Journal of Economics, Business, and Accountancy Ventura Volume 16, No. 1, April 2013, pages 27 – 46
Accreditation No. 80/DIKTI/Kep/2012

WOOLWORTHS AUSTRALIA AND WALMART US: BEST PRACTICES IN SUPPLY CHAIN COLLABORATION

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ABSTRACT

This study analyses retail industries with the efforts of their supply chain collaboration (SCC) from manufacturers to consumers. It also describes the ways of identifying collaboration partners and building partnership for sharing information, thus representing the best practices in such efforts. The success of building the collaboration in terms of supply chain is described through the observation and analyses on the journey undertaken by both Walmart US, and Woolworths Australia. This is said to have enabled the retailers to achieve greater organizational performance through driving common objectives in partnership with their supply network. For examples there some empirical successes as achieved by Woolworths such as saving of approximately AUD$75M within the first two years of project commencement, reduction in lead time of getting point-of-sale information from two weeks to every Monday morning for the previous week, integration of information technology into supply chain management, and improvement in sales by AUD$7 billion. It can be generalized that through the sharing of knowledge, resources, information, profits and risks, the companies are able to position themselves in an advantageous spot, where operational efficiencies and financial cost savings are paramount.

Key words: *Woolworths, Walmart, Supply Chain Collaboration, Supply Chain Management, and Best Practices.*

WOOLWORTHS AUSTRALIA DAN WALMART AS: *BEST PRACTICES* DALAM KOLABORASI RANTAI PASOKAN

ABSTRAK

Penelitian ini menganalisis industri ritel dalam upaya penerapan supply chain collaboration (SCC/ kolaborasi rantai pasokan) dari produsen ke konsumen. Penelitian ini juga menjelaskan cara untuk mengidentifikasi mitra kolaborasi dan kemitraan untuk berbagi informasi. Keberhasilan membangun kerjasama dalam hal rantai pasokan digambarkan melalui observasi dan analisis pada pengalaman Walmart AS, dan Australia Woolworths. Hal ini ternyata telah memungkinkan ritel untuk mencapai kinerja organisasi yang lebih besar melalui penentuan tujuan bersama dalam kemitraan dengan jaringan pasokan mereka. Beberapa contoh keberhasilan empiris dicapai oleh Woolworths yaitu penghematan sekitar AUD $ 75 M dalam dua tahun pertama dimulainya proyek, pengurangan lead time untuk mendapatkan informasi point-of-sale minggu sebelumnya dari dua minggu setiap Senin pagi, integrasi teknologi informasi ke dalam manajemen rantai pasokan, dan peningkatan penjualan AUD $ 7 miliar. Dapat disimpulkan bahwa dengan berbagi pengetahuan, sumber daya, informasi, keuntungan dan risiko, perusahaan mampu menempatkan diri pada posisi yang menguntungkan, di mana efisiensi operasional dan penghematan biaya keuangan adalah hal yang sangat penting.

Kata Kunci: *Woolworths, Walmart, Kolaborasi Rantai Pasokan, Manajemen Rantai Pasokan, dan Best Practices.*

INTRODUCTION

Woolworths Australia was founded over 80 years ago and employing over 180,000 people, Woolworths is one of Australia's pre-eminent organizations, with a brand value of approximately AUD$4,600 million (Interbrand 2009) and a ranking in the top 25 retailers in the world (Deloitte 2011). Whilst Woolworths currently owns the majority of grocery's market share, competition from competitors is on the rise. Woolworths and Coles particularly have increased the intensity of the battle for market share, promising to deliver the best customer experience at the lowest price. This is driven an acute emphasis on cost management and a focus on supply chain efficiencies (Symons 2010).

Walmart has become one of America's most successful retail chains generating about USD$200 billion in sales annually from 3,500 stores worldwide. Not only is Walmart ranked as the top retailer globally, but it has also been identified by over half of Americans, as a brand that reflects the nature of America itself (Dillow 2009); which is a noted achievement. The concept of Supply Chain Collaboration was developed by Walmart executives. Thus, Walmart's journey in developing their supply chain processes to include collaborative forecasting, replenishment through providing retail links for communicating point-of-sale, forecasts, and inventory information for its vast web of suppliers provides a best practice case study (Ireland and Crum 2005; Chiles and Dau 2005).

Woolworths and Walmart present interesting and diverse case studies to evaluate Supply Chain Collaboration, as the cost of doing business continues to increase, and the retail sector itself evolves in response. The sector currently presents many challenges, such as expansion of private labels (Spencer & Kneebone 2007), international entrants such as Aldi and Costco, and growth of big box retailers. A number of environmental, political and geographical challenges that regulate sales and profit growth also exist.

For Australian retail, the strength of the Australian dollar and the recent slowing of economic growth are driving an acute focus in the reduction of supply chain and overhead costs. Actions undertaken include consolidating suppliers, to reduce resources at the interface and the cost of doing business. A focus on improving logistics, as well as passing a higher proportion of supply chain management obligations back to suppliers are other areas of focus (Spencer & Kneebone 2007).

Supply Chain Collaboration (SCC) is a process by which all companies in a supply chain network actively work together to achieve common objectives (Mentzer 2001). Leveraging strong foundations of trust, collaborators set goals and solve problems together through the sharing of knowledge, resources, information, profits and also risks. This approach enables more efficient operations and also provides the end customer with more value (Fawcett, Magnan and McCarter 2008).

Supply chain collaboration occurs amongst members of a supply chain, who manage the processes such as the acquisition and transformation of raw materials to enable delivery of a valued product to customers (Mentzer 2001; Lin, Chiu and Tseng 2006).

SCC has been repeatedly recognized as one of the most powerful management techniques to respond to the challenges of highly competitive global markets, rapid technological advances and increasing customer demands (Lopez 2011). Through leveraging operational and strategic elements of SCC, companies can respond to these challenges, whilst increasing organizational competitiveness.

THEORETICAL FRAMEWORK

Supply Chain Collaboration (SCC) in the Retail Industry can be described as the following. A full service retailer can expect to sell thousands of items from hundreds of suppliers and manufacturers, making the management of such a supply chain critical and as such, a priority for any retail chain.

As the competition increases, only retailers with versatile and agile supply chains can maintain an effective competitive edge (Olugu and Wong 2009). The need for supply chain's versitility and agility is further highlighted by increasing customer demands and awareness levels, which drive heightned product substitution and also shortened product lifecycles (Beamon 1999). Overall, supply chain management is a critical issue for retailers to manage.

