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Supply chain management at Walmart

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Abstract:

Walmart is the world's leading retail chain: a position it claimed due to excellence in its supply chain strategies (Lu, 2014). The companied pioneered supply chin practices such as direct sourcing on a massive scale (as opposed to relying on brokers); and the use of information technology to implement a high level of integration with suppliers (Alyea, 2012). Its competencies in supply chain management are still described as unrivalled by other global retailers. In this report, an analysis of the supply chain management strategies at Walmart has been done with recommendation on how it can be enhanced to tackle future challenges in the business environment.

Keywords:
Supply Chain Management, Outbound logistics, *Environment analysis*, *Distribution.*

1. International procurement and supply chain management at Walmart

The supply chain comprises of activities such as procurement/purchasing, operations, and distribution (Rushton, Croucher and Baker, 2014). It covers the entire process that begins with obtaining supplies from suppliers, processing of the supplies, and availing the finished products to the targeted consumer.

1.1 Sourcing and procurement strategies

The ability of the organisation to guarantee reliable supply of affordable and quality materials is at the heart of competitiveness (Rushton, Croucher and Baker, 2014). This requires skill in supplier management: an area that Walmart has been reputed to excel in. Direct sourcing is Walmart's main approach to sourcing; characterised by the retailer interacting directly with the suppliers (Alyea, 2012). Direct sourcing has the major advantage of eliminating brokers whose presence leads to an increase in the price of supplies (Ortolani, Persona and Sgarbossa, 2011). Walmart's business model capitalises on affordability; a factor that makes it necessary for cost of supplies to be kept low while at the same time ensuring that quality is not minimised (University Alliance, 2014). The advantage of eliminating brokers does not mean that they or other market intermediaries

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are not useful to industries.

Intermediaries do play an important role in ensuring that supplies are uninterrupted. They use their knowledge of the market to reach out to producers, acting as collection point for further remission of the supplies to the organisations (Simchi-Levi, Kaminsky and Simchi-Levi, 2008). They can also act as crucial agents for quality control, often locking out poor quality producers. However, their presence comes at a cost. They, like other business enterprises, exist to make a profit. This means the cost of supplies has to be increased to cater for the fees chargeable by the market intermediaries (Golini and Kalchschmidt, 2011). On the other hand, direct sourcing comes with the challenge of the organisation having to invest in an elaborate supplier management system. This involves making contact with several suppliers at a time, ensuring that supply shortfalls by a supplier is covered by other suppliers in time, engaging in quality control, and bargaining for competitive prices (Jenatabadi, 2013). For Walmart, this latter approach (direct sourcing) was selected as the appropriate approach to sourcing.

The second consideration that ought to be made in relation to sourcing and procurement is whether to use the same suppliers across the world or to embrace local sourcing where certain materials are procured in the countries served. The latter approach is known as local sourcing. Local sourcing provides the organisation with the advantage of attracting customers; where it exploits the feeling of pride when they consume local products (Jenatabadi, 2013). It goes a long way in removing the perception of 'foreignness' on the brand with customers noting that they are keen on using local materials in production. At Walmart, there's no restriction on the origin of aspiring suppliers. In fact, the process of applying to be a supplier has been simplified to ensure that everyone can apply with ease (Walmart, 2014). The company engages suppliers from virtually every country that they operate in. This is believed to be one of the factors for its success.

The third consideration needed in designing a sourcing strategy is the need for minimising inventory and transportation costs. One of the main management control models used in supplier management is the just-in-time JIT concept (Oliva and Watson, 2011). It is consistent with the need to lower inventory costs by ensuring that supplies are delivered to the organisation just in time for dispatch or production. It reduces the need to incur heavy warehousing costs that would be associated with many months' worth of supplies at a time (Oliva and Watson, 2011). The implication is that there needs to be a system that ensures that there's free flow of information and knowledge between the suppliers and the organisation. At Walmart, supplier management is reliant on forecasting and data analysis (University Alliance, 2014). The organisation not only uses its own sales forecasts but also factors in the ability of the suppliers to replenish supplies within the desired lead times.

The benefits of incorporating information technology in integration with suppliers are high as it reduces delays while making it possible for the inventory to be minimised (Janvier-James, 2012). At the same time, the quantities being transported should be large enough to avoid eroding gains made in minimising inventory through high transportation costs. Walmart was among the pioneers in the use of technology to optimise their supplier management in the retail industry (Cremmings, 2014). It continues to be their area of competence and source of competitive advantage. The other source of competitive advantage is the company's distribution system which is explained below.

