Grocery Industry that are involved in ECR adoption. This advice is towards developing their ECR solutions further and guiding on problematic areas. It includes advising small manufacturers within the grocery industry to adopt the international standards in order to make the industry stay in harmony with the international business practices, as revealed below:

“The industry is much more global in its opposition these days ...Australian retailers are importing significant amount of products and Australian manufacturers are importing from plants that they might have in other countries”. (Director, TA2)

Some of the international standards are not applicable in Australia. The Trade Associations and Standard Bodies are responsible for developing a workable application of the standards in the Australian circumstances.

In addition, an external party’s role tends to be advising a party or the industry as a whole, rather than involved in any negotiation between two organizations, as expressed below:

“One thing that a consultant should never do is find themselves in between a manufacturer and retailer in discussion or negotiations ...you can carry on having these arguments and discussions forever and at the end of the day, there is a bit of give and take as with any negotiation and attempt to try and resolve something. I think that the organization that turns around and tries to force something, that will not work in the long run and maybe even not in the short run” (Head of Consulting, C1).

Thus, external parties need to be able to draw a line between advising and negotiation. Companies within the industry need to build a relationship with their trading partners that are going to work for their organizations in the future and, therefore, they cannot rely on any third party to play a part in that discussion or negotiation.

Researcher

Research within the grocery industry is important with the rapid development of new technologies and best practice initiatives in ECR. Trade Associations raise funds for research on behalf of the industry through lobbying to the government, membership and sponsorship. By conducting research for the industry, external parties become a point of contact for their members and the public to seek advice and gain a common understanding of the benefits of ECR. Organizations within the industry can use the research findings, which cost them less than the cost of gathering information by themselves

Furthermore, external parties conduct Market Analysis for the Australian Grocery Industry to compare with overseas markets. There was a general consensus across the research participants that the Australian market is very different from overseas grocery markets. The Australian Grocery market is a very concentrated regional market. Eighty percent of the Australian Grocery market is dominated by two major retailers in comparison to overseas markets where they may have around 20-30 retailers. In Australia, if the suppliers want to reach 80% of the local market grocery customers they have to collaborate with the two major retailers. This unique Australian condition provides an explanation of why
there has been a lack of information sharing on POS data of retailers with the manufacturers in Australia. Moreover, interviews with various participants revealed that the Australian retailers have influence on the activities of third parties for their benefits.

In addition, third parties can also assist organizations to understand their cost structures. According to Head of Consulting of C1, many organizations do not understand their cost structures in terms of their Supply Chains and, therefore, are often reluctant to implement ECR. By understanding their cost structures, they can determine how and where ECR would make sense for their organization. Thus, the role of researcher played by external parties further encourages adoption in Australia.

Educator

Educating organizations in the benefits of ECR was a distinguishing feature in the aid to encourage the adoption of ECR, especially with small manufacturers who struggle to understand the benefits of ECR. Education can be conducted through seminars, publications, reports and online learning sites. The educating role is very important to not only engage those organizations who are not participating in the ECR initiatives but also those who do not have understanding of ECR. According to the Education and Support Manager of SB1, the biggest barrier to ECR adoption is getting small suppliers to not only understand ECR, but want to understand it. Most small suppliers do not understand why they should get involved in ECR and they believe they can run their business without ECR. Part of the education is trying to get suppliers to understand the benefits that they can gain from retailer mandated processes.

SB1 has implemented a state-of-the-art supply chain learning facility. It is used to educate members about the benefits of implementing Global Standards and Supply Chain Management. The learning facility includes visualization, simulation and interaction. Previous to the establishment of the centre they ran a mobile education van. As ECR technology has progressed, this facility was no longer sufficient to support the recent training needs of ECR. However, the lack of a mobile knowledge centre has created restrictions on the degree of reach they have to members. To remedy this situation they have developed an online learning site. This online education site allows users who are in remote locations or who are ‘time-poor’ to engage in the training modules. This greatly improves the reach to customers for education in ECR.

One of the key strategic decisions for organizations is selecting ECR business practices or technologies. Organizations naturally seek assurance that these concepts will deliver the claimed benefits. To assist organizations in this respect, SB1 have developed Proof of Concept Case Studies. These case studies are created from small and large companies who have gone through a similar process to the organization in question. Quality Systems Manager from SB1 said:

"...we are trying to build up those case studies all the time because that seems to convince people more than just walking in there and saying ‘do this’”.

