



Maximizing the value from returns by overcoming the barriers faced by reverse logistics: Review of the barriers and conceptualizing the comprehensive managing factors

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ABSTRACT

At present, when contemporary organizations are seeking novel and original initiatives to gain a competitive position in the market, reverse logistics is one of the worth mentioning domains which has been distinctly recognized in this regard lately. As the field is in introductory phases with respect to large scale managerial concerns, it is facing certain difficulties and barriers in conveying the desired benefits for organizations. This study has made an attempt to put all the identified barriers together in the form of a mode. The study has been extended to review these barriers and also confer the unique approach to manage these barriers by conceptualizing the minimum number of managing factors. The study is based on theoretical grounds of introducing top management support, information support system and formalization of the reverse logistics programs to remove problems faced by the successful intervention of reverse logistics.

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Introduction

Managing the reverse logistics process is a highly demanding and challenging job. Genchev et al. (2011) reported that reverse logistics is still treated as a “necessary evil” rather than an opportunity due to the complications attached with the process. Involvement of unknown factors and invisibility of products along the reverse logistics pipeline are unfavorable for managing reverse flow and hence disturb financial aspects of businesses. This revenue generating activity and key differentiator becomes detrimental for the survival of the organization if not handled properly. Therefore, maintaining an effective and efficient reverse logistics process has become of significant importance as a key capability for logistics and manufacturing firms (Rogers & Tibben-Lembke, 1999).

Although reverse logistics is considered as a key differentiator and a potential revenue generator, if not managed appropriately, it becomes a source of ambiguity, increase in cost and decrease in profit margin (Mullen, 2011). Managing reverse chain is a highly demanding and challenging job. Subject matter of the current study is to present a literature review from the research studies that have discussed the barriers faced by practitioners in implementing reverse logistics and identifying the best possible solution in the form of driving factors.

In the following sections, the study has presented a review on the barriers faced, the most influential drivers and the three models which have been theoretically developed with a strong base from the literature.

Literature Review

This portion of the study constitutes reviews of practitioner’s reports which have discussed the problems faced by reverse logistics programs in industries. It was necessary to include the review of practitioners in the study to ensure the validity of the constructs being adapted. As only the industrial

data has been studied empirically so the reports explore these issues in a similar context.

Barriers to Reverse Logistics Management

Huscroft (2008) prioritized seven elements from Carter & Ellram’s (1998) nine element framework. According to this study support of customer and top management, communication among the channel members and monitoring costs of program, formalization of reverse logistics program, operations timings and issues related to the environment were most critical for the success of reverse logistics processes. Rankings were obtained by conducting rounds of Delphi discussion among experts. The study has contributed by providing a detailed discussion on different aspects of the reverse logistics under three main heads. Firstly, this study investigated on the firm’s need of implementing reverse logistics. The second objective of the study entailed the issues and barriers faced by the management. The final task of the study included the development of reverse logistics performance metrics. These metrics basically presented the solution for the proper implementation of reverse logistics programs (Huscroft, 2008).

This study provided the ground for the research under consideration. As the study ranks the nine constructs of the study and proceeds with seven constructs (regarded as the most important one), this study has employed the similar approach in selecting three greatest valued construct. In contrast, this study is not based on the grounded theory and extracting the three constructs of top management support, information support system and formalized reverse logistics programs from the literature. In addition, the constructs of process effectiveness and cost effectiveness which are attributed as the measures of organizational competitive advantage, has been adopted from the study of Huscroft (2008).

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The study of Ravi & Shankar (2005) identified eleven barriers. Lack of information support system, product quality deficits and company policy were regarded as driving and the most powerful barriers. Findings of this research suggested that controlling of driving barriers (ranked at the top) will ultimately lead towards controlling of driven barriers (ranked at bottom). Specialty of this research report is that they have not only identified the barriers individually but they also outlined holistic view about these issues by measuring the impact of different barriers on each other. Ravi & Shankar, (2005) conducted the interpretive sequential methodology for measuring mutual linkage between barriers. Absence of proper level of awareness about the ability of reverse logistics in creating competitive advantage has been found very much influential in this context and therefore regarded as a base for ISM methodology. Presence of performance metrics has been regarded as one of the determinant of reverse process effectiveness which were also lacking in practical applications, so is placed at the top of the barrier list. Figure 3 showed the barriers and their inter-linking.