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1.2 Outbound logistics and distribution strategies

As has been discussed above, Walmart employs local sourcing. This corresponds to a fully integrated global supply where suppliers are distributed across different parts of the world (Rushton, Croucher and Baker, 2014). This enables them to tap into country-specific advantages while also benefiting from the global scales of operation for the products whose suppliers are global. It is a multifaceted approach whose design is managed carefully to generate the best possible outcome for the business. It is this unique capability that keeps Walmart ahead of their competitors in terms of their ability to uniquely manage their supply chain. Upon production, Walmart distributes their products through what can be described as a hub-and-spoke distribution network (Alyea, 2012).

The company runs a large distribution system which comprises of 160 distribution centres. The location of these distribution centres is strategic since none is situated more than 120 miles from a store or outlet it supplies (University Alliance, 2014). This means that replenishment of stocks can be done regularly without incurring high cost of transportation. About 81% of the merchandise traded by Walmart passed through this distribution system (University Alliance, 2014). The rest of the 19% was through direct delivery of supplies to the stores directly. This is especially with regards to highly perishable food items which must be availed to the end consumer within a relatively short period of time. This means that as much as there is a dominant distribution system; exceptions must be made from time to time depending on the location of suppliers and the nature of products being supplied.

The distribution system is highly integrated. As a matter of fact, the distribution centres are interlinked with the individual stores and are able to determine at a glance when it is time to replenish supplies (Lu, 2014). In the practical sense, it works by having the stock levels adjusted the moment a purchase is made. It means that even before any communication is made from a store, the distribution centre serving it will have noted that certain stocks are on the decline and therefore in need of replenishing. The technology used in this case is the radio frequency identification technology RFID (Traub, 2012). This technology is done by marking every product electronically with the coding including the price and other product specifications. When integrated with the distribution system, the distribution centre is immediately able to tell how products are being purchased, the stocks remaining, and how long it is likely to take before reorder is done. Walmart is among the pioneers of RFID technology (Traub, 2012).

Adequacy of the distribution approach in terms of how many stores are served by one centre is very important to competitiveness (Steinle and Schiele, 2008). Where a distribution centre only serves a few stores, unit costs may be difficult to contain as transportation would have to be done in small batches. On the other hand, having a centre serve more stores than they can handle competently would imply stock-outs: a major driver of dissatisfaction and loss of customers (Steinle and Schiele, 2008). The company's branch network is organised in a manner to optimise the distribution centres. This is done by planning the branch network such that the distribution centres are within a reasonable distance from the stores. In some cases, the company's planning starts by determining the location of the distribution centre before the stores are opened (Alyea, 2012). This ensures that efficient and effective distribution is already planned for from the beginning. In general, a distribution centre will serve about 75 retail stores; a fact that makes it easy for them to be utilised to their full potential (Alyea, 2012).

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The structure of the distribution system at Walmart is the hub-and-spoke structure (Russell, 2011). In this system, the organisation organises for supplies to be collected from the suppliers and concentrated on a single collection point (Russell, 2011). This approach helps with planning; even though it could result in high transportation costs. The model adopted by Walmart is uniquely designed to differ from the traditional hub-and-spoke network with the company storing very little inventory in its distribution centres (University Alliance, 2014). It concentrates more on collecting supplies from the suppliers to deliver to the stores. This is an approach that has been noted to raise transportation costs significantly while lowering the cost of inventory. The failure to concentrate on warehousing, however, doesn't deter the company from enjoying the benefits of the model where distribution planning is done from a centralised point. In fact, the distribution centres have been noted to work 24-hours a day and are also fully integrated. The use of data analytics at Walmart is very high with distribution centres able to anticipate stock depletion rates based on past records and demand projections (Lu, 2014).

A hub-and-spoke distribution network is advantageous in that it facilitates planning and effective distribution (Blanchard, 2007). The local distribution centre is able to discern the unique challenges in the locality or market and create solutions that are most applicable under the circumstances. This means that decisions can be altered and implemented with speed. Besides, having distribution planned from a distribution centre that serves about 100 stores helps in ensuring that the organisation transportation costs can be minimised by organising the transportation pattern to optimise exploitation (Lu, 2014).

