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Peer-reviewed and Open access journal
ISSN: 1804-5006 | www.academicpublishingplatforms.com
The primary version of the journal is the on-line version

BEH - Business and Economic Horizons
Volume 12 | Issue 3 | 2016 | pp.141-163
DOI: http://dx.doi.org/10.15208/beh.2016.11

Examining the impact of electronic supply chain management processes on customer satisfaction: A literature review

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This paper aims to discuss a collection of empirical studies examining the impact of electronic supply chain management (e-SCM) processes on customer satisfaction. A review of the relevant literature has shown that a limited number of previous studies has attempted to identify the impact of e-SCM processes on customer satisfaction. Thus, the obtained data from the secondary source will be discussed and explained here. Findings of this study show the impact of e-SCM processes on customer satisfaction. This study has been based on a literature review and opens the door for future researchers to further expand this field.

JEL Classifications: M10, M15

Keywords: Supply chain management processes, customer satisfaction, electronic supply chain management

Citation: *Emeagwali O.L., Shamout M.D., 2016. "Examining the impact of electronic supply chain management processes on customer satisfaction: A literature review ", Business and Economic Horizons, Vol.12(3), pp.141-163, http://dx.doi.org/10.15208/beh.2016.11*

Introduction

In today's competitive business world, there is an increased focus on delivering value to the customer. The focus of most businesses is on providing products and services that are more valuable than those of their competitors. Alongside the emphasis on customer value, the marketplace in which businesses operate today is widely recognized as being complex and turbulent (Christopher, 2000), involving ambitious growth strategies that consider humans as central to any industry. The growth in supply chains on an international scale reflects the drive to improve profitability, customer response and the ability to deliver value to customers, as well as improve interconnection and interdependence between firms. e-SCM, for instance, is about demanding lower prices, faster delivery, higher-quality products or services and increasing the variety of items (Braunscheidel, 2005).

According to previous studies reported in the literature, there is a variety of models relating to SCM processes. Firstly, there is the supply chain operations reference (SCOR) model developed in 1996, which focuses on five key processes: plan, source, make, deliver and return. Secondly, there is a more convenient model designed by Cooper et al. (1997), who defined supply chain management (SCM) in terms of eight processes introduced by the International Centre for Competitive Excellence (ICCE) (now known as the Global Supply Chain Forum): customer relationship management (CRM), customer service management (CSM), demand management, e-fulfilment, e-procurement, product development and commercialization, and reverse logistics regarding customer satisfaction.

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Supply chain management

In the world of business, managers and executive leaders go through a continuous series of situations that drag them into a real-life tug of war, in which the mounting interests and demands of the customers pulling them on one side, and the company's goals and targets on the other. In the interests of balancing the extreme ends of business operations, managers have been compelled to develop adaptation strategies that ensure that all relevant stakeholders are happy and satisfied. One of these adaptation strategies has been SCM, which culminates in the handling of all stakeholders involved in a business and its operations in terms of a single system comprising an array of components. Li et al. (2006) further suggest that SCM is the strategic business practice that brings together all the links involved in the management of the flow of a product or a service, as well as all relevant information pertaining to it from the producer to the end customer through suppliers, distributors and retailers. SCM can also be perceived as the efforts put in place to pursue tangible outcomes for a business by focusing on revenue growth and the utilization of assets, while keeping operational costs at the lowest possible level.

SCM transformed the conventional and traditional modalities of business where companies were scrutinized on the basis of their component parts, which were thought of as distinct entities. The revolutionary aspect of SCM in relation to business operations is that it calls for the assessment of efficiency on the basis of the level of coordination between all the components of a business entity. SCM handles the entire supply chain as a single integrated system, with the aim of creating customer value at the lowest operational cost, while increasing profitability in every single link and component of the entire system.

Wilding (2000) gives a terse and comprehensive definition of SCM as "the act of delivering enhanced customer and economic value to end customers through the synchronization of the management of the flow of goods and all the information associated with it from the source" (p.14). Van der Vorst and Beulens (2002) observe that some of the pertinent activities involved in SCM include manufacturing and the operations around it, purchase and supply, transportation of products and services, and the physical distribution of a company's provision through an integrated and unified programme. In order for the supply chain to be successful, there has to be optimum integration and coordination of all these activities in order to form a seamless process. Geary et al. (2002) have introduced smaller divisions of the functional areas of SCM by suggesting that it should encompass transportation, warehousing and inventory control from an inbound and outbound perspective. Using this framework, SCM also encompasses sourcing, procurement, supply management, trend forecasting, planning and scheduling, customer service, and order processing. By focusing on all these activities, firms can improve their productivity and profitability, while maintaining long-term customer relationships. In order to make SCM more effective in achieving its goal, managers and executive leaders have resorted to the incorporation of information systems and technologies to create a new SCM practice referred to as e-SCM. This will form the bulk of the subsequent subsection.

Electronic supply chain management

Chopra and Meindl (2001) suggest that, as the global economy progressively become more competitive, managers and executives have been compelled to devise other means of creating profitability. This has resulted in the revolution of business operations from product-based efforts to service-oriented approaches. In order to reinforce the potency of services in boosting profitability, corporate leaders have been focusing their efforts on the functions of the supply chain in order to create better profit margins and a competitive edge in their domains. Similarly, with the advent of technological advancement, the focus on the supply chain has been retargeted in order to adjust to the changes. The explosion

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of the Internet and portable electronic gadgets has culminated in the growing prevalence of e-businesses by availing the means through which real-time communication can be achieved at all levels of the supply chain. This has led to the establishment of what has come to be known as e-SCM.

According to Lumus and Vokurka (1999), e-SCM refers to the supply chain that revolves around and is structured through relationships, which are enabled by the use of electronic technology. Barney (2002) offers a different definition by suggesting that e-SCM is a network of entities comprising all efforts that revolve around the production and delivery of final products from the producer to the customers through a supplier. According to Burke and Vakkaria (2002), e-SCM refers to "the management of upstream and downstream relationships using technology-based and electronically-enabled processes in order to ensure that the end customer receives the highest level of value at the lowest possible cost to the entire system" (p.18). Christopher (1998) suggests that the overarching rationale behind SCM is the fact that the "simultaneous optimization of all the links in a supply chain enhances the cumulative performance levels of the whole supply chain more than it does when the links are optimized on a one-by-one basis" (p.26). In order for the simultaneous optimization of all the links in a supply chain to occur successfully, a high level of coordination and integration is required. In the currently highly competitive global market, the necessary coordination and integration levels should to be attained as promptly as possible.

Similarly, in order for promptness to be achieved, information is critical. Prasad and Babbar (2000) suggest that, along with recent technological developments, the high level of coordination required in an efficient supply chain has been achieved with the use of information systems and information technologies through the virtual integration of the whole supply chain. One of the most potent tools in modern-day practice has been the Internet. The coordination, integration and consequent optimization of supply chains in the context of Internet-based operations represent what is meant by e-SCM (Gunasekaran and Ngai, 2004). The description of e-SCM offered by Gunasekaran and Ngai (2004) is in line with that given by Johnson and Whang (2002), who suggest that it is combination of SCM and the Internet.