To operate and deliver effectively and customer, retailers, suppliers, manufacturers, and distributors must combine their working efforts (Lin, Chiu and Tseng 2006). Such collaboration can be achieved through a focus on core competencies and targeting investment to develop strong partnership relationships built on shared information and trust, with carefully selected suppliers (Stuart and McCutcheon 2000).

In the retail industry, such collaboration can be difficult to achieve, as supply chain participants (who can largely be categorized as either manufacturers or retailers) generally have very distinct needs and business goals, with little common ground. Thus, collaboration is not an either/or situation, but rather must be a balanced combination of both 'shared' and 'selfish' goals, that together enable the customer to receive more value (Gonzalez 2011).

Identifying Supply Chain Collaboration Partners

Due the nature of cooperation and commitment required by SCC, it is not possible to collaborate with everyone. Neither should all suppliers be collaborated with in an in depth manner. Thus, the main challenge of SCC is determining with which suppliers to drive collaborative partnerships. The solution is to determine what level of value each supplier adds to both the business and also to common customers, and to then pursue and develop collaborative relationships with them alone (Mentzer 2001b)

A common method for determining supplier value is to calculate the amount of spend with the supplier and to then determine how vulnerable the company would be if the supplier failed or disengaged. The Kraljic Matrix is an effective tool in determining the positioning and consequent prioritization of one's suppliers (Caniels and Gelderman 2005):

Once collaborative partners have been identified (i.e.: the 'who' of the relationship), designing the 'what' of the collaborative relationship is also important. Only critical key components, products and systems should be focused on (Mentzer 2001b).

Best practice is to choose key suppliers (or, sometimes target key customers for conversion to suppliers), engage them in building a collaborative relationship, resolve any teething issues and then move on to the next key supplier and/or customer. Once collaboration begins with key supply chain members, it eventually becomes embedded in everyday practice, requiring less attention than during the set-up phase, and the focus can turn to creating new collaborative relationships (Mentzer 2001b).

Different Motivation and Setting the Strategy

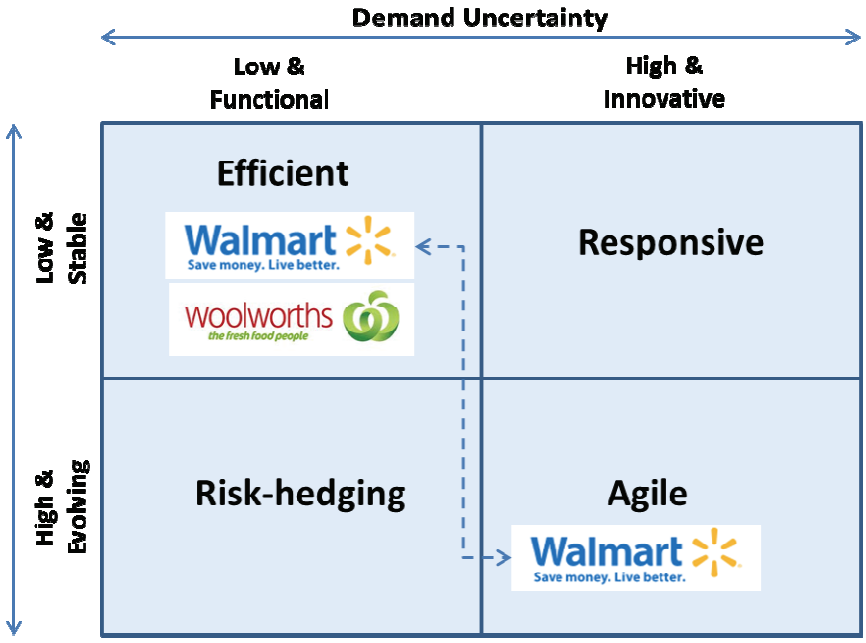
The motivation for an organization to collaborate depends not only on their unique corporate strategy, but also on the intricacies of their surrounding environment, particularly in regards to the demand and supply characteristics (Lee 2002).

In a mature market with low demand and supply uncertainty, organizations are likely to aim for a higher level of supply chain integration (driven through collaboration) in order to maximize efficiencies.

Conversely, if an organization's aim is to achieve growth within a new environment that presents a higher level of uncertainty, supply chain collaboration will be driven by the need to remain flexible in order to quickly adapt to the changing market that surrounds them.

The Uncertainty Framework (Lee 2002) provides an effective tool for considering the nature of the demand and supply characteris-

Figure 1
Demand and Supply Characteristics as Supply Chain Strategy Motivators



tics faced by an organization, and then determining the best supply chain strategy to implement. Using Lee's uncertainty framework, we identify Woolworths and Wal-Mart position as shown in Figure 1.

The Woolworths and Walmart examples demonstrate how investment in SCC can be driven by distinct needs. Specifically, in the case of Woolworths, the primary motivator to drive SCC was the need to integrate and thus to improve operational efficiencies. The company's main objective is to provide everyday low price to its customers. Therefore, all value-created activities are geared toward this strategy. Moreover, the intensive competition with Coles in the Australian market also drives Woolworths' strategy. Pressure is increasing in supply chains as retailers are competing to deliver the lowest possible prices.

Conversely, in the case of Walmart, driving flexible growth is a key motivator for collaboration. A key focus of Walmart's business strategy is globalization; therefore the need to remain economical is a critical need. Specifically, as Walmart's expansion grows to unfamiliar regions, new markets entered have differing demands. In these new markets, both customer and industry expectations are based on economical preferences but minimal similarities to the USA has led to Walmart's supply chain requiring an element of adaptability to the environment, therefore driving it to an agile supply chain.

Levels of Supply Chain Collaboration and Relationship Types

Participants of a supply chain can collaborate in a number of ways to try to improve their own position and processes along the chain, either directly or indirectly. There is no solution that is ideal for every participant, but rather a number of options can be considered based on the composition of any individual chain.

Levels of Supply Chain

Collaboration in the supply chain comes in a wide range of forms, generally with a common goal of creating a transparent, visible demand pattern. (Holweg, Disney, Holmstrom, Smaros 2005). Figure 2 outlines four concepts of collaboration, differing based on the level of collaboration between the supply chain participants, in both the approach to planning and to inventory.

