

The Impact of Reverse Logistics on Management Accounting and Customer Satisfaction on Saudi's E-Commerce

Hassan Basodan

Abstract- This research proposal encompasses an attempt to investigate the impact of reverse logistics practices in managerial accounting and customer satisfaction in Saudi Arabian e-commerce. The proposal approaches reverse logistics by examining companies engaged in direct reuse, repair, refurbishing, remanufacturing, and recycling practices. Existing studies confirm that efforts to optimize reverse logistics practices can promulgate economic, governmental, and corporate citizenship benefits. A quantitative study design will be employed using a survey as a means of collecting data. Likewise, a comprehensive literature review surmising the current state of reverse logistics provides a platform from which the study will be based. The reverse logistics survey that will be used in this study has been validated and will provide the quantitative data necessary for determining if reverse logistics practices augment managerial accounting effectiveness and customer satisfaction.

Introduction

Technology innovations throughout the business world have revolutionized the way companies, customers, and supply chain stakeholders interact with one another. Globalization forces also play a significant role in how these constituencies function. One rapidly growing technology innovation is electronic commerce (e-commerce). According to Jelassi & Enders (2008), e-commerce is a subset of e-business that involves the transactions encompassed in selling services and products online. The extent e-commerce business functions take place smoothly correspondingly impacts aspects of management accounting and customer service. Each of these business domains in some way affects the other, but the characteristics of these effects are likely to vary from one country to another as a result of differences in cultural characteristics and national customs (Bai & Sarkis, 2013; Chileshe, Rameezdeen, Hosseini, & Lehman, 2015).

Managerial accounting practices are particularly affected by changes to e-commerce, supply chain management, and logistics processes because the transactions that characterize these aspects of business invariably lead to impositions concerning how business activities are accounted for. The Institute of Management Accountants (2008) describe management accounting as encompassing the logistical processes used by decision-makers to plan, assess, and control organizational performance through resource accountability measures. Naturally, the extent management accounting principles are efficiently upheld and the degree to which e-commerce transactions are conducted smoothly, significantly affects customer satisfaction levels as well (Bai & Sarkis, 2013; Cullen, Tsamenyi, Bernon, & Gorst, 2013; Liu, 2014). Thus, the existence of measurable correlations and shared meanings between reverse logistics, managerial accounting,

and customer service factors is certainly plausible. Although most companies engaged in e-commerce activities focus on logistical efficiencies to an extent, significantly fewer companies have analyzed the implications of reverse logistics on managerial accounting aspects of business.

Objective

While the notion of efficiency in e-commerce logistics is nothing new, innovations in reverse logistics practices are increasingly becoming the subject of interest among managerial accounting experts. Robinson (2014b) describes reverse logistics as the set of operations responsible for managing reusable products and materials, including all aspects of planning, implementation, and control. Put simply; reverse logistics involve a series of systematic assessments aimed at extrapolating value from products after they arrive at their initial target destination (Robinson, 2014a). Examples of basic reverse logistics practices include refurbishing, remanufacturing, and recycling products (Dowlatshahi, 2010; Cojocariu, 2013). These activities may lead to noteworthy cost savings but, to corroborate suppositions regarding the implications of reverse logistics on accounting practices, managerial accounting criteria must be monitored specifically to assess how reverse logistics enhancements promulgate measurable changes in profit margins (American Institute of Certified Public Accountants, 2012). Despite advancements in e-commerce and reverse logistics strategies in some parts of the world, questions remain regarding the impact of reverse logistics practices on aspects of managerial accounting and customer satisfaction in Saudi Arabia. As mentioned previously, the cultural context reverse logistics and managerial accounting practices take place in may influence the behavior of relevant variables.

E-commerce is a successful and rapidly growing business modality among companies in Saudi Arabia, but reverse logistics activities in Saudi Arabia have received very little attention. Saudi businesses engaged in e-commerce may not understand the role of reverse logistics practices as a positive contributing factor to managerial accounting metrics and customer satisfaction ratings. The objective of this study is to explore the impact of reverse logistics on management accounting and customer satisfaction in Saudi's e-commerce. Studying the effects of reverse logistics on management accounting is important for Saudi Arabian companies because reverse logistics startup costs may be offset eventually by increases in long-term efficiency, sustainable business practices, and improvements in customer service.

Literature Review

Companies produce goods and materials to fulfill customers' purchases or produce them in advance because they anticipate customers will demand products within a reasonable timeframe. If equilibrium is established between supply and demand in a logistically perfect world, e-commerce products are shipped to customers efficiently without any problems. The field of managerial accounting is designed around the idea that both hiccups and optimizations in product return, process management, quality control, information communication technology, inventory management, and material handling processes generate real changes on company financial statements. Companies producing an excess amount of products, or businesses whose products are returned due to damage, failure, expiration, or lack of want, are ultimately sustaining financial losses as a result of these inefficiencies (Bai & Sarkis, 2013). The following sections address contemporary literature related to management accounting and reverse logistics practices as a means of surmising the current state of these two disciplines.