Oliver and Webber (1992) suggest that e-SCM plays a significant role in the optimization of business operations by introducing a dramatic reduction in costs through the prompt involvement of players in the supply chain. This is because the Internet and electronic gadgets facilitate the acquisition and interpretation of real-time market information to relevant stakeholders and players in the supply chain. The Internet allows the players in the supply chain to participate, anticipate and adjust to the dynamism of market trends. In this way, the company frees up resources by reducing the expenditure on stockpiling against demand spikes. The reduced costs result in an increase in the speed and accuracy of the data-sharing processes in the company, thus ensuring the delivery of the highest possible customer value.

Owing to the importance of SCM to business operations, most corporate decisions, strategies and measurements take into consideration the potential effects on the entire supply chain, rather than individual functions. This is because the supply chain gives them access to a network of other companies and organizations. Even though major research efforts have been placed on understanding the concepts involved in operations management and SCM, only two have shown particular interest in e-SCM as an emerging field in business operations (Johnson and Whang, 2002; Gunasekeran and Ngai, 2004). The two reports agree on the classification of e-SCM activities. Croom (2005) suggests that, in order to comprehend the boundaries of e-SCM and its constituent processes, it is critical to select a guiding model. Cooper (1997) suggests a model referred to as the SCOR model, which divides SCM into five key processes, namely, planning, sourcing, making, delivering and returning. Romano and Vinelli (2001) further suggest that e-SCM can be divided into smaller processes, which include CRM, demand management and CSM. These studies are also in line with Romano and Vinelli (2001) regarding some of the

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eminent processes of e-SCM, such as strategic planning, e-commerce, CRM and demand management. These e-SCM processes will form the bulk of the subsequent subsection.

Electronic supply chain management processes

Due to the importance that has been placed on SCM processes, there has been a significant level of interest on its combination with the Internet to form e-SCM. Even though very few researchers have dedicated their efforts to the full comprehension of e-SCM, there has been a commendable level of dedication to the subject by Cooper et al. (1997). The research studies that have sought to comprehend e-SCM have suggested a model known as the SCOR model. The SCOR model was developed in 1996 and reflects the fact that e-SCM operations can be separated into five major processes, namely, planning, sourcing, making delivering and returning, as mentioned in the previous section (Cooper, 1997). However, in an advancement of his work, Copper (1997) joined efforts with other researchers to develop a more convenient new model, which categorizes e-SCM activities. In this model, Cooper et al. (1997) define e-SCM by taking into account the eight SCM processes introduced by the ICCE (Cooper et al., 1997). The ICCE is currently referred to as the Global Supply Chain Forum (Cooper et al., 1997).

These processes include CSM, demand management, fulfilment, reverse logistics, product development and commercialization, and procurement (Cooper et al., 1997). According to a study of the dynamism of e-commerce, these processes among others may be used as independent variables in the creation of the hypothesis revolving around their role in customer satisfaction (Cooper et al., 1997). As intricate market processes, they have a significant role to play in the satisfaction of customer needs. On another note, these processes represent the sources of the benefits of e-SCM, given that their role in the management of the supply chain culminates in the realization of the benefits of the entire process concerned. Some of the potential benefits emanating from an e-SCM process to an entire e-SCM system include information sharing and trust, lead time reduction, and quality of service with a concurrent cost reduction. Due to the significance of the e-SCM process in relation to the entire operations of a company, these will form the bulk of the subsequent subsection is this document.

Customer relationship management

Galbraith (2014) suggests that the 21st century has seen the greatest change in business operations as companies experience a paradigm shift from a product-based focus to service-oriented approaches. Due to this revolution, customers have been given power over executives, employees, other stakeholders and the business itself. Customer demands have shifted from demand for value, possession and ownership to demand for fast, efficient and effective services at the cheapest possible price. Technological advancement has raised the stakes, as customers expect businesses to recognize and implement their personal preferences due to the increased availability of information (Zablah et al., 2004). This has placed a significant amount of value on customer connections, as they ultimately dictate the success of a business. Therefore, CRM has become an eminent focus of most company executives.

Zablah et al. (2004) suggest that the overarching aim of CRM is to boost an organization's customer value and foster the conditions required for long-term profitability and the realization of durable and mutually beneficial relationships with clients. Shah et al. (2006) concur by saying that the main rationale behind CRM is enforcing the creation of a business and operational environment in which customers are treated on an individual basis. In this way, Gray and Byun (2001) perceive CRM to comprise three major pillars, namely, the customer, the relationships and the management style in the organization. Chen and Popovich (2003) outline some of the objectives of CRM after analysing seven

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companies on two continents in their longitudinal study. They point out that the aims of CRM include the desire to use existing customer relationships as a driver for revenue generation through strategies, such as upselling and cross-selling. CRM also aims at boosting a company's profitability through the identification, attraction and retention of loyal and profitable customers by using integrated information systems, which ensure that they receive the highest level of service quality. CRM ensures that firms use all the information they have pertaining to their customers in order to personalize their services, reduce frustrations and save time. Finally, CRM ensures that a company has consistent and replicable processes and procedures across all departments, thereby ensuring that customers feel recognized, cared for, and valued.

Schermerhorn (2008) links CRM operations to technological advancement by pointing out that the former creates opportunities for the improvement and expansion of a firm's operations using the latter to maintain intense communication, gather and utilize data, and create additional customer value. Nickels (2008) suggests that CRM operations revolve around the process of learning as much as possible about the behaviours, expectations and preferences of customers with the aim of creating systems that are required to satisfy their needs using goods and services. Dickie (2000) concurs by stating that the business operations, which ensure a company uses information technology to gather and use customers' information for the anticipation of their needs and desires, with the aim of boosting the stability and longevity of the relationship with the firm, represent what is understood as CRM. Following on from the work of Dickie (2000), Fathy (2000) uses the term "leveraging" to refer to CRM as the act of "leveraging customer knowledge as indicated by information systems to increase sales and improve service provision with the aim of creating lasting (long-term) customer-firm relationships" (p.14). Shao and Yu (2004) introduce a new perception regarding CRM by suggesting that it is the function of a business enterprise, which blurs the boundaries that exist between the firm's sales and its service points by unifying its activities to the customers and their preferences.

Kim, Suh and Hwang (2003) conducted a trans-industrial study in China that aimed to assess the importance of CRM to business operations. From their study, it was eminent that CRM plays a significant role in boosting a company's customer retention capacity and market share by ensuring that customer satisfaction is at its peak. The conclusion from the study also suggests that CRM achieves it goals through three major processes: the improvement of service delivery efficiency, the development of market response mechanisms, and the formulation of a customer retention system. Campbell (2003) demonstrates that CRM has enabled businesses to develop relationship management programmes, which have become the norm of modern-day business operations. These programmes have culminated in the improvement in customer relationships by suggesting some changes in conventional practices, such as marketing, which has seen the rise in direct mailings and loyalty programmes (Verhoef, 2003). Most of the studies revolving around CRM suggest that the successful execution of these programmes requires the involvement and adaptation of internal organizational factors (Keramati et al., 2010; Lindgreen et al., 2006; Zablah et al., 2004). In this way, CRM appears to be involved in the process of aligning all the people, processes and technology in a company with the entire firm, as well as integrating customer-driven and technology-integrated functions to the operations of the business (Chen and Popovich, 2003, p.44).