Figure 2
Basic Supply Chain Configurations for Collaboration

Planning Collaboration		Inventory Collaboration: No	Inventory Collaboration: Yes
	Yes	**Type 1 - Information Exchange** - retailer & supplier still order independently but exchange demand information and action plans to align forecast and help long term planning	**Type 3 - Synchronised Supply** - only one decision point in the supply chain; supplier uses customer's inventory replenishment information (demand) to plan their own operations
	No	**Type 0 - Traditional Supply Chain** - no consideration of situation up or downstream when placing orders or replenishing stock - often results in bull whip effect	**Type 2 - Vendor Managed Replenishment** - supplier has responsibility of managing retailer's inventory - supplier does not use all available customer information for controlling their production & inventory

Adapted from Holweg et al. 2005.

Type 0: The traditional supply chain:
The traditional supply chain involves no information sharing beyond the purchase order. This requires the supplier to estimate future demand and often results in the bullwhip effect. This is common for many products in grocery stores around the world. One example by Holweg, et al. (2005) found that bottles of soft drink, although sold at a fairly constant rate, where stores were reordering from regional distribution centers (RDC) above the necessary level (not using point of sale intelligence to drive reorder quantities). The bullwhip effect was even more severe for the RDC as they ordered against their forecasts and at times ordered up to five times the weekly sales volumes from the supermarket.

Interestingly, this model is seen as acceptable and almost desirable for manufacturers of some goods. As the manufacturers will have multiple plants working with 15 - 20 sales companies, supplying hundreds of large distributors and retail chains, they accept that it would be too difficult to effectively collaborate with all of them in the same way.

Type 1: Information Sharing
More and more retailers share their sales information with their suppliers to enable better forecasting of demand and better management of inventory. This requires retailers to provide data in real time at the check-out counter to key suppliers. Sharing data at this level involves a certain degree of trust between retailers, suppliers and others within the supply chain networks.

In this situation, the retailer and supplier still order independently, but exchange demand information and action plans are shared to align forecasts for capacity and long-term planning. This system helps to reduce uncertainty and therefore the bullwhip. However, in many cases, the retailer often does not have the right level of information to enable the supplier to gain maximum benefit.

Wal-Mart has been very successful at realizing cost efficiencies by sharing information. Specifically, this is achieved through the transmission of point of sale information to suppliers, and the triggering of electronically orders when stock levels reach a predetermined level (Samaddar et al. 2006).

Type 2: Vendor Managed Inventory
Vendor-Managed Inventory (VMI) involves the supplier controlling and taking responsibility for the retailer's inventory. In the retail sector this is essential to efficiently deliver consumer responsiveness, helping to speed up the supply chain and cope with short

product life cycles. One benefit for the retailer is that the supplier assumes responsibility to ensure there is adequate stock at the retailer. As such, the supplier will often give preference to these retailers when there is a supply shortage.

Manufacturers receive real-time information on specific product sales, providing the detailed information required to produce more products to restock retail shelves. The vendor-managed inventory must be supported by key suppliers by having common product-description language (Konicki 2002).

Big retailers plan to provide inventory visibility to the single-item level and share such information with others along their supply chain networks. By sharing information, the key manufacturers can plan for demand and manage inventory in their stores. The most common vendor managed inventory (VMI) used by some of the world largest retailers is UCCnet global registry (Blanchard, Comm, Mathaisel 2008). Retailers and manufacturers alike are able to use the registry to synchronize product information, enabling them to work together on replenishment and planning provides a common inventory language for companies.

Type 3: Synchronized Supply Chain

The synchronized supply chain merges the two decision points into one. In this situation the supplier takes charge of the customer's inventory and uses this visibility to plan his own supply operations. With demand being determined at a single decision point, it is impossible for the retailer and supplier to over or under order – eliminating the bullwhip effect.

Supply Chain Relationship Types

Looking beyond efficiencies that can be gained from sharing logistical information, Stuart and McCutcheon (2000) discuss the development of trusting relationships for improved product quality. The two types of relationships discussed are competitive tension relationships and strategic alliance relationships and in each of these effective collaboration is essential.

1. Competitive tension relationships

In competitive tension relationships the firm will use an individual supplier for each item, but not the same supplier for all items. With the higher volumes, a supplier is able to invest more in R&D and achieve higher economies of scale. The fact that there are different suppliers for different products, and known alternatives, ensures that the supplier stays competitive on price and quality. A benefit of a competitive tension relationship is that it can emphasize the simplicity of transactional cost reductions, and build on competency trust that enables streamlined communications and improved supplier response to deficiencies (Stuart and McCutcheon 2000).

Once the retailer trusts the supplier, they will allow them to ship products directly to the retail outlets without additional handling, and enable the supplier to manage the payment process upon delivery through 'Kaiser purchase-order drafts' (Stuart and McCutcheon 2000). Further savings can be found by implementing pricing models based on the supplier's direct cost estimates, thereby eliminating bargaining and pricing disputes.

2. Strategic Alliances

Strategic alliances rely on the supplier and retailer to share and agree that their mutual objective is to use complementary assets to gain long-term competitive advantage (Stuart and McCutcheon 2000). This involves a very high level of trust in the supplier and effort in developing the working relationship. Once the working relationship has developed, both parties will divulge critical information that is relevant to each and to their common objective. The firm can provide its partners with marketing information, sales targets, sales margins, technical information, receiving technical advice, product design, integration assistance and real-time scan information in return (Stuart and McCutcheon 2000). The level of information sharing will depend on the perceived matching of goals of each partner (Samaddar et al. 2006).

To capture the maximum benefit of such alliances, multiple interaction channels must be built. Channels might include staff exchanges, regular forums to discuss areas of mutual concern, and relaxed procedures that encourage the easy flow of communication between the employees of the two partners (Stuart and McCutcheon 2000).

As strategic alliances take time to develop, an interim relationship is proposed (which should evolve over time) which includes supplier development. In this interim relationship, there is a cooperative partnership that involves working closely with a supplier on problems the firms jointly face, principally over delivery and conformance quality (Stuart and McCutcheon 2000).