Managerial Accounting

The field of accounting and its purpose in other business domains is often misunderstood. Conventionally speaking, accounting involves a multitude of methodologies designed to ensure that the business activities of an organization are captured accurately. Subsequently, this accounting can be converted into a variety of evaluative formulas and reporting mechanism that help corroborate that businesses are operating soundly. However, Cullen, Tsamenyi, Bernon, and Gorst (2013) argue that this perspective only regards one aspect of accounting and that a growing number of business experts and organizational leaders are beginning to appreciate interpretive accounting practices as well. Similarly, Kulesza, Weaver, and Friedman (2011), contend that managerial accounting systems are becoming increasingly capable and pliable in terms of their ability to

quantitatively capture social, contextual, and economic aspects of business.

The transition and broadening of classical accounting into accounting subdomains like managerial accounting is allowing non-accounting professionals to become more involved in the role accounting principles play in other departments (Kulesza, et al., 2011; Cullen et al., 2013). These developments are directly relevant to the study proposed herein because the far-removed characteristics of reverse logistics practices and outcomes may very well register a reading on the radars of managerial accounting dashboards. However, existing studies that focus on the relationship between reverse logistics practices and managerial accounting systems are few and far between (Dowlatshahi, 2010), as are studies that deal with the impact of reverse logistics on customer outcomes. Therefore, a significant gap in the literature concerning these business functions presents an opportunity for future research in these specific areas, especially in nations where very little scholarly research is being conducted on either topic independently.

Drivers of Reverse Logistics

Raw materials and costly resources are required to produce goods and materials. Akdogan and Coskun (2012) report that many companies proactively engage in environmentally friendly and other sustainable business practices because they recognize how such efforts contribute to the longevity of their firm. Reverse logistics aspects of sustainability normally start at the point of reverse flow, which is represented by the arrival of products to customers. From this point, reverse logistics drivers that warrant attention can be categorized as pertaining to economics, legislation, or corporate citizenship (Akdogan & Coskun, 2012). Huang, J., Rahman, Wu, and Huang, C. (2015) also posit that government regulation is another key driver of reverse logistics for some companies because government requirements may invoke positive or negative sentiments towards reverse logistics practices depending on the types of sanctions or incentives that exist surrounding compliance. However, interpreting whether reverse logistics practices ultimately produce net increases in profit margins requires interpretive accounting strategies like those encompassed in managerial accounting.

Economic reasons for reverse logistics are rooted in efficiency principles, cost savings, corporate social responsibility efforts that augment marketing, and competitive advantage (Kulesza et al., 2011). Legislation and government regulation drivers of reverse logistics pertain to domestic and international rules surrounding environmental protection, safe working conditions, and the safeguard of hazardous materials. Reverse logistics drivers about corporate citizenship are often revered as reflections

of companies' organizational values, mission, and vision. Likewise, corporate citizenship aspects of reverse logistics frequently convey the company's brand image to customers and multiple stakeholders as well (Huang et al., 2011; Cojocariu, 2013).

Types of Reverse Logistics

More than a few reverse logistics techniques exist. *Direct reuse* is one of the simplest types of reverse logistics because it involves the re-utilization of components that exist outside of the production process, such as containers, pallets, or boxes (Akdogan & Coskun, 2012; Robinson, 2014b). Products returned by customers that can be fixed and routed directly back to them are classified as a *repair* reverse logistic typology. However, when products are returned but must undergo significant upgrading or alterations, they are classified as a *refurbishing* order (Huang et al., 2015). If returned products require complete disassembly but, afterward, can be reintegrated into the product manufacturing process; then the product falls into the *remanufacturing* category of reverse logistics (Pishvae, Kianfar, & Karimi, 2010; Huscroft, Hazen, Hall, Skipper, & Hanna, 2013). More of a function than an independent reverse logistics category, *cannibalization* encompasses the recovery of used parts to augment repairing, refurbishing, or remanufacturing processes. Finally, *recycling* functions of reverse logistics involved breaking down products or product parts into their most basic form of raw materials (Akdogan & Coskun, 2012; Govindan, Palaniappan, Zhu, & Kannan, 2012).

Research Question and Hypotheses

• Research Question One

Do reserve logistics practices have an impact on management accounting on Saudi's e-commerce?
H1_o: There are no significant effects of reserve logistics on management accounting in Saudi e-commerce.

H1_a: There are significant effects of reserve logistics on management accounting in Saudi e-commerce.

• Research Sub-Question Two

Do reserve logistics practices have an impact on customer satisfaction on Saudi's e-commerce?
H2_o: There are no significant effects of reserve logistics on customer satisfaction on Saudi's e-commerce.

H2_a: There are significant effects of reserve logistics on customer satisfaction on Saudi's e-commerce.

Methodology

The study herein will employ a quantitative study design to explore the two before-mentioned research questions. More specifically, a quantitative study design will enable the researcher to determine if a correlation exists between the

implementation of reverse logistics practices, measurable managerial accounting metrics, and customer satisfaction. A recent study by Ravi and Shankar (2015) was developed in an attempt to measure the connection between reverse logistics practices among Indian manufacturing companies and management accounting functions. The researchers created a survey to assess comprehensively various aspects of reverse logistics, including factors specifically related to managerial accounting and customer satisfaction.