Richard and Jones (2008) give an outline of the major components of CRM as a system. Therefore, it is highly critical for executives to understand the particular combinations of CRM components in their firm in order to make the best use of them (Ko et al., 2008). When the CRM fabric is dissected, it indicates that CRM activities could concurrently act as a business model, strategy and practice, with the overarching aim of identifying and understanding past and current customer behaviour in order to project and anticipate the future (Richard and Jones, 2008). By doing so, the firm capitalizes on its relationships with its customers to its advantage. Even so, the highly competitive modern-day global economy calls for the integration of enabling technologies as a streamlining strategy meant to simultaneously boost customer value, customer satisfaction and customer retention.

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CRM involves several functions in an organization, which make it an intricate part of a firm. The activities conducted in CRM can be divided into subfunctions, which have different subgoals and rationales. One of the most significant parts of the CRM fabric is CSM. This will form the bulk of the subsequent subsection.

Customer service management

According to Keskinocak and Tayur (2001), CSM forms an integral part of the CRM fabric, given that the process that optimizes the face value of a firm to its existing and potential customers is the supply chain. The ideals and frameworks suggested by CRM processes are implemented through the functions of CSM as a key point of contact between the firm and its customers. Vokurka and Zank (2001) point out that CSM activities revolve around the administration of product and service agreements as customer teams develop the most effective means of implementing and enforcing the ideals suggested by the CRM team. Burke and Vakkaria (2002) concur by highlighting that the main goal of CSM is to ensure that customers have a single source of information pertaining to issues that affect purchase rates, such as product availability, order status and shipping progress. In a similar way to CRM, CSM requires information technologies that provide real-time information and answers to customer queries, with the aim of streamlining the order placement process.

Romano and Vinelli (2001) point out that the major distinguishing feature between CRM and CSM is that the former handles all the activities revolving around the entire supply chain by looking at past, current and future trends in customer behaviour, while the latter focuses on the face-to-face interaction between the firm and the customer by focusing only on current factors (Chen and Popovich, 2003). CSM forms a very potent area of business operations as it reinforces the ideals suggested by CRM. In this way, while a company may have an effective CRM plan, if its CSM plan is not appropriately aligned with it, the entire effort is bound to fail. Considering the intricacy of the entire CSM process, most organizations have resorted to implementing a CSM system (CSMS), which boosts the efficiency of the direct interaction between the firm and its customers. A CSMS can also boost accuracy and consistency by creating a set of procedures and protocols for the probable situations in the company-customer relationship (Gunasekaran and Ngai, 2004).

Some of the major functions and activities revolving around CSM include receiving and responding to customer calls, emails, mail and any other form of communication (Houlihan, 2000). Some of these can be handled with human customer service managers. However, when customer traffic is overwhelming, it is wiser to implement a CSMS that handles electronic messages, such as emails, and handles general questions using electronic calls. Houlihan (2000) also suggests that CSM entails scheduling the repair of equipment and products for customers in order to ensure that it neither creates backlogs nor frustrates customers (Verhoef, 2003). In some fields of operation, companies are compelled to cater for the breakage and loss of function of some of their products by offering a warranty, which is valid for a specific period of time (Zablah et al., 2004). In order to ensure the free-of-charge service is satisfactory and efficient, a CSMS will use mathematical computations to create the friendliest schedules for both technicians and customers (Johnson and Whang 2002).

Dickie (2000) also suggests that the generation of service contracts falls within the scope and functions of the CSM fabric, as it dictates the terms and conditions for the relationship between the company and its customers. Campbell (2003) highlights the final function of the CSM department to be the tracking of customer orders and purchases. This forms an intricate aspect of business operations, as it allows companies to win the trust of their international customers. Efficient CSM ensures that, as soon as the customer places an order or makes a purchase, the entire company's system recognizes that and starts working towards fulfilling the order and delivering the purchase in the shortest time

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possible. All issues pertaining to lateness or misinterpreted orders are handled by the CSM department, which will ensure that customers are compensated where possible. In this way, companies reassure their customers that they are valued and that their orders and purchases mean everything to the firm.

As a means of differentiating themselves, companies have adopted different SCM strategies to suit the needs and desires of their market segments. Gunasekaran and Ngai (2004) highlight that one of the most successful strategies has been to address all the issues pertaining to SCM before, during and after any form of customer interaction. In turn, a company compels the customer to make another purchase, leading to improved customer retention. This has proven to be critical for the creation of a competitive advantage (Campbell, 2003). Moreover, an efficient SCM boosts the efficiency and effectiveness of a company's operations at the bottom line by increasing overall profitability and reducing product support costs. SCM efforts can also increase customer confidence, which consequently ensures that service contracts are continuous.

Demand Management

One of the major processes involved in e-SCM management is demand management. Taylor (2006) opines that, as an emerging topic in the field of SCM, demand management has been taking on different forms in various businesses due to the dynamism of demand. Even so, Adebanjo (2009) points out that the overarching principles behind demand management involve the prompt and sufficient integration of the needs of the supplier with the main intention of balancing and strategically aligning its operational capacity with the demand rates in the supply chain. Kaipia et al. (2006) demonstrate that, like any other e-SCM process, demand management requires prompt real-time information in order to match the recorded levels of demand with the operational dynamics of the relevant stakeholders if sufficient customer service, adequate stock rotation and high obsolescence rates are to be realized. Hilletofth et al. (2009) highlight that one of the major significances of demand management is the alignment of supply and demand for a particular product in a specific supply chain, so that it functions a strategy to avert unnecessary expenses, losses due to product wastage, lack or surplus of inventory, and diminishing profitability. In an attempt to define demand management, Mentzer and Moon (2005) suggest that it is an organization's way of obtaining substantial benefits for its customers through the emphasis in the collaboration between marketing and SCM in the value generation process.