3. Profit Sharing Contracts

An additional form of collaboration which is proposed by Leng and Parlar (2009) is a profit sharing contract in a two level supply chain. In this relationship, supply chain members share the system-wide profits that are made by the members. Profit sharing in the form of cooperatives or suppliers selling to retailers at wholesale prices and sharing end profit, this is also an effective collaboration. Profit sharing schemes are in line with strategic alliances mentioned above, whereby both parties invest in working towards the same objective of maximizing the profit of the overall chain.

Implementing Different Supply Chain Collaboration Levels and Relationship Types

Frequently, collaboration focuses on the key outcome of reducing lead times; this can result in multiple benefits, including an increase in forecast accuracy, lowering of levels of safety stock required and decreased frequency of out-of-stock occurrences. Cumulatively, these benefits lead to a reduction in finished goods inventory levels, and ultimately a reduction in the bullwhip effect and consequently lower costs (Leng and Parlar 2009).

Within the highly competitive retail industry, collaboration can offer a variety of benefits. However, there is no 'one size fits all' solution that can apply to every retailer, supplier, or manufacturer. The level or type of collaboration will vary based on geographical dispersion, logistic lead time and product characteristics (Holweg et al. 2005).

Due to geographical dispersion, the more reorder decision points there are in the process, the more difficult it will be to fully synchronize the processes. As such, the return on investment for the synchronization has to be large enough to justify the costs and efforts. The higher the value of the product, cost of inventory, and the shorter the product life cycle, the more likely such efforts could be justified (Holweg et al. 2005).

In the food retail industry one of the biggest challenges is shelf life of fresh, perishable foods. Supply chain collaboration can offer strong returns if the sharing of simple forecasting information is used to reduce the amount of wasted stock and stock in transit (Holweg et al. 2005).

When comparing collaboration between large multinationals and smaller local suppliers, multinationals' synchronization efforts should be focused on the products that offer the best opportunities of linking local demand with local supply as products that are supplied centrally or regionally by large manufacturers. This will enable the cost benefit ratio of collaboration to reduce (Holweg et al. 2005). Conversely, smaller manufacturers will benefit from greater collaboration to improve customer responsiveness and meet the local, specific customer's needs.

Looking at the relationship models proposed by Stuart and McCutcheon (2000), competitive tension relationships should be pursued when there are a variety of suppliers to choose from and switching cost may be relatively low. The outcomes that the retailer should be looking for are reduced costs (through economies of scale) and improved product quality as the supplier should be able to justify spending more on R&D.

Strategic alliances should be reserved for situations where the supplier's expertise is unique or difficult to source. The strategic

alliance will be designed to deliver better product specifically tailored to the retailer's needs. For a grocery retailer like Woolworths, this may include their inventory management systems or scanning systems (Stuart and McCutcheon 2000).

The interim relationship proposed by Stuart and McCutcheon (2000) is applicable to all levels of retail where there are obvious problems that affect both the retailer and supplier. By communicating about the problem and working together on a project team, specific issues may be resolved without making large investments in data transfer systems, or worrying about sharing highly sensitive intellectual property.

Enabling Supply Chain Collaboration through Trust

Establishing and maintaining successful collaborative relationships requires significant investment of both time and effort from all parties involved, especially considering the complexities of everyday business and competition that by definition, detract from collaboration (Mentzer 2001a).

Trust is the basis of flexibility, innovation, agility and effective decision making (Beth, et al. 2003), and thus perhaps the single most important element in enabling a collaborative relationship that will sustain over time (Mentzer 2001a). Without a strong foundation of trust, it is impossible for supply chain participants to achieve the required level of alignment, engagement and consistency to enable collaborative decision-making and actions. Many factors must be considered and addresses in order to establish a strong foundation of trust:

Consistent Expectations and Goals

To establish trust, both supply chain parties must focus on achieving alignment, especially in terms of common strategic goals and inherent company values (Beth et al. 2003). An effective way to implement such alignment in practice is through establishing joint metrics and or operational standards.

Woolworths provides a good example of this, with the creation of specific initiatives to engender supplier trust. For example, establishing a common language of quality standards, embedded through the 'Woolworths Quality Assurance' biannual certification process, involving independent audits of more than 2,300 suppliers (Woolworths, Woolworths Limited Corporate responsibility report 2009). In this way, high product quality and safety is ensured, and common operating standards are established. To further embed this process, Woolworths also provides suppliers with ongoing feedback and recognizes outstanding achievements through an annual 'Supplier of the Year' award.

Another example is the reason why Woolworths holding regular meetings with suppliers to discuss The Fresh Food People Code of Conduct (Woolworths 2008a). It also launched an e-mail service to respond to supplier queries and a website to inform them about doing business with the company. In this way, processes and systems are discussed openly with suppliers to develop collaborative relationships.

Modularity is another tactic use to establish trust, which provides suppliers the freedom in production to design and propose cost saving measures. By proxy, modularity enables collaboration, as supply chain participants' work together to reduce costs, therefore creating increased customer and improvements in operational efficiencies.

Long-Term View and Shared Benefit/Risk

Reliable, consistent relationships enable supply to become more sustainable, which flows on to improved consistency, reduced need for quality control checks and safety stock. Usually, such levels of reliability and consistency are only achieved once the collaborative relationship is well established and operating on a 'business as usual' basis. To get to this point, a great deal of commitment is required by both parties involved. Thus, to ensure return on this investment, supply chain participants should ideally maintain such partnerships long term.

While contractual agreements can help

to ensure a long term focus, this approach can also unintentionally erode trust. Therefore written agreements should be pursued with caution.

Woolworths maintains long-term relationships with suppliers; more than 80% have operated together for ten years or more (Woolworths 2008a). Another example is Woolworths' approach to commercial property leasing. Typically, a lease of 10-15 years is sought to provide certainty to the property owner, and in return, Woolworths requests rental discounts and competitor distance restrictions.

An example of Woolworths demonstrating a long term commitment to a supplier and sharing risk is the decision to support the Australian banana industry through unexpected natural disasters. As explained by the Head of Supermarkets; "Woolworths has a long term commitment to help growers in the region recover from this tragedy… the company has initiated discussions with a view to assisting the industry on a grower by grower basis…including commitments to assist with current expenses against forward production" (Woolworths 2008a).

Woolworths again honored this commitment in response to the more recent flooding disaster. Despite incurring significant losses, Woolworths protected fresh produce suppliers by not importing product from overseas and relaxing quality specifications (The Age 2011).