Questions on the survey were derived from literature review findings about common trends in reverse logistics practices around the globe, and the researchers also examined existing survey instruments geared towards the measurement of reverse logistics as an independent variable to managerial accounting functions (Ravi & Shankar, 2015). In total, the survey crafted by Ravi and Shankar (2015) encompasses ten categorically distinct sections, each of which includes multiple subcomponent questions with Likert scale response items. The survey instrument used by Ravi and Shankar (2015) is particularly appropriate for the current study involving reverse logistics practices in Saudi Arabia e-commerce because it includes distinct sections directly relevant to managerial accounting. Likewise, the survey instrument also has distinct sections for customer service and satisfaction (2015).

References

- Akdoğan, M. Ş., & Coşkun, A. (2012). Drivers of Reverse Logistics Activities: An Empirical Investigation. *8th International Strategic Management Conference*, 58, 1640–1649.
<http://doi.org/10.1016/j.sbspro.2012.09.1130>
- American Institute of Certified Public Accountants. (2012). How to manage reverse logistics. *Chartered Global Management Accountant*. Retrieved from <http://www.cgma.org/Resources/Tools/Pages/manage-reverse-logistics.aspx?TestCookiesEnabled=redirect>
- Bai, C., & Sarkis, J. (2013). Flexibility in reverse logistics: A framework and evaluation approach. *Journal of Cleaner Production*, 47, 306–318.
<http://doi.org/10.1016/j.jclepro.2013.01.005>
- Chileshe, N., Rameezdeen, R., Hosseini, M. R., & Lehmann, S. (2015). Barriers to implementing reverse logistics in South Australian construction organizations. *Supply Chain Management-an International Journal*, 20(2), 179–204. <http://doi.org/10.1108/SCM-10-2014-0325>
- Cojocariu, C. R. (2013). The reverse gear of logistics. *Review of International Comparative Management*, 14(1), 153–164.
- Copeland, L. (2003). Managing a multicultural workforce. *California Job Journal*. Retrieved from <http://www.jobjournal.com>

- Cullen, J., Tsamenyi, M., Bernon, M., & Gorst, J. (2013). Reverse logistics in the UK retail sector: A case study of the role of management accounting in driving organizational change. *Management Accounting Research*, 24(3), 212–227. <http://doi.org/10.1016/j.mar.2013.01.002>
- Dowlatshahi, S. (2010). A cost-benefit analysis for the design and implementation of reverse logistics systems: case studies approach. *International Journal of Production Research*, 48(5), 1361 – 1380. <http://doi.org/10.1080/00207540802552642>
- Govindan, K., Palaniappan, M., Zhu, Q., & Kannan, D. (2012). Analysis of third-party reverse logistics provider using interpretive structural modeling. *International Journal of Production Economics*, 140(1), 204–211. <http://doi.org/10.1016/j.ijpe.2012.01.043>
- Huang, Y., Rahman, S., Wu, Y. J., & Huang, C. (2015). Salient task environment, reverse logistics and performance. *International Journal of Physical Distribution & Logistics Management*, 45(9/10), 979–1006.
- Huscroft, J. R., Hazen, B., Hall, D., Skipper, J., & Hanna, J. (2013). Reverse logistics: Past research, current management issues, and future directions. *The International Journal of Logistics Management*, 24(3), 304–327. <http://doi.org/10.1108/IJLM-04-2012-0024>
- Institute of Management Accountants. (2008). Statements on management accounting. Retrieved from <http://imanet.org/pdf/definition.pdf>
- Jelassi, T. & Enders, A. (2008). *Strategies for e-business: Creating value through electronic and mobile commerce* (2nd Ed.). Essex, England: Pearson Education Limited.
- Kulesza, M. G., Weaver, P. Q., & Friedman, S. (2011). Frederick W. Taylor's presence in 21st century management accounting systems and work process theories. *Journal of Business & Management*, 17(1), 105–119.
- Liu, D. (2014). Network site optimization of reverse logistics for E-commerce based on genetic algorithm. *Neural Computing and Applications*, 25(1), 67–71. <http://doi.org/10.1007/s00521-013-1448-1>
- Pishvae, M. S., Kianfar, K., & Karimi, B. (2010). Reverse logistics network design using simulated annealing. *International Journal of Advanced Manufacturing Technology*, 47(1-4), 269–281. <http://doi.org/10.1007/s00170-009-2194-5>
- Ravi, V., & Shankar, R. (2015). Survey of reverse logistics practices in manufacturing industries: an Indian context. *Benchmarking: An International Journal*, 22(5), 874–899. <http://doi.org/10.1108/BIJ-06-2013-0066>
- Robinson, A. (2014a). Top 3 benefits of a reverse logistics management program. *Cerasis*. Retrieved from <http://cerasis.com/2014/02/27/reverse-logistics-management/>
- Robinson, A. (2014b). What is reverse logistics and how is it different than traditional logistics. *Cerasis*. Retrieved from <http://cerasis.com/2014/02/19/what-is-reverse-logistics/>