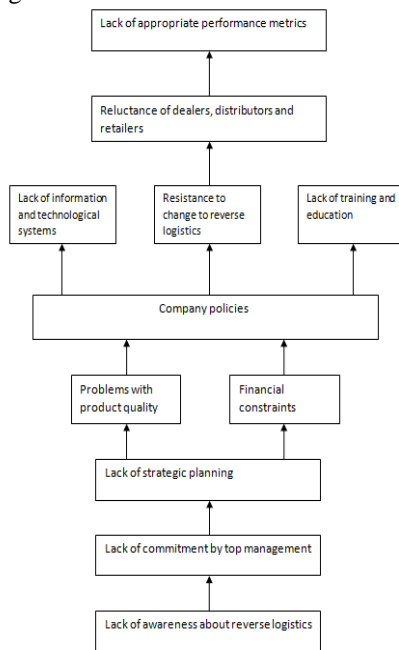


Figure 1 Barriers to Reverse Logistics adapted from the study of Ravi & Shankar (2005).

According to the figure, insufficient awareness in reverse logistics caused insufficient involvement of the top management. So, consequently no appropriate strategic planning in the areas was carried out and no financial and managerial resource commitments were made. Absence of proper financial investment causes product deficits. Thus these issues were regarded as the most influential ones and were called as the drivers of other problems in reverse logistics. Empirical results also found an inter-link between IT support and adaptability of reverse logistics practices. If support of technology is good then people will be less reluctant in implementing reverse logistics programs. Resistance to change for adopting reverse logistics programs and practices will also impact the level of technological advancement in the field. Another important factor in this regard is the level of training provided for the implementation of reverse logistics programs. It will influence the adaptability of people towards reverse logistics practices as well as the technological advancements in programs related to reverse logistics, moreover it will also influence the networking relationship with other supply chain partners. Lack of training will influence the support of suppliers negatively. The organizational buy-ins from the dealers and other supply chain

partners is a definite requirement for the effective and competitive reverse logistics program implementation (Ravi & Shankar, 2005).

The study of Ravi & Shankar (2005) is very important in selecting the constructs of independent variables of this study. Top management support, information support system and formalized programs can manage and resolve majority of the issues as they are the most crucial factors. Subject matter is that most of the barriers hindering the progress of the reverse logistics process would be managed automatically by the aforementioned three managerial factors.

The study of Chawala (2007) reported the reverse logistics management (RLM) in the context of retailing industry. The study reported the issues of improperly defined processes, one of which was delays in returned product processing due to insufficient coordination and lack of interest in the return management; this caused misery of return handling. Invisibility of products along the reverse chain was also one of the issues being reported. Studies state that the information support in the form of specialized softwares and third party logistic providers enabled the organizations to keep the record of data about return reasons that ensured the success of RL program success. Researchers state that the specialized services for the customer and guidance about each and every detail of the return was rendered as one of the main drivers of success.

This study has taken two independent variables i.e. information technology support and formalization in reverse logistics programs from the report of Chawala (2007).

In year 2008, Price Waterhouse Coopers came out with its first report on reverse logistics to assist the electronic industry in their reverse logistics programs. This report explored the key drivers and lead to developing a strategy. It also provides a long list of barriers along with the list of key success factors. Defining the internal situation of reverse logistics practices builds the initial theory of the report. The purpose was to identify the key improvement areas. The study emphasized that the absence of reverse logistics acknowledgments, inability in cost quantifications, lack of vertical collaboration and inadequate managerial practices were hindering the successful implementation of reverse logistics programs. The report emphasized the need of top management support, cost efficiency, formalized reverse logistics processes and collaboration among the channel members at the top most influential factors. Focusing on the customer concerns in terms of reverse logistics operations was regarded as an important initiative to be taken. This could be achieved by including the customer concerns in the performance and also by aligning the customer reverse logistics requirements with the corporate reverse logistics goals. The study goes in to the details of differentiating reverse logistics programs from the competitor's reverse logistics by having customer focus at the gross root level of the organizational reverse logistics strategy. Thus suggesting integrating the reverse logistics practices at the level of organizations structure, its people and processes and also at the technological level (Verweij, Bonney, Dang, & Janse, 2008).