The preferred transportation mode is road transport. Walmart owns thousands of trucks and trailers which are used to transport products from distribution centres and supplier premises to their own stores (University Alliance, 2014). In line with the philosophy of minimising inventory in the distribution centres, supplies delivered to the centres are sorted and transported to the stores that require them within 48hours (Traub, 2012). As a mode of transport, road transport is flexible and relatively affordable when compared to faster means such as air transport. Its effectiveness in driving competitiveness can be gauged on the impact it has on the cost of transportation as well as timeliness in delivery of products. To this end, the transportation mode can be said to serve the company well.

The distribution system is fully owned by Walmart where the company owns the trucks and the distribution centres (Alyea, 2012). These distribution networks are also fully owned by the company. Fully owning a distribution system provides the organisation with full control over it. This means that they can implement strategic changes without having to worry about implementation. Besides, such systems are run by employees who have fully been inducted into the values of the organisation. It forms the main reason for the supply chain management approach being cited as one of the sources of competitive advantage for Walmart (Alyea, 2012). Having a fully owned distribution network means that competitive strengths can be applied to it without the risk of cumulated competencies being used to serve rivals. This is often the situation with independent distributors who treat each subsequent contract as a learning experience with lessons adopted in serving other organisations. Fully owned distribution systems are often faced with competence issues and lack of sufficient quantities to lower the unit transportation costs (Hoffman, 2010). This is a challenge that has been reduced by strategic design of the systems at Walmart to ensure that each distribution centre serves a fairly large number of stores. In this case, proper planning can be done to ensure that transportation is in bulk; essentially reduc-

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ing the unit transportation costs.

1.3 Critique of the model

The closely knit distribution network of Walmart is based on the clustering strategy where a location for distribution centres is identified first. The basis for the identification is the ability of the target market to support the distribution centres where each is expected to serve between 75 and 100 stores (University Alliance, 2014). It is a strategy whose impact has been Walmart occupying a relatively lower number of markets as opposed to other top retailers. For instance, Walmart only serves 27 countries with 11,000 stores as compared to Tesco which serves 70 countries with about 3,400 stores (Lu, 2014; Tesco, 2014). The implication is that Walmart embraces clustering more seriously in consistency with its strategy of ensuring that the distribution of stores supports their distribution strategies. Even though the strategy helps in containing operation costs, it tends to leave out markets which may not support a large number of stores within a reasonably small radius. This leaves room for other retailers to establish stores in such locations; hence heightening industry rivalry.

The hub-and-spoke distribution model that is applied by Walmart requires a high level of coordination. It requires the operators to be highly trained (Blanchard, 2007). It is a challenge that Walmart has often met through incremental training. This strategy has been successful in the past and it is likely to continue yielding great success for the business provided that they can retain their pool of talented employees. The sustainability of this strategy is therefore dependent on the human resources which would be retained through a high investment in training, reward, motivation, and leadership.

Direct sourcing means that the organisation loses the advantage of market intermediaries such as coordination between suppliers (Holmes, 2011). However, direct sourcing is advantageous as it eliminates intermediary costs and enables the organisation to price competitively due to lowered production costs. It requires the existence of an elaborate supplier management system. To this end, Walmart can be said to be fully equipped to implement a direct sourcing approach with great effectiveness.

In spite of the Walmart sourcing and distribution system being effective, there is need to ensure that there is strategic agility in the supply chain network to remain competitive in a changing business environment. This is as discussed in the sections below.

2. Future challenges and recommendations

The dominant strategic management thought in the 21st century is the organisational environment thought which emphasises on the need for the organisation to constantly monitor the external environment and conform to it (Cummings and Bridgman, 2011). It means that for survival, the organisation must be constantly informed about changing market conditions and seek to exploit opportunities or avoid the threats posed. As has been explained in the sections below, Walmart assures its long term sustainability by investing in data analytics which it uses to forecast demand and run an efficient distribution system. This and other changes in the business landscape are discussed in the sections below.

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2.1 Recent changes in the environment

One of the main changes in the market is related to the data explosion. With the increase in the popularity of the internet, there has been a vast amount of information being produced (Pantano, 2014). This has been accompanied by an increase in the expectations of the customers on their preferences. The customer is now more aware due to the availability of product information (Pantano, 2014). At the same time, improvements in information technology have provided a general advantage by organisations to be able to analyse consumption patterns and preferences (Delloite, 2014). In response to this, organisations have been investing heavily in data analytics. The information harnessed is not only useful in facilitating direct marketing but also in demand forecasting. Data analytics capability is becoming a crucial source of competitiveness in the global retail industry (Delloite, 2014). To this end, Walmart can be said to be highly competent hence in a good position to sustain its competitiveness.