Technology

Technology can be an effective tool for enabling collaboration across the supply chain network. Information sharing, as well as inventory planning and replenishment can be optimized through technology. It could significantly improve operations efficiencies and flexibility which will eliminate waste while adding value across the supply chain. Companies have begun to leverage Supply Chain technology to improve their operations (Boubekri 2000).

Enterprise Resource Planning (ERP) solution is an increasingly popular category of software that organizes and interconnects most day-to-day tasks of business (Donovan 1999). The integration of an ERP system to company system is critical to successfully collaborate. However, it can be a challenge to successfully implement technology to the supply chain due to supplier or employee refusal to adapt the new technology. All key stakeholders need to believe in the new technology and understand the long-term benefit. One way to provide better understanding among key stakeholders is by providing in-depth training and development programs.

Woolworths continuously invests in new technology to add value to their products. The company had implemented a B2B system to help its suppliers to do business electronically. Through its website, the organization shares information needed to facilitate the use of this technology. The objectives are to increase collaborative business processes, improve procurement efficiencies, better service level and also overall Supply chain visibility and efficiency

To improve procurement efficiencies, Woolworths introduced StockSmart and AutoStockR systems. The systems enable Woolworths to forecast stock replenishment at distribution centers and stores respectively. The Systems also contributed to a better collaboration within the organization which results in a continuous increase in net profit. As a result there was a 10.3% increase for the first quarter of 2011. Information sharing has significantly improved visibility throughout the chain and reduced the bullwhip effect.

Share Common Vision and Objectives

A silo mentality is often evident within a supply chain, especially when individual contributors within departments are rewarded for meeting departmental objectives, rather than for contributing to an overall, cohesive supply chain strategy. This context leaves the managers no incentive to cooperate or engage within the supply network, despite the fact that doing so will reduce

overall supply chain costs for all involved. It is therefore necessary to have a measurement system that can capture the benefits of collaboration. Similarly, all individuals involved must be enabled to understand their individual role in realizing supply chain benefits. People must think holistically and understand the impact of individual actions on the broader supply chain's efficiency and effectiveness. To embed such an approach, incentives must reflect this common vision.

In Woolworths' case, stakeholder engagement in developing a sustainable supply chain, from customers to shareholders, is constant. Annual shared objectives sessions are scheduled, whereby Woolworths and its suppliers build a joint plan. Suppliers demonstrating success in building sustainable products, packaging or processes, are also recognized and rewarded.

Common Customer Relationship Management Approach

Building a customer relationship management system is essential to enable collaboration with customers and to help in understanding expectations. Companies have to understand what customers' value and adapt the supply chain to reflect these needs. Retailers are now required to attract customers on their first purchase, through market orientation, innovative technology and value creation. The whole organization must focus upon the needs of customers by addressing different levels of a product, whereby the organization not only supplies the actual, tangible product, but also the core product and its benefit, and also the augmented product such as a rewards program and better customer service.

By linking customer value to supply chain strategy, companies are able to translate these requirements into an offer. This must be followed by identifying what it takes to succeed and how to deliver the proposition to customers. Supply chain collaboration holds the promise of communicating consumer behavior in real-time to multiple levels in the value chain.

Woolworths has developed the 'Everyday Rewards Program' with the goal of gaining a better understanding of customer behavior and to make them a willing participant in supply chain collaboration. To ensure that customers return and encourage loyalty, retailers have implemented customer retention programs. Woolworths successfully integrated customers into their supply chain with the introduction of the customer loyalty program called 'Woolworths Everyday Rewards'. This initiative rewards its customers with fuel savings or Qantas Frequent Flyer points (Woolworths 2010). In doing so, was able to gain meaningful insights to customer behavior and leverage this information to achieve operational efficiencies.

Woolworths continuously strives to get customer feedback on specific issues such as evaluating the shopping experience, evaluating new store designs and the self-checkout system. The company introduced a 'customer immersion program' in order to see its operations through the eyes of its customers and thus to have a better understanding of their expectations.

Walmart uses its mountain of data to push for greater efficiency at all levels of its operations, from the front of the store, where products are stocked based on expected demand, to the back, where details about a manufacturer's punctuality, for example, are recorded for future use. The purpose is to protect Walmart from the retailer's nightmare: too much inventory, or not enough. By its own count, Walmart has 460 terabytes of data stored on Teradata mainframes, made by NCR, at its Bentonville headquarters. To put that in perspective, the Internet has less than half as much data, according to experts (Hays 2004).

Organizational Design and People Processes

Many organizations, regardless of industry, have difficulty with supply chain talent management, organizational design and other people-related matters. Overcoming these 'people' challenges has proven to be vitally

important to the, achievement of supply chain goals. Roles, responsibilities, and team membership, shape the way that people interact and relate to each other in the supply chain. An ineffective organizational structure can exclude keys stakeholders from keys decisions and inhibit the collaboration needed to achieve strategy alignment. Furthermore, the skills and capabilities of the people are essential for successful collaboration. It is very important to ensure the 'right people' are in the 'right roles' to maintain the desired level of performance in a collaborative environment.

RESEARCH METHOD

This is a qualitative research that is a case study concerning the supply chain collaboration (SCC) implemented in retail industries. The objects of this study are the retail industries: Woolworths Australia and Wal-Mart United States (US). The analysis is done by both theoretically based and empirically success story-based as having been experienced by the retail industries used as the sample above. The theoretical basis is taken from some references or library research concerning supply chain collaboration (SCC) and all related to it. The empirical data concerns the stories of successes as experienced by the retail industries used as the sample in this study. The analysis also concerns the factors indicated by their saving within the project commencement, reduction in lead time, integration of information technology, also their improvement in sales.

Through the indicators taken from the empirical data in the successes by the retail industries, Woolworths Australia and Wal-Mart United States (US), all inferences can be done. By doing so, conclusions, recommendations, and suggestions can be drawn.

DATA ANALYSIS AND DISCUSSION

Supply Chain Collaboration Outcomes

There are several benefits that are a direct result of supply chain collaboration, all of which lead to the final outcome of financial savings and improved operational efficiency. The success of this is based on the triple-A supply chain concept where agility, adaptability and alignment are synchronized for the entire supply chain (Beth et al. 2003).

Operational outcomes linked to agility, include reduced lead times for product delivery and enhanced accuracy in forecasts. In the retail industry this is particularly important as perishable items are generally involved; inaccurate forecasting will result in significant financial waste. Excessive inventory also leads to the issue where the products should be stored as overhead costs of distribution centers need to be considered.