For Esper et al. (2010), even though an organization could have sufficient comprehension of its supply chain and the dynamics around it, it cannot attain the required level of coordination in its SCM processes without sufficient knowledge of the concept of demand. Like any other e-SCM process, demand management has an array of processes and facets to it (Croxton et al., 2008). This makes demand management an intricate aspect of a firm's SCM as it houses several critical activities, which cumulatively affect the profitability and efficiency of the company. These activities have led to the use of several other terms, which are synonymous with demand management, such as demand planning, vendor- managed inventory, integrated business planning, and sales operations and planning (Juttner et al., 2007). Lambert and Cooper (2000) disagree with this suggestion by pointing out that the same activities, which are synonymous with demand management, represent the concept itself and not what it is. Therefore, Lambert and Cooper (2000) opine that demand management is the monitoring and optimization of the interactions and processes involved in demand planning, vendor-managed inventory, integrated business planning, and sales operations and planning in a particular organization's supply chain. Roath (2009) concurs by suggesting that demand management cannot be perceived as an isolated practice, as it predominantly entails the creation of a synergistic relationship between marketing activities and a company's operations with the aim of acquiring knowledge and understanding of market and customer factors, which are vital to the

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satisfaction of client needs. The idealization of demand management by different researchers in the field has led to the tug of war between them, as each one strives to define the concept.

Croxton et al. (2008) define demand management as "the supply chain process that constitutes operational and strategic subprocesses that are exclusively focused on the determination and projections of sales, and the efficient synchrony between the organization's operational and production capacity, its supply chain, and its strategy in order to carter for customer needs" (p.18). Conversely, Hilletoth et al. (2009) have a different definition, which refers to demand management as "the alignment of demand creation procedures and demand fulfilment processes within the internal arena and functions of an organization and across other companies within a particular supply chain with the aim creating a synergy between the SCM processes and the market of operation to create a competitive advantage" (p.33). The definitions offered by Hilletofth and Ericsson (2007), Walters and Rainbird (2004), and Juttner et al. (2007) also concur with the definition outlined by Hilletofth et al. (2009). However, Mentzer et al. (2007) offered a simpler definition by pointing out that demand management is "an element of SCM processes that is aimed at creating a well-coordinated demand flow between the market and all the members of the supply chain network within it" (p.43). By introducing a new dynamic to the concept, Vollman et al. (2004) perceived demand management as "the interface between a company's production activities and its planning and marketing control systems that encompasses an array of sub-processes such as balancing demand and supply, forecasting, order processing, and delivery" (p.8). Finally, Rainbird (2004) simply defines demand management as "the art of understanding a company's current customer expectations, and using it to project the probable future trends in the same in relation to market characteristics and alternative responses emanating from the operational processes" (p.18).

Aside from struggling with the definition of demand management, the same researchers also suggest several frameworks that would culminate in the highest level of benefit from the entire practice. These frameworks are conspicuously split into two distinct "schools", with one defending the need for integrating SCM and marketing operations, and another demanding a focus on the supply chain and perceiving demand management as a critical element of SCM. The first "school" hosts Esper et al. (2010), Juttner et al. (2007), and Hilletofth et al. (2009), all of whom suggest that, for a supply chain to be successful in creating optimum levels of customer value, organizations should strive to integrate the processes revolving around demand and supply. Therefore, the efficiency of demand management is measured through an analysis of the level of equilibrium between demand and supply creation and fulfilment, by way of their efficient coordination and collaboration. The other "school" comprises Croxton et al. (2008) and Mentzer and Moon (2005), who opine that demand management entails the integration of the various subprocesses involved in it as an element of the SCM fabric, with a clear emphasis on the coordination of the flow between the members of the supply chain and the market of operation. Being a highly engaging concept in business operations, the implementation of demand management has to be guided by an ideal framework. Out of all the frameworks suggested, only Croxton et al. (2008) suggest a framework that entails the implementation process, given that they split demand management into strategic subprocesses and operational subprocesses.

e-Fulfillment

Forrester (2005) highlights one of the most eminent changes to have occurred in SCM processes as a result of the Internet. Specifically, Forrester (2005) dwells on the revolutionary change in fulfilment as an SCM process due to the introduction of the "brick-and-clicks" concept, which combines conventional activities with the changes required for the same when it comes to electronic- and technology-based operations.

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Wallace et al. (2004) demonstrate that the hype behind Internet-based operations has led to the tremendous growth in sales over the past decade with a quarterly rate of 8.6 per cent. Dinlersoz and Hernandez-Murillo (2005) expect the growth in Internet-based retail sales to increase even further with the development of sustainable models of e-commerce on the way. By focusing on retail sales in the USA only, Webb (2002) shows that multichannel retailers accounted for 75 per cent of the total online sales for two major reasons. First, traditional retailers have taken the step of adding an online channel to their casual operations (Webb, 2002). Second, new companies are focusing most of their resources on developing their online sales platforms to reinforce their physical ones, or as the sole mode of sales (Webb, 2002). When such sales are made over the Internet, they have to be handled on the same platform. This is what has led to the development and predominance of e-fulfilment.

According to Lee and Whang (2001), the e-fulfilment process entails the satisfaction of an order alongside the effective management of the activities required to do so. Lee and Whang (2001) point out that the e-fulfilment process has a strategic facet, which entails the design of an effective supply chain that fosters the timely and accurate satisfaction of an order. From an operational perspective, Lee and Whang (2001) further suggest that the e-fulfilment process encompasses "all activities in and around the generation, communication, entering, processing, picking, and delivering the orders placed by customers at the highest level of efficiency and at the lowest possible cost to the organization" (p.144). This calls for the effective integration of a company's manufacturing, logistics and marketing operations with the overarching aim of realizing customer satisfaction and cost reduction in the periods between and after customers' order have been placed (Boyer and Hult, 2005). As an innovative strategy that puts information into good use and leverages existing resources, e-fulfilment improves the efficiency of the order satisfaction process for both traditional retailers (physical goods) and online retailers (Rabinovich, 2005). This is because e-fulfilment requires access to, and manipulation of, large data sets related to customer orders and the sizes of a company's inventory (Crowley, 1998). By capitalizing on the efficiency of information technology and the access to real-time market information over the Internet, e-fulfilment allows both companies and their customers to track their orders across the supply chain at minimal cost to both (Lee, 2002). This also allows the companies to make prompt adjustments in case of any changes to the initial order request in order to satisfy the customer. The capitalization of information and electronic technology appropriate to e-fulfilment makes it easier for companies to gather and analyse their customer statistics in order to highlight the most dominant trends, which can be used to project customer demands, make relevant changes to companies' inventory and design the most profitable vehicle routing systems (Starr, 2003). In this way, a company has the ability to design the most profitable and efficient supply networks according to its operational capacity.

