Top Management Support Partially Optimized Reverse Logistics in The Manufacturing Sector of Pakistan

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Abstract

Supply chain management urges reverse logistics to be an effective tool for organizational competitive advantage. Reverse chains demand astute resource deployments and strategic focus by the top management. In Pakistan manufacturing industries employing reverse logistics for cost effectiveness reported heavy reliance on top management support. However, literature is yet not benefited by such empirical facts. This study hypothesized that top management support is key for cost effective reverse logistics. Collecting and analyzing reliable data for various elements of its variables of interests, the study confirmed considerable multi linear regression between top management support and cost effectiveness. Substantiating the hypothesis, it contributes that a significant impact of strategic focus and resource commitment by top management leads reverse logistics based manufacturers to success.

Key words: Reverse logistics, top management support and cost effectiveness.

1. Introduction

During last few decades, supply chain management has emerged as a prominent field of study in research and practice. Purpose behind supply chain integrations was to create a competitive advantage for the organizations (Monczka et al. 1998). Traditionally products were developed and delivered to the final customer in a forward flow of the supply chains. But now supply chains are wider in their scope. They are also managing the reverse flow of products due to economical, commercial, environmental and governmental motives (De Brito et al. 2002).

The sustainable role of supply chains have gone beyond the initial channeling of products from supplier to the final customer. They need to focus on the design of the product, by-products being manufactured and the treatment of these by-products and also the asset recovery at the end of product life (Linton, Klassen, & Jayaraman, 2007).

In order to achieve sustainability of supply chains one of the measure widely adopted is the introduction of reverse logistics as well as managing partnership across the reverse chain. Reverse logistics is reported to be of strategic importance for organizational competitive advantage (Presley, Meade, & Sarkis, 2007). Literature reported that a well-managed reverse logistics process directed the cost effectiveness of the business (Daugherty et al. 2002). Rogers & Tibben-Lembke (1998) found that managers who focus on reverse logistics, save money.

Managing reverse logistics process is highly demanding and challenging job. Genchev et al. (2011) reported that reverses logistics is still treated as a “necessary evil” rather than an opportunity because of complication attached with the process. Involvement of unknown factors and invisibility of

products along the reverse logistics pipeline are unfavorable for managing reverse flow and disturb the financial aspects of the 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 moved to the forefront as a key capability for logistics and manufacturing firms. This study identified that multiple determinants of reverse logistics are applicable which may vary from business to business, however top management support in terms of its strategic focus, resource commitment and continuous improvement is reported the most influential drivers for managing reverse logistics in all sorts of businesses (Huscroft, 2008).

2. Literature Review

There are several factors like information support systems, formalized programs, stakeholder's commitment, vertical coordination and top management support are rendered necessary for efficient flow of reverse logistics practices (Carter & Ellram, 1998). This study however focused on the top management support variable as it is attributed with the highest precedence for reverse logistics among all other parameter (Ravi & Shankar, 2005). Rogers and Tibben-Lembke (1999) investigated on the barriers to the successful reverse logistics implementation. They contributed that the largest proportion of the respondents agreed that it is because of the lack of top management support. This barrier is in need to be addressed as customer receive value from reverse logistics and also because it is the part of total quality management. 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).

Top management support is recommended to be examined as one of the value drivers that trigger reverse logistics performance within an organization. It ensured 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 taken as one of the managerial inefficiency for considering the success factors of reverse logistics process (Verweij et al. 2008).

According to resource based view of the organizations, deploying the organizational resources in the most effective and efficient opportunities available, organizations can enjoy a defensibly long competitive edge. There is just a need to create a correct match between organizational resources and available opportunities. Top management's resource commitment in different support programs like information support program are very essential for the overall success of reverse logistics. Daugherty, Richey, Genchev & Chen, (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. Daugherty et.al (2005) compared the high performing and average performing firms in the context of technological resource commitment. The 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. But 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 et.al 2005). As reported by another study that for the successful implementation of reverse logistics, there is a need to create a sense of strategic focus in the reverse logistics program (Smith, 2005). Top management triggers the reverse logistics strategy in order to gain competitive advantage for the organization.