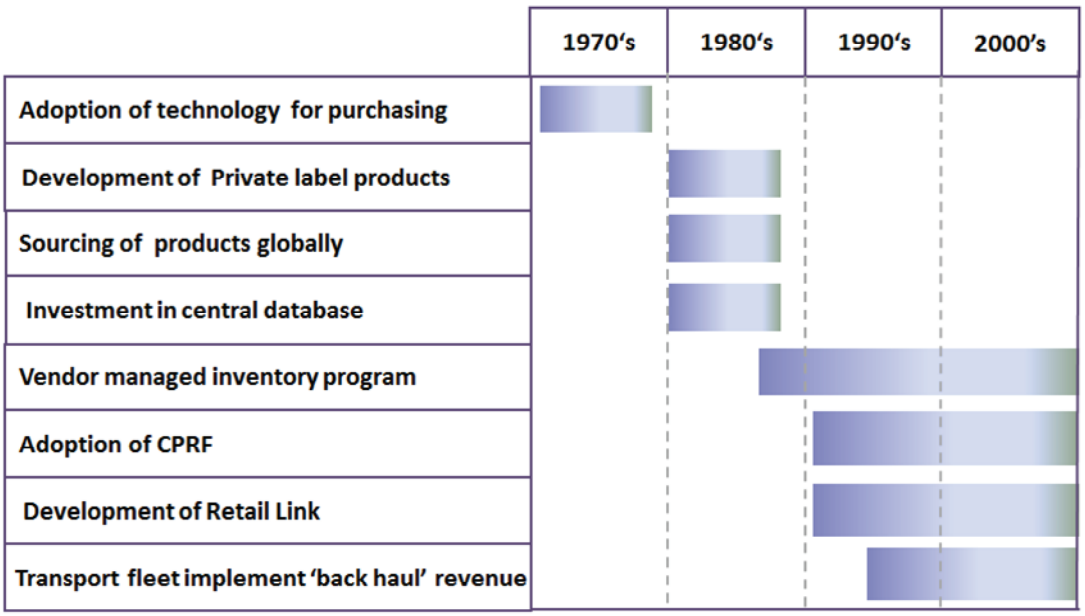
During collaboration, alignment includes issues such as the type of a product's packaging utilized by the retailer. Poor alignment has an impact in the efficiency of the broader supply chain - specifically the handling and shipping processes. Thus, an outcome of effective collaboration is the adaptability of the supplier to be open to product development, with the creation of new, streamlined packaging to ensure operational success.

Closely interlinked with operational efficacies is the key enabler of trust between the suppliers and the retailers. Collaborative relationships based on strong foundations of trust enable delivery and quality standards to be maintained without suppliers requiring reminders or monitoring. This then ultimately achieves an outcome of reduced supply-related transaction costs (Stuart and McCutcheon 2000).

Financially, well managed inventory and well controlled supply chain collaboration, provide companies with the outcome of tighter control of cash flows, increased reported revenue in the annual P&L therefore greater shareholder value. Other benefit with specific financial ramifications includes reduction in inventory, reduced cycle times, improvements in customer service, and increased efficiency in the utilization of human resources.

Additionally, other non-financial benefits derived from collaboration include providing new products to market faster, an in-

Figure 3
Walmart Supply Chain Collaboration Implementation



ternal focus on core competencies, an enhanced public image, greater trust and interdependence through a greater emphasis on the supply chain, increased knowledge overall facilitated through sharing of information, ideas and technology, and competitive advantage over other supply chains.

> "All benefits eventually affect the bottom line, whether directly or indirectly…once companies understand this, they are ready to make the commitment to begin collaborating with key supply chain members" (Mentzer 2001b, p.84)

Collaboration in Practice

SCC Implementation at Walmart US

The implementation of supply chain collaboration at Walmart leads to an efficient supply chain. Then as Walmart started to enter new markets the efficient supply chain started to adapt to its environment and evolve towards an agile supply chain. Figure 3 shows the implementation of supply chain activates over the last four decades.

Purchasing

Private label products were first developed at Walmart during the 1980s and account for 20 percent of 2005 sales. Private label products appealed to customers as they were often priced significantly lower than brand name merchandise and generated higher margins than the Walmart's branded products.

As a result, Walmart started sourcing products globally, opening offices in China during the mid-1980s. Walmart's new international purchasing offices expanded the companies supply chain capabilities by allowing the company to work directly with local factories to source Walmart's private label merchandise. To strengthen supply chain operations for Walmart, private label buyers met every quarter, to review new merchandise, exchange buying notes and tips and review a fully-merchandised prototype store, located within a warehouse. For the remainder of their operations, Walmart was established as leader in sophisticated technology to make its supply chain leaner and to track inventory

Distribution

Walmart's distribution strategy was the key driver in the selection of where new stores were to be opened. Walmart had a supply chain advantage of owning an in-house trucking division that was responsible for

collecting products at the supplier's warehouses and delivering stock to the distribution centers. Here, shipments are cross-docked, or directly transferred from inbound to outbound trailers without extra storage. To ensure that stock moved efficiently through the distribution centers, Walmart worked with suppliers to standardize case sizes and labeling. Merchandise purchased directly from factories in offshore locations such as China or India is processed at coastal distribution centers before shipment to the USA stores.

Walmart utilizes their trucks for additional profit by generating 'back-haul' revenue by transporting unsold merchandise the trucks that would be otherwise empty. By maximizing return journeys to suppliers as a 'for-hire' carrier, additional revenue of USD$1 billion per year was generated (DC Velocity 2004).

Retail Strategy

Effective supply chain collaboration extends right through to retail strategy. In order to increase sales, Walmart buyers and suppliers collaborated together to agree on price rollback campaigns. Price rollbacks lasted about 90 days and were funded by suppliers. The aim was to increase sales by 200-500% and establish a competitive advantage over other retailers. This also drove customer loyalty with Walmart prices being on average, eight percent to 27 percent lower than the competition (Beaver 2005).