Most of the reviewed literature on the topic of e-fulfilment has been focused on the implication of the Internet with regard to the fulfilment process, given that goods are sold and delivered on e-commerce platforms (Kotzab and Madlberger, 2001; Albers et al., 2002; Da Silveira, 2003; Rabinovich, 2004; Boyer and Hult, 2005). The same researchers have also investigated the impact of information sharing via the Internet on e-fulfilment process elements, such as transport. Nunes and Cespedes (2003) hold the opinion that different operational channels present diverse abilities when it comes to their performance and contribution to service outputs. Tsay and Agrawal (2004) have a specific interest in the contribution of the Internet to operational procedures, especially when it comes to availing information to the customer and the merchant on an on-demand basis. From the arguments presented by Tsay and Agrawal (2004), it is evident that the Internet plays a significant role in the reduction of operational costs by availing multiple, concurrent and complementary channels, along with a more elaborate mix of customer service capacities. In turn, the combination of conventional fulfilment processes with the Internet, in order to form e-fulfilment, enhances a merchant's overall value proposition by ensuring that different customer preferences are accommodated (Lummus and Vokurka, 2002). In the

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current global market, customer interests are highly volatile as they shift from one trend to another, depending on the marketing efforts of the company selling a particular product. Furthermore, the Internet has made it very easy to search and locate products, place orders, and have them shipped from different parts of the world in a manner that was not possible before the inception and popularization of e-commerce platforms. Through the Internet, customers are exposed to a series of multichannels, which have different value propositions at various times and purchase stages. This has compelled companies to be vigilant and resilient in their online marketing, as customers can be easily convinced to change their mind in the terminal stages of their shopping (Currah, 2002). This has created a very competitive environment, which has led to the overall improvement in e-fulfilment processes, as companies strive to outdo each other and secure the highest customer market share in their domain of operation (Gulati and Garino, 2000).

However, Coelho (2004) presents a series of arguments, which suggest that the integration of the Internet with conventional fulfilment processes is bound to create an array of unprecedented milestones that could render e-fulfilment unbeneficial to the company at hand. Coelho (2004) states that the multichannel approaches to business operations are bound to culminate in unproductive cannibalistic outcomes. As companies strive to diversify their supply chain and distribution channels, this could create an online situation that could prey on the efforts of existing divisions as opposed to growing total sales. Coelho (2004) uses a series of examples, one of which entails a manufacturing company that competes with its own resale department by having a customer-direct Internet-based channel, which created a series of conflicts between the interacting divisions of the same company and the relevant stakeholders. However, Daduna and Lenz (2005) suggest that the arguments outlined by Coelho (2004) are automatically disapproved by the simple definition of SCM. As a component of SCM, e-fulfilment demands the optimization of the entire portfolio, rather than sprucing up the operations of a single channel. Therefore, by incorporating the concept of multichannels with e-fulfilment processes, the probability of conflicts and misalignment with the company's overall vision is greatly reduced.

e-Procurement

According to Nelson et al. (2001), most of the expenditure covered by business, regardless of the field of operation, caters for the purchase of supplies, which constitutes procurement. Nelson et al. (2001) also suggest that cost reduction forms one of the most eminent rationales of business operations, as it culminates in higher profitability. The combination of the two observations by Nelson et al. (2001) forms the rationale for e-procurement. Internet-based purchasing has not only been fast and efficient, but is also cheaper than conventional methods, leading to a rise in e-procurement. Croom (2000) demonstrates that e-procurement has an array of impacts on the nature and practice of supplier governance through the creation of virtual hierarchies and the reinforcement of existing market-based relationships. In terms of definition, Wyld (2002) points out that e-procurement denotes the deployment of integrated communication systems as an efficiency booster in a portion or in the entirety of a purchasing process. Mishra et al. (2007) further suggest that the purchasing process entails all activities in and around every stage of the entire process. They identify the stages of the purchasing process as ranging from need identification to post-purchase review, with intermediate stages being searches for suppliers and distributors, sourcing, negotiations, placement of orders, and receipt of ordered supplies.

Other researchers, such as Croom and Brandon-Jones (2005), define e-procurement as "the capitalization of electronic and information technologies to harness the highest level of efficiency in the processes involved in purchasing from the formulation of the corporate purchasing strategy to its implementation" (p.66). Arbin (2002) notes that e-procurement covers all aspects of a company's business operations through the boost it introduces to internal efficiency, the accuracy it presents to order placement and

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processing, and the reduction in supplier costs it brings about. Osmonbekov et al. (2002) highlight some of the eminent points of discussion when it comes to the field of e-procurement.

One of the discussion points here is the role played by e-procurement in transforming a company's acquisition costs. As with most other processes in e-SCM, e-procurement introduces a level of efficiency to a company's operations, which culminates in the eminent reduction in total purchasing costs (Lancioni et al., 2000). The cumulative reduction in purchasing costs is an effect of the trickling down of cost reduction from low search and requisition costs in the upper level of a supply chain (de Boer et al., 2002). Even so, the nature and extent of the changes instigated by e-procurement remain undetermined as e-procurement is only as diverse as the online platforms and companies using these platforms (Yen and Ng, 2003). Using a case study model of a textile company based in Hong Kong, Yen and Ng (2003) conducted a study aimed at the nature and exchange of the changes caused by e-procurement. From their study, Yen and Ng (2003) conclude that e-procurement indeed has some eminent changing effects on a company's operations, especially in terms of purchase cost reduction realized through the digitization of catalogues and the minimization of order errors. Other cost reduction areas emanating from the adoption of an e-procurement strategy include lower marketing costs and reduced inventory mismatch (Yen and Ng, 2003). Wheatley (2003) and Quale (2005) agree that there is a plethora of evidence supporting the conclusions outlined by Yen and Ng (2003) in their work.

Another dominant theme surrounding the discussion on e-procurement is the revolution that it has kick-started in organizational characteristics (Kennedy and Deeter-Schmelz, 2001). The adoption and implementation of the e-procurement strategy is bound to culminate in a change in the behavioural and relational aspects of an organization (Croom and Johnson, 2003). Kennedy and Deeter-Schmelz (2001) conducted a study focusing on the trends in the use of the Internet as a major resource in the purchasing process. From this study, they concluded that some of the major factors drawing customers to Internet-based purchase channels, as realized by e-procurement, include an organization's characteristics, influence and customer traffic on the platforms. Therefore, e-procurement has, directly or indirectly, led to the transformation of the public and international relational aspects of most organizations wishing to be more appealing to their target audience with access to the Internet (Kennedy and Deeter-Schmelz, 2001). This goes a long way to show that e-procurement has created a wave of change in the relationship between perceived levels of compliance and customer perceptions.

Malone et al. (2004) also point out that one of the overarching themes surrounding e-procurement and organizational change is the effect they have on the governance structures in an organization, illustrating that the principles introduced by e-procurement have a significant impact on the information transmission in a company. Croom (2001) supports this notion by illustrating that improved information transmission systems, realized through e-procurement, boost access to the intricate parts of the procurement process in a manner that revolutionizes the company's configuration and supply chain network. Even so, Barratt and Rosdahl (2002) show that the effects of e-procurement on organizational operations have attracted two opposing schools of thought. They point out that, on the one hand, e-procurement has the capacity to increase the erosion of market transactions due to the introduction and popularization of electronic transactions (Barratt and Rosdhal, 2002). The introduction of a virtual supply chain, as realized by e-procurement, has led to the development of inter-organizational networks, which further boost the coordination between the involved parties in a manner that greatly reduces the time and costs involved in searching for the most appropriate vendors for desired goods and services (Konsynski and McFarlan, 2010). According to Konsynski and McFarlan (2010), the effect thus realized by the boosted coordination in the virtually connected electronic networks is referred to as an "electronic brokerage effect" (p.112). Brousseau (2010) concurs by demonstrating that the transformation realized by an electronic brokerage effect has led to the centralization of electronic networks and virtual supply

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chains, which in turn have led to a paradigm shift from hierarchical relationships to market-based ones. Conversely, Evans and Wurster (2001) suggest that the ease of search, efficiency and transparency realized by the deployment of an e-procurement strategy offer advantages to the customer, but could present some disadvantages to the company, thus reinforcing market-based relationships. However, Amit and Zott (2001) point out the critical argument that, if e-procurement was neither efficient nor profitable to companies, it would not have grown in popularity as has been the case in the past two decades.