3. Rationale of Study

Literature confirms top management support as a key driver for the success of reverse logistics. Preliminary investigations indicated that manufacturing industries in Pakistan employed reverse logistics for cost effectiveness. However, to what ratio the cost effectiveness reverse logistic relied on top management support was unknown in context of Pakistan. This empirical study therefore intended to investigate the relationship between top management support and cost effectiveness on empirical mode in context of Pakistan. Top management support is regarded as the key managerial factors for leveraging organizational competitive advantage by implementing reverse logistics. But there is no statistical and empirical evidence with reference to the organizations in Pakistan.

4. Model of the Study

Figure 1

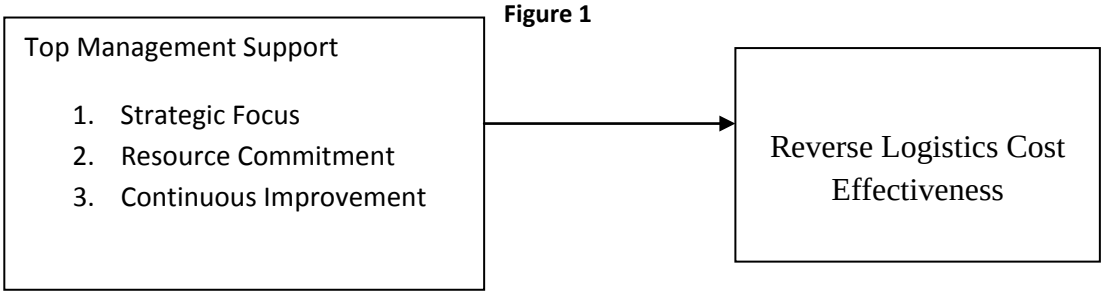

Figure 1 depicts the model of this study that selected top management support as its independent variable operationalizing it in terms of strategic focus, resource commitment and continuous improvement (Huscroft, 2008). It kept reverse logistics in the manufacturing industries as dependent variable with focus on its element of cost effectiveness following Stock (1998) recommendation.

5. Hypothesis Statement

The study set the following hypothesis statement:

H_1: In the manufacturing industries of Pakistan employing reverse logistics, top management support leads to cost effectiveness.

6. Methodology

This is a descriptive study that employed hypotheses testing approach to analyze and confirm the perceived relationship between top management support and reverse logistics. This correlation study ensured minimum researcher interference through execution in non-contrived manner. In the cities of Lahore and Gujranwala of Pakistan, the study selected a judgmental sample of 25 manufacturing industries engaged in domains like molding plastic, packaging, home appliances, tobacco, steel manufacturers, paper manufacturers and recyclers and soap manufacturers. Utilizing a pretested reliable instrument the study collected cross sectional data from 250 respondents. The study utilized Pearson Correlation and multi co-linear regression to test its model.

7. Results & Findings

The Figure 2 depicts the frequency analysis of the top management support variable as a whole is representing that 3.6% respondents regarded their organizations support from the top management as low, 3.2% regarded as moderately low, 14.4% respondents showed neutral responses, 33.2% showed moderately high response, 40.4% regarded as high and 5.2% regarded as very high.

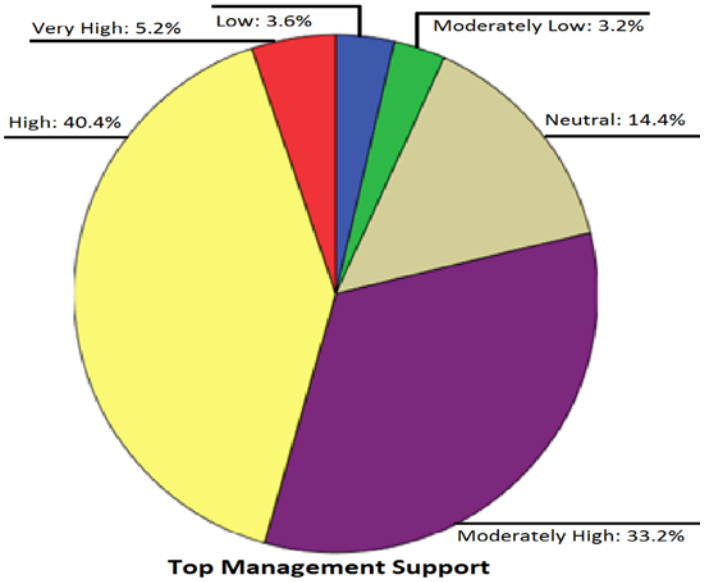

Figure 2

Table 1- Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Top Management Support	250	2	7	5.19	1.084
Valid N (listwise)	250				

Table 1 shows the descriptive statistics of the predictor top management support. Mean score of the top management support is 5.19 which means that employees working in the manufacturing sector of Pakistan reported that there was fair support of top management for the reverse logistics programs. The table also shows the value of standard deviation that is 1.084 which means that on the average top management support deviates 1.084 from mean.