Supply chain collaboration continued to evolve in Walmart as they introduced the concept of 'category captains' in order to harness knowledge of their suppliers. This was implemented in the late 1980s and has a key role of providing input on shelf space allocation. As an observer noted that one obvious result of using category captains is that producers like Colgate-Palmolive will end up working intensively with firms it formerly competed with, such as Crest manufacturer P&G, to find the mix of products that will allow Walmart to earn the most it can from its shelf space. If Walmart discovers that a supplier promotes its own products at-the expense of Walmart's revenue, the retailer may name a new captain in its stead (Lynn 2006).

Information Systems

Retailers are now looking for better ways to cut down inventory management costs, while establishing a better visibility along their supply chain. Supply chain visibility has been identified by industry research as one of the most difficult task supply chain managers are facing. In the 1970's Walmart adopted technology to help facilitate purchasing requirements. In the mid-1980s, Walmart invested in a central database, store-level point-of-sale systems, and a satellite network. Combined with one of the retail industry's first chain-wide implementation of UPC bar codes, store-level information could now be collected instantaneously and analyzed. By combining sales data with external information such as weather forecasts, Walmart was able to provide additional support to buyers, improving the accuracy of its purchasing forecasts.

In the early 1990s, Walmart developed Retail Link, the largest civilian database in the world. Retail Link contained data on every sale made at the company during a two-decade period. Walmart gave its suppliers access to real-time sales data on the products they supplied, down to individual stock-keeping units (SKU) at the store level. Walmart was one of the first companies to open up access to sales data to its suppliers, enabling them to make their own analysis on why their products sold or did not sell (Fishman 2006). Retail Link, which provided sales information by item, store and day, saved suppliers' time and reduced their cost.

In exchange for providing suppliers access to the data, Walmart expected them to proactively monitor and replenish product on a continual basis. In 1990, Walmart became one of the early adopters of collaborative planning, forecasting and replenishment (CPRF). CPRF is an integrated approach to

planning and forecasting by sharing critical supply chain information, such as data on promotion, inventory levels and daily sales (Johnson 2002). Walmart's vendor-managed inventory (VMI) program (also known as continuous replenishment) required suppliers to manage inventory levels at the company's distribution centers, based on agreed-upon service levels. The VMI program started with P&G diapers in the late 1980s and by 2006 had expanded to include many supplier and SKU's (Andel 1995). In some situations, particularly grocery products, suppliers owned the inventory in Walmart stores up to the point that the sale was scanned at checkout.

To support this inventory management effort, supplier analysts worked closely with Walmart's supply chain personnel to coordinate the flow of products from suppliers' factories and resolved any supply chain issues. These included ensuring that products were ready for pickup by Walmart's trucks, arranging for the return of defective products, to last-minute issues such as managing sudden spikes in demand for popular items.

In addition to managing short-term inventory and discussing product trends, Walmart worked with suppliers on medium to long-term supply chain strategy including factory location, co-operation with downstream raw materials suppliers and production volume forecasting.

Achievements and Lessons Learnt at Walmart

Walmart established a competitive advantage in the market by leveraging the efficiency of the supply chain by achieving the best capacity and pursuing economies of scale. The concept of this strategy was to work closely with vendors (Bhatnagar 2006); key suppliers were identified, and collaborative relationships were built to reduce cost and match customer needs.

A lesson of successful collaboration came from a relationship nurtured with Sara Lee. Together, Woolworths and the supplier implementing distribution changes that led to cost reduction. One third of the saving went to Walmart, on-third to Sara Lee and one-third was passed on to the consumer in price reduction (Fishman 2006).

Walmart also learnt that success came with placing trust in its key suppliers. Further proof of this was a result of successful collaboration when Walmart had to trust P&G enough to share sales, price data and cede to control of the order process and inventory management to P&G. P&G had to return the same level of trust to Walmart, enough to dedicate a large cross-functional team to the Walmart account that concentrated on finding ways to increase sales of its products through Walmart (Kumar 1996).

As a result of the lessons learnt and the implementation of supply chain collaboration, Walmart was able to maintain low prices and meet customers' needs. Walmart continues to engage in strong relationship with local suppliers, industries and customers.

SCC Implementation at Woolworths

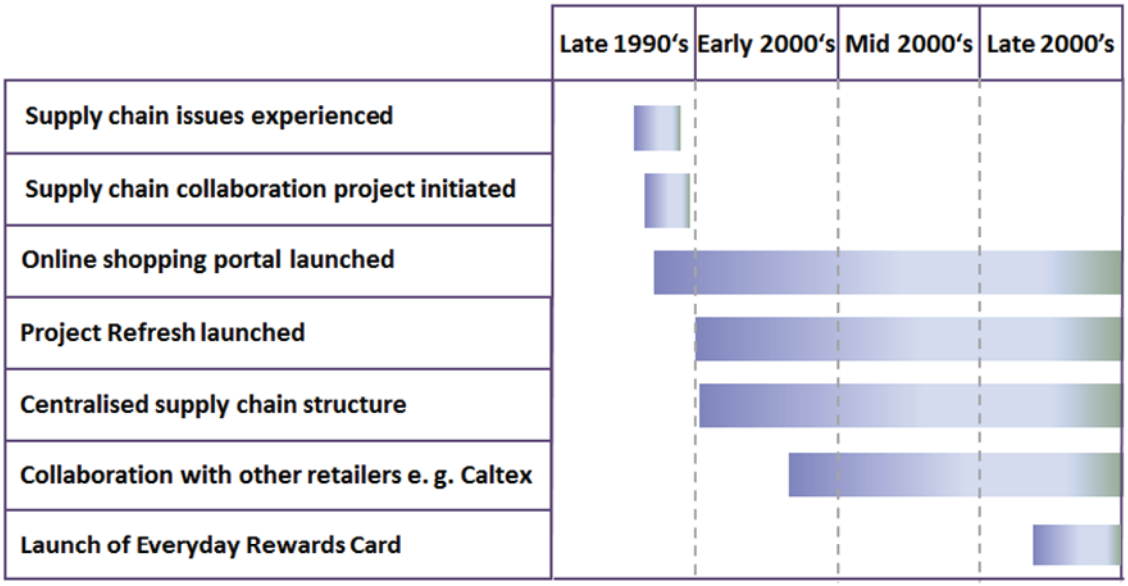
The implementation of supply chain collaboration activities in Woolworths were based on achieving and operational efficiency, which to date, is still leveraged throughout the organization. Figure 4 outlines the supply chain activities as they were implemented throughout the last two decades.