In order to create a win-win situation in the market, electronic industry has recognized the role of reverse logistics. The study of Janse, Schuur, & de Brito (2010) developed a tool for diagnosing the reverse logistics practices and their implications. The study reported that due to increased bargaining power of the customer, shorter product life cycles and emphasis on the global networking have forced certain trends in reverse logistics. These trends include increasing strategic concern about reverse logistics and integrating supply chain partners and

recognizing the role of sustainable supply chain management enhancing firms competitiveness. As the purpose of this study was to identify a comprehensive set of initiatives to be taken for the effective and efficient reverse logistics program implementation, so the study analyzed the barriers incurred. The study reported the absence of formal return policies as the first problem, the second top most barrier reported in the study was little credit given to reverse logistics for increasing firm competitiveness. Complexity in measuring and reporting the reverse logistics is also disturbing for the efficient flow of reverse chain elements. There is a gap between required and available technological support e.g. many technologies required for reverse operations are not yet operational for the required support. Absence of proper measures for planning and forecasting the number of returns is also another reported barrier. Studies have identified the role of top management, strategic networking with supply chain partners, proactivity in avoiding returns, direct and indirect costs considerations and timeliness of return processability as diagnostic tools which can aid in overcoming these barriers (Janse, Schuur, & de Brito, 2010).

Following the discussion about the problems and challenges faced by reverse logistics programs in different industries, this study has categorized and presented them in the following diagram.

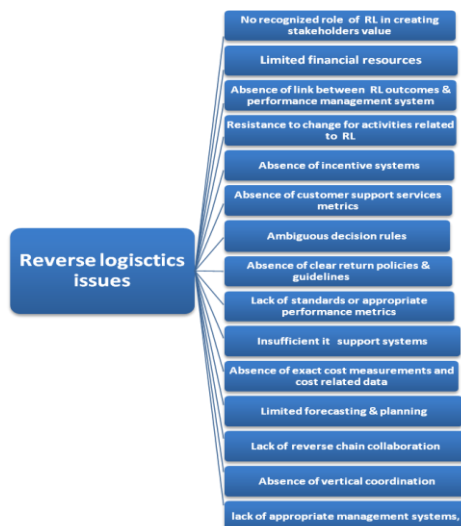


Figure 2

Figure 2 is conceptualized from the studies of Brito, 2004; Genchev, Richey, & Gabler, 2011; Huscroft, 2008; Janse, et al., 2010; Ravi & Shankar, 2005; Rogers, et al., 1999; Thierry, et al., 1995; Verweij, et al., 2008.

The purpose of the above mentioned discussion is to explore comprehensive yet the most influential factors that remove most of the barriers and enhance the organization's competitiveness in the best possible way. Although in literature there is no "one fit for all" which prevails in diverse industries however there are a good numbers of studies that reported top management support, information support systems and formalized programs as the main value drivers of reverse logistics (Carter & Ellram, 1998; Genchev et al. 2011; Huscroft, 2008; Rogers and Tibben-Lembke, 1999; Ravi et al. 2004 & Verweij et al. 2008).

Reverse Logistics Managing Factors

This section of the literature discusses the above mentioned three factors in detail. It elaborates the importance and need of top management support, information support system and formalized programs, supported by existing studies.

Top management support

Top management support has been examined as one of those value drivers that trigger reverse logistics performance within an organization. It ensures the success of the reverse logistics process by emphasizing on the areas of organizational buy-in, continuous improvement, definition of mission for the system, and clear purpose (Huscroft, 2008). Relatively less importance given to the reverse logistics by the top management has been considered as one of the managerial inefficiencies for considering the success factors of reverse logistics process (Verweij et al. 2008). Rogers and Tibben-Lembke (1999) investigated about the barriers to the successful reverse logistics implementation. They reached to the conclusion that lack of top management support is the biggest hindrance in achieving a successful reverse logistic program. Thus, this barrier needs to be addressed as customers receive value from reverse logistics and also because it is part of total quality management in organizations. Resource commitment by top management results in efficient and effective reverse logistics programs (Richey et al. 2005). Top management support is also required for defining purpose, planning returns, making decisions, employee involvement and motivation, continuous improvement, vertical integration and resource commitment in reverse logistics. Three major challenges regarding network structure; material flow planning, routing and categorization of product returns material discussed by the Council of Logistics management, all require top management support (Jayaraman et al. 1999).