Table 2 is evident that all three elements of top management support are highly correlated and belong to the same variable (Pearson value > 0.59 and P < 0.05). It further confirms that strategic focus, resource commitment and continuous improvement are positively and significantly correlated with the reverse logistics cost effectiveness (Pearson value < 0.59 and P < 0.05). These results of Pearson correlation confirm the relationship among top management support and reserve logistics in context of manufacturing industries in Pakistan.

Table 2- Correlations

		Strategic Focus	Resource Commitment	Continuous Improvement	Reverse Logistics Cost Effectiveness
Strategic Focus	Pearson Correlation	1	.692**	.617**	.430**
	Sig. (2-Tailed)		.000	.000	.000
	N	250	250	250	250
Resource Commitment	Pearson Correlation	.692**	1	.745**	.490**
	Sig. (2-Tailed)	.000		.000	.000
	N	250	250	250	250
Continuous Improvement	Pearson Correlation	.617**	.745**	1	.411**
	Sig. (2-Tailed)	.000	.000		.000
	N	250	250	250	250
Reverse Logistics Cost Effectiveness	Pearson Correlation	.430**	.490**	.411**	1
	Sig. (2-Tailed)	.000	.000	.000	
	N	250	250	250	250

**. Correlation is significant at the 0.01 level (2tailed).

Table 3 – Regression Test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.963	.301		6.513	.000
	strategic focus	.138	.067	.161	2.071	.039
	Resource commitment	.334	.093	.328	3.574	.000
	Continuous improvement	.049	.062	.067	.797	.426

a. Dependent Variable: reverse logistics cost effectiveness

Using the SPSS software the study applied multi co-linear regression test to test the impact of all elements of Top Management Support on Cost Effectiveness through Reverse Logistics. Table 3 presents the summary of its results. Although the regression tests are overall positive, it is clear that reverse logistics is not just dependent on top management support solely as it certainly requires other parameters in equilibrium (B > 1.0). The results further confirm that strategic focus and resource commitment of top management support significantly regress the cost effectiveness of reverse

logistics (Beta positive, t > 1.0 and P < 0.05). However, the continuous improvement of top management support was not found significantly related with cost effectiveness (t < 1.0 and P > 0.05). Such phenomenal result from the Pakistan's manufacturing industries indicate that top management support solely cannot promise cost effectiveness through reverse logistics rather the other factors that this study identified in literature review have to be ensured in equilibrium.

8. Conclusion

Based on the findings this study infers that provided all necessary prerequisites required for reverse logistics process in a given industry are placed in balance, top management support in terms of strategic focus and resource commitment plays a vital role in leading manufacturing business to cost effectiveness, while continuous improvement endorsed by the top management shall not necessarily play effective role in the cost effectiveness. That is how this study learnt that in context of the selected industries of Pakistan using reverse logistics, its hypothesis H_1 is partially applicable. The study therefore, partially substantiates its hypothesis H_1 which stated that top management support leads reverse logistics based manufacturer to cost effectiveness. In contrast with the existing literature, this is a new findings with reference to Pakistan which seems phenomenal as continuous improvement often demands more investment into business which may not be necessarily leading to cost effectiveness in all times.

9. Recommendation

Having tested the perceived relation of top management support with reverse logistics, the study recommends placing all determinants of reverse logistics parallel in place with top management support simultaneously. Carter & Ellram (1998) contributed that important factors like customer support, regulatory facts, and stakeholders' commitment for better performance of reverse logistics programs must be adopted. The study found top management support one of the significant determinants of cost effectiveness through reverse logistics that plays partial role.

10. Future Research Opportunities

As the results and conclusion of this study are diversified from existing recommendations for top management support in literature, such findings invites researchers to probe more into the relevant domain in future.

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