Promoter

The Trade Associations, Standard Bodies and Consultants advertise their ECR services in trade magazines, newsletters and web-sites. This aids in developing awareness of their service related to ECR adoption. Industry recommendations and reports can be prepared by any external parties. These can be generic industry reports covering issues affecting the entire industry. Organization specific reports can be requested to Consultants by an individual company. Work is often generated through contacts, approaching customers and word-of-mouth.

In addition, in most cases, there was no formal follow up evident when a party was assisted in ECR. To encourage further adoption, external parties should build on their first relationship to ensure further ECR initiatives are implemented and current ECR initiatives are maintained. It was found that both Trade Associations involved in this study, TA1 and TA2 are only continually involved with grocery participants to the extent that they are members of the association. TA2 has continual involvement with the major retailers through their board. Trade Associations deal at the industry level so they continue support the industry through industry reports and the Tracking Study. However, there is no formal follow up after ECR integration assistance has been given by SB1. Thus, the findings suggest that the role of promoter
played by the external parties should be further improved in order to encourage wider adoption of ECR.

Facilitator

The Trade Associations act as a facilitator to make sure that progress in ECR is smooth. In some cases they also provide the physical surroundings for parties to come together, such as board rooms. TA2, for example, brings together parties from the Grocery Industry to have forums on current issues. Working groups are set up to temporarily work together on an industry goal. External parties set up and facilitate these working groups. The external independent view is important to develop a trustworthy environment for trading partners. Their independent view ensures they are reputable in ensuring fair outcomes in any scenarios.

CONCLUSIONS

The inter-organizational system nature of ECR has created inherent barriers to its adoption. Its adoption requires the commitment from various trading partners within the supply chain, which is difficult to achieve since trading partners usually have different and conflicting objectives. In Australia, particularly, the grocery industry is dominated by two large, powerful retailers who have been interested in pursuing various ECR initiatives. However, it has been difficult for the retailers to adopt ECR since there is generally a low level of trust and cooperation between Australian retailers and manufacturers. Many manufacturers believe that ECR only benefits the retailers and, therefore, are not interested in ECR. Hence, the involvement of external parties is necessary to promote the growth of ECR.

Through a multiple case study involving various external parties of the Australian Grocery Industry, this research has demonstrated that external parties play an important role in assisting organizations within the Australian grocery industry to adopt ECR. External parties are greatly involved in educating the Grocery Industry on the benefits of ECR as there is not a common consensus in the industry on the benefits. In particular, they assist small suppliers to understand the benefits they could obtain from retailers mandated processes and empower them with a better understanding of the cost structure in order to better negotiate trading terms with the retailers. With more recognition of ECR benefits by any size of organizations within the Australian grocery industry, the adoption of ECR can be further encouraged.

The findings of this study should also be valuable for the grocery industries in other countries that also deal with ECR adoption. In addition, other industries that are in the process of adopting any innovations that transcend organizational boundaries should benefit from this study. By understanding the roles that external parties can play, adoption process of any inter-organizational innovations can be improved by taking appropriate actions and strategies.

There are, however, some limitations to this study. Firstly, the number of external parties involved in this study was limited. Involving other external parties might have been useful to enrich the findings. However, because theoretical saturation was reached during the multiple case study, it is believed that the findings of this study are valuable and generalizable to some extent. Secondly, organizations involved in ECR adoption could be involved in this study to verify the opinions of external parties identified. Nevertheless, the findings should be valid and reliable through the triangulation obtained from the cross case analyses and because some of the participants are also part of Australian manufacturers and retailers. Finally, further study to explore how external parties assist organizations in other regions to adopt ECR would be valuable in complementing the findings of this study.

REFERENCES


Appendix – Interview Questions

Grocery Industry ECR Involvement – Extent of involvement
- Have you had any clients who have required assistance in integrating their businesses?
- What was the role of your organisation whilst integrating these parties?
  - Roles and responsibilities?
  - Tasks and processes?
- What issues have you encountered in ECR adoption?

Unequal Distribution of Costs:
- Have there been any scenarios where a party was worse or better off because of implementing these new initiatives?
- Could you describe any of these scenarios? Including the relationship of the participants.
  - When a problem arose how did you approach it?
- What was your involvement in mitigating these situations?
  - What steps did you/the company take to rectify the situation?

Post Integration
- Are you still involved with the companies?
  - If yes, what are your involvements / relationship?

Recognition of equitable cost distribution
- Do you have any views on equitable distribution of costs in the SC? Specifically the Grocery SC?
- Anything else you would like to add which has not been brought up, but you think may contribute to my research?