According to the resource based view of organizations, deploying the organizational resources in the most effective and efficient opportunities available, organizations can enjoy a defensibly long competitive advantage. There is just a need to create an alignment between organizational resources and available opportunities. Top management's resource commitment in different support programs like information support program is very essential for the overall success of Reverse Logistics. The study of Daugherty et.al (2005) empirically proved the high performance of reverse logistics by inducting proper resources in the technology improvement programs. The study evidenced that it will ultimately enhance the information support capability of the organizations. The study has compared the high performing firms with the average performing firms in context of technological resource commitment. The report has empirically tested the impact of top management resource commitment and information support system on organizational economic performance and quality of the services being rendered. Findings and results suggested that positive relation between resource commitment and the two constructs of financial performance and service quality is not significant; however, they have also mentioned that it does not mean that resource commitment is not important. It has certain impact on organizational reverse logistics programs (Daugherty, Richey, Genchev & Chen, 2005). As reported by another study a need to create a sense of strategic focus in the reverse logistics program is essential for the successful implementation of reverse logistics (Shin, 2005).

Top management will trigger the reverse logistics strategy in order to gain competitive advantage for the organization. Although literature reviews top management support as a key driver for the success of reverse logistics but there is no empirical study to prove the impact of top management on organizational competitive advantage. There is a certain relationship between them; therefore, this study has investigated the nature of this relationship within the organizations of Pakistan which does not exist previously in literature. As

mentioned earlier, absence of top management support for recognizing the role of reverse logistics is one of the most powerful barriers. Top management focus on reverse logistics by developing strategies could ensure the success of reverse logistics program effectiveness.

Information support system:

Information Support System (ISS) is another value driver for the success of reverse logistics program. Companies invest in the reverse logistics programs, and it is so beneficial that the capital investment is recovered within a year (Brito, 2004). Information reverse logistics is supplier driven, not demand driven. Moreover, planning and forecasting did not work successfully in lumpy demand patterns (Jayaraman et al., 1999). Uncertainty demands a high level of communication in order to make the flow smooth. Information about a product is considered to be an important tool in order to be competitive (Ives & Learmonth, 1984). Information Support System (ISS) provides this level of communication and there is a positive impact of IT systems on logistics functions (Bharadwaj, 2000; Closs & Goldsby 1997; Daugherty et al. 2002 and Stank & Daugherty, 1996). Sometimes, organizations consider the investment in reverse logistics as junk, so most of the reverse logistics operations are not being supported by the Information Support Systems. Much of the information technology related resources are invested towards forward logistics (Stock & Lambert, 2001). Although forward and reverse logistics share some of the activities but they differ in certain activities which also need to be accommodated with technological support. High level of information accessibility is required to promote the proper flow of reverse logistics activities (Ellram & Cooper, 1990). Information availability about strategic and tactical data connects the buyers, suppliers and other logistics providers (Mentzer, 1993). There is a direct relation between performance of the firm and sharing of information because of complexities attached with the reverse logistics process. Therefore, insufficient communication is a very important challenge to be addressed with the objective of making processes efficient and reducing cost. Huscroft (2008) empirically proved the positive relation of IT support systems on organizational performance outcomes i.e. reverse logistics cost effectiveness and process effectiveness.

Many of the return reasons are not reported due to lack of information. Accumulated data is a valuable tool for managing return both for process effectiveness as well as for cost effectiveness. In addition, choosing suitable technologies are also important to achieve and to improve efficiencies. For example ability to see the product along the supply chain with reason codes are more beneficial for some firms. Similarly information support systems need specification in order to increase the overall efficiencies.

Necessity of dealing with product being returned requires managerial attention in many perspectives. Information support is one of the most important dimensions, which requires high level of managerial attention. Daugherty, Myers and Richey (2002) have shown that there is positive relation between the information support system and the organizational reverse logistics performance outcome. Information support system as an independent variable includes the capability, compatibility and related technologies. And on the other hand dimensions of performance included the operating as well as the financial outcomes. In addition, satisfaction or managerial commitment with the organizational reverse logistics programs were also found to be an important measure of reverse logistics program performance. This study explored the mediating relationship of

firm's external partners. The study has shown that the mixed results and hypothesis were not significantly supported (Daugherty, Myers & Richey, 2002). It referred to the need of other factors enhancing the capability of IT support programs further to create value for the organizational reverse logistics program success. Formalization and standardization of activities related to reverse logistics is one of the factors which provides the required support.