Distribution

The focus on supply chain collaboration was in line with Woolworths philosophy of operational excellence, instigated following supply issues experienced in the late 1990's, when complexities arose due to the different interfaces that existed between suppliers and Woolworths. Issues such as stock-out were experienced, not due to lack of product, as the warehouses held more stock but because of insufficient collaboration along the supply chain. Woolworths' supply chain focus was instrumental in reducing costs, keeping food prices down, increasing efficiency and co-operation with the suppliers (Maseeha, Perepu, Purkayastha 2009).

Woolworths implemented a centralized

Figure 4
Woolworths Supply Chain Collaboration Implementation



supply chain structure in July 2000. In order to streamline the processes Woolworth then proceeded to reduce the number of distribution centers, with the vision to utilize uniform technology, therefore improving economies of scale, avoiding duplication and facilitating quicker decision making (Maseeha et al. 2009). The downsizing meant that a single point of contact would make the supply chain easier to navigate. Woolworths also transferred their promotions, pricing, range and shelf merchandising from state-based offices to a national office.

As part of the restructuring, Woolworths transferred their promotions, pricing, range and shelf merchandising from state-based offices to the national office. This new single national buying system provided an opportunity for all supplier contracts to be renewed and deliver cost savings to Woolworths and its suppliers. Rajshekar and Gayatri (2004) found that Woolworths' new system did in fact, help achieve a significant reduction in costs of supply chain and distribution.

To move products quickly through the distribution centre, Woolworths implemented automation with advanced facilities to maximize the investment in inventory (Masseeha 2009). An important point of collaboration is to adhere to core competencies and outsources non-core competencies; Woolworths outsourced their transportation from these distribution centers in each state with the exception of Victoria.

Information Systems

In order to continuously improve the efficiency of Woolworths' business, a cost saving initiative called 'Project Refresh' was launched in 1999; the aim was to deliver cost efficiency systems through improvement in the Woolworths' supply chain (Rajshekar and Gayatri 2004). Beginning from warehouses right through to transport and replenishment systems, the project was aimed at reducing the cost of doing business by tying up loose ends in the supply chain. Woolworths implemented demand and replenishment planner software packages, to help in forecasting the demands in various distribution centers across the country. As a result the new software helped Woolworths reduce lead times, inventory cost, and to optimize their inventory control while monitoring and managing supply chain effectively (ZDNET 2003).

Additionally, Woolworths invested another AUD$1M into its supply chain for the EDI System (Electronic Data Interchange). This system brought connectivity to the ex-

isting fragmented system of supply chain, through an internet based stock ordering system for all Woolworth's retailers in the country (Rajshekar and Gayatri 2004). As a result the new e-commerce system significantly reduced cost per order from AUD$5.00 to 0.30 cents (Woolworths 2008a). The system also promoted collaboration among key suppliers.

Retail Strategy

Woolworths supply chain collaboration flowed all the way through to the online shopping strategy. A portal aimed at providing a replica of the in-store shopping experience online. One of Woolworths' online shopping sites was Greengrocer.com.au which sold mostly fresh and perishable foods. The online site was a strategic alliance between Australia's Greengrocer and Woolworths' Homeshop (Rajshekar and Gayatri 2004). The strategy was to help Greengrocer in sourcing some of its goods from Woolworths and create a one-stop-shop by selling other products available at Woolworths online. Woolworths anticipated benefiting from this alliance as Greengrocer.com core competencies was their expertise in online trading and they had a large customer base of 60,000.

In 2003 Woolworths collaborated with Caltex, to provide discounted fuel to its customers. The customers could receive a discount of 4 cents on their purchase of petrol after spending AUD$30 or more in a single transaction at a Woolworth's supermarket or its Big W stores. This resulted in Woolworth's ability to increase its market share before any rivals entered that segment. These two examples show how Woolworths used supply chain collaboration to reduce cost for the business while simultaneously attracting more customers.

By improving efficiencies across its supply chain, collaboration with suppliers by sharing information, requesting feedback to improve and by harnessing innovation, Woolworths and its key suppliers have achieved mutually beneficial results.

Achievements and Lessons learnt at Woolworths

Woolworths established a competitive advantage through a strategy of operational efficiency. An advantage of Woolworths' buying power is the ability to strongly encourage key suppliers into collaboration via E-business. Woolworth's shares information to enable suppliers to manage in-store inventory and use EDI networks to consolidate purchasing.

Woolworths learnt through practice that focusing on end-to-end supply chain issues such as store supply chain cost, distribution centre location and numbers, distribution centre function, transport management, process improvement across the network and common integrated systems, leads to continuous improvement in operational efficiency thus cost savings.

Successful SCC at Woolworths led to the following achievements:

Saving of approximately AUD$75M within the first two years of project commencement;

Reduction in lead time of getting point-of-sale information from two weeks to every Monday morning for the previous week;

Integration of information technology into supply chain management;

Improvement in sales by AUD$7 billion.

Overall, Woolworths experienced a saving of AUD$1.7 billion, which was stripped from the cost of doing business (Bartholomeusz 2003). Between 1999 and 2004, Woolworths drove AUD$2.5 billion out of its supply chain by developing these collaborative relationships with suppliers (Muzink 2004). Currently, Woolworths maintains this strategy but is adapting via flexibility and incorporating this into the supply chain. This change is driven by changes in the Australian food industry arising from increasing globalization of food production and trends in consumer preferences. Furthermore, the market is becoming more sophisticated and is paying more attention to the nutritional value of meals as well as environmental issues.

CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

The journey's undertaken by both Walmart US and Woolworths Australia to implement Supply Chain Collaboration has enabled these retailers to achieve greater organizational performance through driving common objectives in partnership with their supply network. Collaborative partnerships, based on strong foundations of trust, have led to shared goals and the ability to solve problems together along the supply chain in order to maintain a competitive advantage over other industry players.

Success of the supply chain for both Walmart US and Woolworths Australia is attributed to their ability to align, be agile and to adapt to market demands. They are able to do this through the development of trusting relationships with suppliers and the adoption of enablers such as technology, to strengthen the bond between supplier and retailer.

Through the sharing of knowledge, resources, information, profits and risks, the two companies' are able to position themselves in an advantageous spot, where operational efficiencies and financial cost savings are paramount. The implementation of supply chain continuous improvement activities enable success in an ever competitive market, whilst all along, adding value to both shareholders and customers.

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