On the other hand, Lin and Hsieh (2000) reviewed 26 inter-organizational networks in their study aimed at understanding the nature and extent of the relationship between firms. From this study, they realized that the petroleum and textile industries are the two industries that reap the most out of the virtual hierarchies developed by e-procurement. It was also found that, in these two industries, customers reaped the highest level of benefit from e-procurement as they were exposed to a higher number of suppliers and merchants, which created a significant difference in their operations. Rajkumar (2001) posits that e-procurement significantly reduces the infrastructure and transaction costs in an organization, which trickles down all other operations in a manner that fosters increased opportunities for information exchange between multiple partners, thus boosting the relationships between regular trading associates.

Carr and Smeltzer (2002), who embarked on a study with the overarching aim of comprehending the relationship between e-procurement and buyer-seller corporate trust levels, realized that the increased availability of information resulting from the practices of e-procurement does not boost the levels of corporate trust between sellers and buyers. However, in a study of a similar scope, Ellram and Zsidisin (2002) discovered that the relationship is the opposite of what Carr and Smeltzer (2002) expected, given that corporate trust levels have an impact on the adoption of e-procurement by buyers and sellers. In this way, Ellram and Zsidisin (2002) point out that, even though e-procurement has a non-significant effect on the levels of corporate trust between buyers and sellers, it is clear that only strong buyer-seller relationships with an established level of corporate trust will support e-procurement processes.

Another dominant discussion theme when it comes to e-procurement is the integration of conventional organizational activities with information systems that operate e-procurement platforms and processes. According to Subramaniam and Shaw (2002), one of the most rampant issues related to e-procurement in modern-day practice has been the system specifications and software integration in the implementation stage of the process. They posit that most organizations have encountered a milestone when it comes to the effective integration of their previous information systems with those of e-procurement, specifically when it comes to the production, planning and control activities of SCM (Subramaniam and Shaw, 2002). As such, Rajkumar (2001) identifies systems integration as one of the key success factors when it comes to the implementation of an e-procurement strategy. To some extent, organizations also have to incorporate certain aspects of web content management and content rationalization into their marketing activities in order to streamline the e-procurement implementation and sustenance processes, as they are critical to the operationalization of the entire e-procurement strategy. As organizations have to be extremely vigilant in identifying and adjusting to the highly volatile and dynamic market prices and customer demands, e-procurement systems ought to have the means by which to adjust prices and change customer specifications in order to align relevant account information and update supplier catalogues. Organizations also have to ensure that they have an effectively working item coding system to avoid the misinterpretation of orders and the unguided acquisition of inventory.

Finally, the final theme of discussion when it comes to matters pertaining to e-procurement would be implementation management. Even though there is an eminent dearth of information related to e-procurement implementation management, McManus (2002) provides insights on some of the dynamics in this field by undertaking a study focusing on the implementation of e-procurement in the US public sector. Liao et al.

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(2003) also introduce a new variable to the discussion on e-procurement implementation management by focusing on the process at adopted in military operations. For McManus (2002), most of the implementation processes seem to take their motivation from the fact that the implementation of an e-procurement strategy is expected to lower purchase prices, which is due to reduced operational costs and the involvement of brokers and third-party record keepers. McManus (2002) points out that, with the assistance of information and electronic technologies, the public sector does not need the previously critical third-party record keepers and managers, as well as the middlemen, in the purchase process, which was previously lengthy and bureaucratic. This is because, with e-procurement, companies can store their own purchasing information in well-integrated and pooled databases, which can be easily accessed from the systems in the organization. Similarly, e-procurement resources have enabled relevant stakeholders in the public sector to communicate directly with their suppliers without having to engage middlemen and brokers in the purchasing processes. As such, the efficiency culminates in the trickle-down effect of cost, which ends up significantly reducing purchase prices: a major motivational factor in e-procurement implementation management (McManus, 2002). In a similarly dynamic manner, McManus (2002) also suggests that, given the increased speed and efficiency, along with the reduced transactional costs that are realized with the deployment of an e-procurement strategy, public sector organizations have found more reason to devote their resources to the implementation management process in order to effectively ensure with the lowest possible level of interference with the existing information systems in the organization.

Using a military-based perspective, Liao et al. (2003) look at the probable challenges to e-procurement implementation, especially in terms of human deficiencies and inefficiencies, such as corruption and other forms of bureaucracies. This introduces a new dynamic to the analysis of e-procurement implementation management, as it brings forth the human-focused aspect of the computer-aided process. Even though e-procurement is highly automated and conducted on technological platforms, with the aid of information technologies, it does not completely eliminate the role played by human beings in the entire process during activities. Heijboer (2003) closes the argument by suggesting that the e-procurement implementation process ought to incorporate the conventional economic analysis parameters, such as roll-out, internal overhead, process costs, and the overall return on investment (ROI). As such, the nature of governance, which is predominantly undertaken by human operators, should not be overlooked and treated as a static phenomenon when it comes to the enforcement of an e-procurement implementation management plan.

Product development and commercialization

According to Kaplan and Norton (2006), the product development process encompasses all the activities between the identification of an opportunity in the market to the launch of a product, which is intended to capitalize on the identified chance. Lynn and Reilly (2010) concur by suggesting that the product development process entails a chronological progression of tasks aimed at identifying a need and fabricating a product with the sole purpose of satisfying it, in turn making a profit for the producer. As a sequential process, product development begins with the elaboration on the physical activities and the progression of the entire process. Rockart (2009) further demonstrates that the product development process entails a dominant focus on project management and engineering activities, which ensures that a new product is designed and developed within the timeframe required and uses the exact budget allocated for the entire process. By suggesting that the entire product development process comprises a series of stages, Rosenau et al. (2006) developed a new model, which is referred to as the stage-gate process model. According to this model, suggested by Rosenau et al. (2006), the product development process entails a phased review process, which is broken down into a series

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of predetermined stages with specific objectives and goals that create checkpoints referred to as gates. According to this model, the end of every stage and checkpoint has a deliverable that denotes the progression of the product development process through the assessment and redesign of prototypes. According to this model, there are several stages that ought to be included in the product development process if it is to be considered as successful and complete.