The other trend that is noteworthy in the global retail sector is the increase in the popularity of online shopping (ATKearney, 2014). Customers are increasingly considerate of their convenience: preferring to shop from their comfort of their homes and offices. In response to this, retailers have been introducing online portfolios to enable them serve customers from diverse locations. With online shopping becoming more common, giant online bazaars have been emerging with the most common examples being Alibaba and eBay (PWC, 2014). Such bazaars have been charging their products very competitively hence they are able to attract customers based on price. It increases competition for the existing players. For companies such as Walmart, this is a challenge for them to strengthen their online portfolios and exploit their strong distribution network to deliver products faster than the online bazaars are able to.

In a more psychological effect, the popularity of online shopping has subconsciously heightened the importance of convenience among traditional shoppers (Pantano, 2014). They consider location more and are hence less likely to drive over long distances to look for products. This means that organisations that do not have a large number of stores or whose outlets are not conveniently located are likely to lose customers (PWC, 2014). Walmart's distribution strategy tends to inform their location strategies. In order to sustain their unique distribution model, the company focuses on locations that are relatively high potential and are able to sustain a large number of stores within a radius of about 120miles (Lu, 2014). Very few markets around the world are able to meet this criterion. This implies that the company's ability to expand abroad may be curbed and it gives an opportunity for competitors to thrive and grow stronger brands. This is closely related to the next challenge: increasing rivalry.

Traditionally, Walmart has thrived on the concept of competitiveness where its low cost supply chain is used to pass in the savings made to the customers (Walmart, 2014). It thrived on price and was the lowest priced retailer for a long time. However, events such as the global recession that significantly reduced the disposable incomes of consumers got many retailers to refocus on price. Cost cutting measures are being undertaken across the world with retailers refining their operation and supply chain strategies to achieve this goal (PWC, 2014). This is in addition to running online portfolios whose operation costs are relatively low. The trend within the industry is therefore such that Walmart may not be able to sustain its strength based on price alone. This would entail them having to embrace other strategies for competitiveness.

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The other challenge in the market is heightened attention on workers' rights. This is applied not only on the main companies but also on members of their supply chains. Walmart is not new to such unrests (Lu, 2014). In fact, its workers have been known to be disgruntled. This places them in a compromised position; considering that the competence of their human resources is the driver for its unique distribution model. To retain sustainability in the dynamic environment, Walmart may need to implement a number of strategies as discussed in the section below.

2.2 Recommendations for strategy

The company's distribution model that has them only establish outlets in high potent markets should be changed. Poor market presence gives room for rivals to establish themselves and heighten rivalry. Walmart would need to capitalise on its strength to expand and stem the growth of other retailers. This would entail them having to revise their distribution strategy; including outsourcing transportation services as appropriate.

The second recommendation is for Walmart to strengthen its online portfolio to stem the growing influence of online bazaars such as Alibaba. Such bazaars attract a niche of customers who prefer their convenience or are simply out to get the best bargains in the market. It is a threat to the company which has been seeking to establish itself as the most preferred retailer in the world. By using its 11,000 outlets, Walmart would easily exploit its market presence to capture and retail the clientele that prefers online shopping through effective and timely delivery.

On the retention of talented employees, Walmart needs to review its labour relations with a view to increasing its employee retention rate. This would ensure that capabilities developed in supply chain management are retained within the organisation.