Formalization of Reverse Logistics Programs:

In order to fully understand the complexities of reverse logistics process and to manage them appropriately, formalization is a necessary tool. Formalized programs are required for managing the logistics distribution as well as other activities involved in reverse flow. Formalization of reverse logistics represents the organizations consciousness and preparedness to deal with reverse logistics challenges (Daugherty, 2001; Sachan & Datta, 2005 and Stock & Boyer, 2009). E-commerce environment promotes returns that enforce organizations to adopt standardized practices (Malone, 2004). Formalization of reverse logistics programs means clear definition of reverse logistics responsibilities, standardized processes and formats and adequate knowledge for managing and implementing reverse logistics (Huscroft, 2008).

Formalization is important because by implementing formalized practices in reverse logistics, decision rules about treatment of the return products are developed. Thus deciding about specific treatment of returned products i.e. scarping, discarding, repairing, overhauling or selling of a product in the secondary market becomes easy (Richey et al. 2005). It also resulted to improve vertical communication and process efficiency (Huscroft, 2008). Standardization of procedures resulted in managing return expectation of the customers appropriately. A formal and standard reverse logistics process enables the firm to manage the reverse logistics efficiently and effectively. Formalization and benchmarking is required to manage the complexities which occur while implementing reverse logistics (Genchev et al., 2011). Chawla (2007) stated that well defined processes lead to operational efficiency and cost effectiveness. Reverse logistics need standardization in order to achieve the organizational objectives, expected from reverse logistics operations.

Reverse logistics costs are not properly recorded in documents which creates problem for the management to report them. Management is required to record them properly because a considerable portion of a company's logistics costs are connected with reverse logistics activities. Management decides about the destiny of a product when they are being returned. For productive decision about return treatment, they first need to know the reasons for return and then comes the question of how they should be treated? Where should they move?

When a product is returned, managerial policies regarding the treatment of product return play a very important role for creating value for the firm. If too much time is taken regarding the return treatment, much of the expected value would be lost. Reverse logistics require high degree of specialization to manage all the related information to extract maximum value for the product being returned cost effectively. As well as, formalization of reverse logistics programs is necessary because of the complexities attached with the management of reverse logistics process.

This study has assessed from the literature that most of the problems would be covered by cautiously putting managerial effort in the three identified factors.

New Managerial Insights: Model Presented By the Study

The study has presented three models for resolving the barriers identified from the literature and presented in the figure 2. In this regard three models are presented with the managerial factor in the core and respective managing factors linked peripherally.

Model 1 is showing the top management support and the respective issues it is hypothesized to resolve.

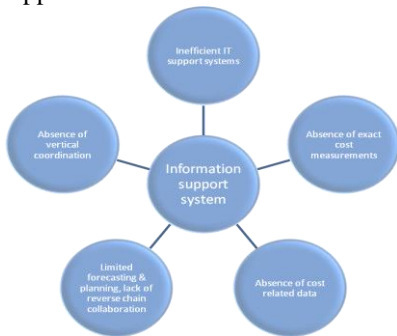
Model 2 is showing the information support system variable with its respective barriers it may resolve as per the directions of the literature.

Model 3 is plotted to show the impact of formalized programs for resolving the considerable amount of barriers shown in the figure 2.



Model 1: Strength of Top Management Support

Model 1 is showing that if the top management puts its efforts in the field of reverse logistics it can automatically resolve the number of issues. For example lack of appropriate management systems, lack of strategic planning, no recognized role of reverse logistics in creating stakeholders value, limited financial resources, absence of link between reverse logistics outcomes & performance management system (PMS), resistance to change for activities related to reverse logistics, absence of incentive systems have their link with insufficient top management support and resource commitment.



Model 2: Strength of Information Support System

Model 2 shows that if technological support is provided to the required areas of reverse program management then it would also be helpful in removing certain barriers. For example inefficient IT support systems and cost related systems, absence of exact cost measurements and cost related data, limited forecasting & planning, lack of reverse chain collaboration, absence of vertical coordination all required IT support programs for proper inception of return management.



Model 3: Strength of Formalized programs

Absence of customer support services metrics, ambiguous decision rules, absence of clear return policies & guidelines and lack of standards or appropriate performance metrics have been solved by formalization of reverse logistics programs (RLP) by many organizations around the world as depicted in Model 3.

Limitations of the Study and future implications:

The study is rare in terms of its kind as it presents a review on the barriers faced by the return management programs. This study is also distinct in terms of presenting the models that resolve the identified barriers with the respective managerial factors however the study is not empirical in nature and the models are not supported by statistical data. Different studies in different organizational settings can be plotted to test the feasibility of the proposed models. The models can be tested simultaneously by a single study or three different studies may be conducted to prove their validity in an effective way.

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