Song and Parry (2006) show that the first stage of the product development process entails planning, which is focused on activities in and around building on the ideas and concepts suggested by market research. The stage is also dominated by the investigation of the product concept's potential in the market through an assessment of its proposed architecture and manufacturing methods. The potential of the concept is also assessed against a series of financial tests, which show the product's potential financial benefits and products costs (Ulrich and Eppinger, 2011). The analysis of the concept's architecture and financial potential in the market also indicates the probable business model by which the proposed product will be introduced to the market. After such proposals have been made, the concept is either approved or disapproved. If approved, the product concept moves to the second stage of the product development process (Urban and Hauser, 2013). The approval stage entails a series of analytical assessments, which are aimed at refining the concept to the point where the company feels confident enough to proceed to the actual design of the product in the systems design phase of the process. In the systems design phase, the product concept goes through a series of building, testing and redesign iteration cycles, which critically assess the practicality of the product and the feasibility of its production for the mass market (Wheelwright and Clark, 2012). After this phase, the product then advances to the next stage, which entails the assessment of its manufacturability and readiness for the market.

Lynn and Reilly (2010) point out that the stage-gate product development process deploys a cross-functional approach, which focuses on market orientation through the holistic assessment of the entire process. The stage-gate product development process also focuses on the technical aspects of the actualization of a product concept, and not just the market, financial and legal aspects of the entire process (Kaplan and Norton, 2006). By breaking down the product development process into smaller stages with a predetermined objective and an expected deliverable in the form of a prototype, the stage-gate process ensures that every stage of the process has well-defined criteria (Lynn and Reilly, 2010). The stage-gate process also deploys a clear go and no-go decision at every stage or gate, which fosters a practice of completion and informed decision-making. The stage-gate process also creates room for refinements aimed at improving the effectiveness and efficiency of the entire system (Rockart, 2009). Furthermore, these refinements are aimed at boosting the speed of the entire process and reducing time by enhancing the flexibility of and streamlining the resource allocation process. Some of the stages in the gate-stage process can be overlapped in order to boost the effectiveness of operational decisions, with the aim of shortening the entire process and accommodating the parallelism of product development efforts. According to Wheelwright and Clark (2012), the product development process takes the form of a pure project-driven cycle, which entails the description of design and information processing. Rockart (2009) presents a new perspective to the product development process by indicating that it could start with the assessment of risks. From the identification of the risk factors, the product development process then proceeds to the evaluation of their volatility by giving them appropriate prioritization (Rockart, 2009). As the process progresses, the main aim is to reduce the levels of risks through suggesting the most feasible methods of resolving the technical problems emanating from the risks. Once the risks reach the most bearable levels, the next stage in the process is the analysis of market information pertaining to the proposed solution, such as customer requirements, projected competition and expected sales volumes (Rockart, 2009).

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Reverse logistics

According to Beckley and Logan (2008), companies have been compelled to incorporate environmental awareness issues into their operations in order to adhere to the set regulations governing such operations. As the concept of sustainable development continues to gain momentum and popularity, manufacturers have come under pressure to deploy strategies ensuring that they dispose of used products in the most environmentally friendly manner possible (Giuntini and Andel, 2005). The growing popularity of sustainable development has led to the emergence of reverse logistics as a part of SCM processes. Knemeyer et al. (2002) suggest that reverse logistics form an aspect of the larger SCM process known as returns management. From a definition point of view, Jayaraman, Patterson and Rolland (2003) suggest that reverse logistics refer to the planning, implementation and efficient control of the processes revolving around the inbound flow and storage of secondary goods by ensuring that all the information pertaining to the processes are well aligned with the policies that govern them, such as environmental laws. Handfield and Nichols (2009) offer a simpler definition of reverse logistics in terms of a process that revolves around the movement of a manufactured product from the consumer to the producer, in a backward motion, when compared to the conventional motion of products in a distribution channel. According to this definition, Giultinian and Nwokoye (2005) emphasize that reverse logistics do not necessarily denote the movement of products from customers to the original manufacturer, as the producer could be a supplier or a retailer. In most cases, reverse logistics are concerned with environmental issues, since customers return the products that they purchased either in their original form or in an altered form after usage with the aim of recycling (Handfield and Nichols, 2009). Guide, Jayaraman and Linton (2003) also indicate that reverse logistics cover the activities and operations that revolve around the management of products returned by customers through different channels. In this way, reverse logistics entail all the activities and operations in and around the products coming from consumers to the producers (Hillegersberg et al., 2001).

On another note, Fernández (2003) suggests that reverse logistics cover the management of all used and discarded products and their components, or materials left after their use, by customers with the aim of recovering the highest level of their economic or ecological value, while reducing the amount of waste they create, in a supply chain system. As such, reverse logistics appear to be a means of minimizing waste in the best way possible, while recovering the remaining value left from the product (Giultinian and Nwokoye, 2005). Referring to the case study of a glass bottle manufacturing company, Dowlatshahi (2000) demonstrates that reverse logistics entail the management of activities revolving around products and materials that are returned from customers to their original manufacturer or another set of producers.

From this analogy, it appears that reverse logistics may be able to deal with products and materials in the same supply chain when they are returned to the original manufacturer, or in other business chains in which the producer is not the direct manufacturer of the products or materials. Meanwhile, Carter and Ellram (2008) add that reverse logistics cover an array of activities that include waste management, product recovery and support services. Using this framework, Barry, Girard and Perras (2013) demonstrate that reverse logistics also encompass the direct reselling of products that are returned or useable components that can be extracted from them. Furthermore, reverse logistics entail the recovery of returned products with the aim of regaining their usability and usefulness in the market, as they can be resold at a cheaper price in order to realize their economic value once more.

Finally, reverse logistics also entail the disposal of unusable products as waste materials through incineration or land filling. Beckley and Logan (2008) suggest that there are several methods that manufactures can deploy in the product recovery process. These include repairing, refurbishing, remanufacturing, recycling and cannibalizing returned

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products or materials, depending on the extent of disassembly required in each of the processes (Barry, Girard and Perras, 2013). From the systematic outlook of reverse logistics as described earlier, Boyer and Christopher (2001) posit that the most appropriate definition would be the logistics management activities geared towards the reduction, management and disposal of hazardous or non-hazardous waste, which are derived from products, their component materials or their packaging.

Using different wordings and sentence structure, Dowlatshahi (2000) points out that waste management forms an intricate aspect of reverse logistics, which covers all operations and flows initiated by returnable containers as a type of secondary packaging. Since the packaging has the capability of being used for different purposes in the same form, it is impossible to separate reverse logistics from waste management practices. To this extent, Fernández (2003) opines that reverse logistics cover the management and coordination of activities related to product returns, such as repair, remanufacture, reuse, waste disposal, source reduction, recycling and material substitution with the aim of boosting a company's environmental efficiency (p.163).