References

[1]Alyea, J. (2012) Analyzing Wal-Mart's Distribution and Logistics System, (Online) Available at: http://jimmyalyea.blogspot.com/2012/02/analyzing-wal-marts-distribution-and.html (Accessed 26 November 2014)
[2]ATKearney, (2014) The 2014 Global Retail Development Index, (Online) Available at: http://www.atkearney.com/documents/10192/4600212/Full+Steam+Ahead+for+Global+Retailers-+2014+Global+Retail+Development+In....pdf/6f55a59b-e855-4236-96cb-464c2ca01e91 (Accessed 26 November 2014)
[3]Blanchard, D., 2007. Supply Chain Management Best Practices. John Wiley & Sons
[4]Cremmings, B. (2014) The Power of Collaboration for Supply Chain Sustainability, (Online) Available at: http://blog.walmart.com/the-power-of-collaboration-for-supply-chain-sustainability (Accessed 26 November 2014)
[5]Cummings, S. and Bridgman, .T (2011) The Relevant Past: Why the History of Management Should Be Critical for Our Future, Academy of Management Learning & Education, 10(1), 77-93
[6]Delloite, (2014) Global Powers of Retailing 2014: Retail Beyond begins, (Online) Available at: http://www.deloitte.com/assets/Dcom-Kenya/Local%20Assets/Documents/CB_Global-Powers-of-Retailing-2014.pdf (Accessed 26 November 2014)
[7]Golini, R. and Kalchschmidt, M. (2011) Moderating the impact of global sourcing on inventories through supply chain management, International Journal of Production Economics, 134, 86-94

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[8]Hoffman, E. (2010) Linking corporate strategy and supply chain management. International Journal of Physical Distribution & Logistics Management, 40(4), 256-276
[9]Holmes, T.J. (2011) The diffusion of Wal-Mart and economies of density. Econometrica, 79(1), 253-302
[10]Janvier-James, A.M. (2012) A New Introduction to Supply Chains and Supply Chain Management: Definitions and Theories Perspective. International Business Research, 5(1),. 194-207
[11]Jenatabadi, H.S. (2013) Impact of Supply Chain Management on the Relationship between Enterprise Resource Planning System and Organizational Performance, International Journal of Business and Management 8(19), 107-121
[12]Lu, C. (2014) Incredibly Successful Supply Chain Management: How Does Walmart Do It? (Online) Available at: http://blog.tradegecko.com/incredibly-successful-supply-chain-management-walmart/ (Accessed 26 November 2014)
[13]Mena Report, (2012) China,United States : Walmart Announces New Commitments to Drive Sustainability Deeper into the Company s Global Supply Chain, Mena Report, 26 October 2014
[14]Oliva, R. and Watson, N. (2011) Cross-functional alignment in supply chain planning: a case study of sales and operations planning, Journal of Operations Management, 29, 434-448
[15]Ortolani, C., Persona, A. and Sgarbossa, F. (2011) External cost effects and freight modal choice: research and application, International Journal of Logistics Research and Applications, 14 (3), 199-220
[16]Pantano, E. (2014) Innovation drivers in retail industry, International Journal of Information Management, 34(3), 344-351
[17]PWC, (2014) Achieving Total Retail Consumer expectations driving the next retail business model, (Online) Available at: http://www.pwc.nl/nl_NL/nl/assets/documents/pwc-total-retail-2014-nl.pdf (Accessed 26 November 2014)
[18]Rushton, A., Croucher, P. and Baker, P. (2014) The Handbook of Logistics and Distribution Management. 3rd Ed. London: Kogan Page (CILT)
[19]Russell, S.H. (2011) Supply Chain Management: More Than Integrated Logistics. Air Force Journal of Logistics 35(3/4), 88-96
[20]Ryman, R. (2014) Schneider Logistics settles lawsuit, to pay $21 million, The Reporter, 24 May 2014
[21]Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E. (2008) Designing and Managing the Supply Chain (3rd edn.). New York: McGraw-Hill
[22]Steinle, C. and Schiele, H. (2008) Limits to global sourcing? Strategic consequences of dependency on international suppliers: Cluster theory, resource-based view and case studies, Journal of Purchasing & Supply Management, 14, 3-14
[23]Traub, T. (2012) Wal-Mart Used Technology to Become Supply Chain Leader, (Online) Available at: http://www.arkansasbusiness.com/article/85508/wal-mart-used-technology-to-become-supply-chain-leader?page=all (Accessed 26 November 2014)
[24]University Alliance, (2014) Walmart: Keys to Successful Supply Chain Management, (Online) Available at: http://www.usanfranonline.com/resources/supply-chain-management/walmart-keys-to-successful-supply-chain-management/#.VHVyJGcvuII (Accessed 26 November 2014)
[25]Walmart, (2014) Annual report 2014, (Online) Available at: http://cdn.corporate.walmart.com/66/e5/9ff9a87445949173fde56316ac5f/2014-annual-report.pdf (Accessed 26 November 2014)

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