Customer satisfaction

Lynn and Reilly (2010) point out that "consumption" refers to a progressive process, which has the capability of "converting products, services, ideas, and time into a form that can be utilized for the satisfaction of a human need by giving the aforementioned things value" (p.4). Söderlund (2008) adds that the consumption process begins with the identification of a want that stirs up a series of subprocesses, which intensify the desire of the want to the point that it becomes a need. In order to satisfy the identified need, an exchange has to occur in order to cater for the costs and benefits of the product or service thus acquired. If the reaction is positive, then the product or service value has been realized. Stauss (2002) also points out that consumption frequency is a reliable indicator of what constitutes customer satisfaction. Meanwhile, Sureshchandar and Chennai (2002) suggest that consumption frequency refers to the number of times a particular product or service is consumed over a specific period of time.

In order to understand the dynamics of customer satisfaction, Szymanski (2011) demonstrates that some of the major determinant factors include the physical environment of the purchase and the consumption of the product or service, the temporal factors associated with the product or service, and the antecedent conditions. The relationship between a product or service, its consumption and its value from the customer's perspective represents the basis of the concept of satisfaction. Madu and Madu (2002) point out that customer satisfaction refers to the mild and positive emotional states that emanate from the favourable appraisal of the outcome regarding the consumption of a product or a service. Similarly, Moreno and Roberto (2005) demonstrate that the opposite constitutes customer dissatisfaction, which makes it a mild, negative and affective reaction resulting from the unfavourable appraisal of the outcome of a consumptive experience.

From the psychological point of view, Malhotra (2005) describes customer satisfaction as a post-consumption phenomenon that results from the cognitive appraisal of a product against predetermined expectations, which lacks the full capacity to create strong behavioural reactions. O'Neill, Wright and Fitz (2001) posit that the aforementioned expectations comprise two components: the probability of something happening and the evaluation of the potential occurrence of events. The expectations can also be defined as equitable, predictive, normative or ideal, based on whether the customer received them from advertisements, word of mouth, personal experience and personality (Hill, Roche and Allen, 2007).

The relationship between products and services, their value and their subsequent capacity to realize customer satisfaction can be comprehended by looking at equity theory (Hill and

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Alexander, 2006). According to Szwarc (2005), equity theory states that a consumer has the intrinsic ability to cognitively compare their input levels to the outcomes of their investment and purchase experience, or to those of other parties in the same exchange. This means that a customer will automatically strive to compare the resources they have used and the sacrifices they have made, when purchasing a product or a service, to the outcome of the entire process, or to the outcomes of other people in the same purchase situation. When the inputs of a customer match the outcomes of their purchase experience, then it is likely that customer satisfaction will be attained. Similarly, if the input levels of another party in a similar purchase experience are equal to that of a customer, it is likely that customer satisfaction will be achieved. As such, Szwarc (2005) suggests that it is critical for service providers to comprehend the manner in which their customers are treated in public, as this dictates their perception and understanding of what constitutes being treated justly. This theory differs from attribution theory.

According to Cochran (2003), attribution theory focuses on the explanation of why events occur the way they do in the post-purchase period. Regarding this theory, Hill, Brierley and MacDougall (1999) present several elements of the customer satisfaction fabric. These include the locus, which denotes the judgements of those responsible for the purchase event and the outcome. The second element is control, which denotes the extent to which the outcome of a purchase experience is controllable or not. The final element is stability, which denotes the likelihood that the outcome of the purchase experience will reoccur in future.

In order to avoid the occurrence of cognitive dissonance, companies strive to ensure that their post-purchase services make their customers happy, even after making a purchase. According to Hill, Roche and Allen (2007), cognitive dissonance refers to the instance in which a customer has any doubt lingering in their mind, even after they have made a decision and secured a product or service. From a layman's point of view, Szwarc (2005) suggests that cognitive dissonance can be referred to as "buyer's regret" (p.44). Some of the triggers of cognitive dissonance include the awareness of the existence of alternatives that are better than the purchased product or service (Hill and Alexander, 2006). Another trigger of cognitive dissonance is the perception of the reversal of a decision as being difficult or impossible, or if the consumer has personality issues, such as low self-confidence (Hill, Brierley and MacDougall, 1999).

According to Söderlund (2008), most business operations are geared towards achieving the highest level of customer satisfaction, as this translates to revenue generation from customer loyalty. This has made customer satisfaction one of the most critical aspects of SCM processes, given that firms strive to make the best out of their resources. Due to the high level of importance placed on customer satisfaction, an array of definitions of the term has been offered by different researchers. Stauss (2002) defines customer satisfaction as the consumers' cognitive state of being appropriately or inappropriately rewarded for their sacrifices and use of resources in securing a product or service. Sureshchandar and Chennai (2002) suggest that customer satisfaction entails the emotional response that a client has to the experiences provided by a product or associated with purchase of a product or service. Szymanski (2011) concurs by stating that customer satisfaction denotes the overall psychological state resulting from the attainment, or lack thereof, of a customer's expectations during and after a purchase experience. As such, Madu and Madu (2002) suggest that customer satisfaction is a post-consumption judgement on the emotional and psychological benefits of a product or service from the perspective of the customer. It denotes the evaluation of the worthiness of the product or service, which is purchased in relation to the sacrifices and resources used by the customer in order to compensate for the gained ownership of the same.

Moreno and Roberto (2005) offer a different perspective on customer satisfaction by outlining some of the overarching statistics revolving around the concept. After conducting a study focused on customer satisfaction in the financial management industry, Malhotra (2005) points out that the results indicate that customers with issues and

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problems with the services and products they purchase do not typically react. Among the customers acting as respondents in the study, only four per cent expressed the view that they would present their complaints and dissatisfactions to the management using the channels allocated by the firm. The remaining 96 per cent expressed that, once they felt dissatisfied, they would resort to moving their loyalty and seeking other products and services from alternative companies. As a psychological fact, O'Neill, Wright and Fitz (2001) point out that human nature ensures that a dissatisfied customer informs at least nine other people about their problems with a particular product or service. Similarly, the psychological aspect of human nature ensures that satisfied customers inform a maximum of five people about their satisfaction with a product or service. This is a clear indication that businesses are faced with a higher stake when it comes to handling customer dissatisfaction than when dealing with happy clients. This means that customer satisfaction represents a very critical aspect of SCM processes: as Malhotra (2005) points out, the cost of a acquiring a new customer to that of retaining an existing one is 1:7, which makes it more challenging to retain a client than securing a new one.

For Cochran (2003), customer satisfaction can be discussed in terms of a process or an outcome framework. As an outcome, customer satisfaction appears as a post-purchase evaluation and judgement of the entire purchase experience in relation to the resources used to purchase the product or service. As a process, customer satisfaction is the manifestation of disconfirmation as a function of product performance in relation to customer expectations. Using the process model, customer satisfaction refers to the function of the effects of expectations, which in turn affect the perceived performance of the product. When a product meets the expectations of a customer, it is said to be satisfying. Therefore, customer dissatisfaction is the product of the unmet expectations of the customers. However, Hill, Brierley and MacDougall (1999) present the value-percept theory, which suggests that there is an eminent discrepancy between what a customer observes and what they desire. In this way, it is possible for a product to satisfy a customer in terms of aspects of which they did not have knowledge, since they did not have prior standards and expectations related to those aspects of the product.

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