

Resources and Information Technology Towards Operational Performance in Logistic Firm

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ABSTRACT

Logistics concept is integrally linked to economic operations. In particular, logistics operations are becoming increasingly important to a company's success due to the importance of their performance evaluation. Operational performance is important to influence the logistic firm to achieve the strategy and long-term objective. Operational performance is divided into four dimensions: quality, speed of delivery, flexibility, and cost. Therefore, this study attempts to investigate the factors that influence operational performance in the logistics firm. The factors of human resources, organizational resources, relational resource and value-added information technologies that can be affected operational performance in logistics firms. This study reviews past literature for the operational performance and the factors of operational performance in the logistic firm. It focuses on the examination of the factors that influence operational performance in the logistic firm.

Keywords: Operational Performance; Human Resources; Organizational Resources; Relational Resources; Information Technology.

INTRODUCTION

Operational performance is defined as an organization's ability to become more effectively create and deliver products to consumers with enhanced quality and shorter lead times, eventually enhancing its market position and expanding its chances of selling its products into global markets. According to Morgan et al, (2018) to analyze the operational performance, firm need to achieves a result of executing a sustainable supply chain strategy on logistics outcomes such as delivery time, inventory levels, and capacity utilization. Operational performance can be measured by transportation, warehouse and supply chain aspects and this will be divided to the shipping time, order accuracy, delivery time, transportation costs, warehousing costs, number of shipments, inventory accuracy, inventory turn over and inventory to sales ratio (Datapine, 2021).

On the other hand, organizational performance (OP) is an example of how well a company meets its targets. Operational performance applies largely to short-term objectives whose achievement is seen as leading the organization to achieve its strategic or long-term objectives. Operational performance is divided into four dimensions: quality, speed of delivery, flexibility and cost (Swink et al., 2005 and Muthemba, 2016).

In the meantime, quality means 'conformity and consistence' in other words that the product complies faithfully with the standards and does not require a rework or maintenance return. Quality is an important element in the happiness of customers. The pace of delivery improves

the consumer's satisfaction - it can easily react to customer refunds and faulty product replacements.

Next, flexibility means the freedom to adjust what, how and where, so that four forms of criteria are available to the company: Flexibility of goods, which is the right to fix or change products returned, mix versatility in terms of capacity to manufacture a wide range of goods, flexibility in volume, which entails being able to adjust production levels and flexibility in distribution in relation to the ability to change delivery times (Muthemba, 2016).

There are great variations in the expense systems of the various organizations. When the other performance targets are well handled - not only external expenses can be paid for by good quality, high speed and great stability but even operational costs can be saved. Costs, times and quality are cut as well as flexibility gains benefit from cooperation and process coordination between participants of the same chain as each company focuses on its core competencies (Jarillo, 1988). The higher the producer relies on its return schedule, the higher the clients rely on the quality assurance of the vendor. In addition, the returns policy of a manufacturer is a central component of the customer support group.

The performance is "Set of metrics used for quantifying the efficiency and effectiveness of supply chain processes and interrelationships, covering certain organization's functions and several companies and for the orchestration of the supply chain. Each organization's objective is to increase its performance, but to change it must be correctly measured first.

Hence, operational performance is the degree to which predetermined objectives and fulfilled by a process-oriented strategy, which tests capital effectiveness and the consistency of goods and services outputs (Shaw, 2003). Operational efficiency defines and analyses the characteristics associated with company performance outcomes including error rates, period of output and inventory sales. Operational success measures are an ongoing framework for the timely, effective and effective implementation, evaluation and pro-active disciplinary action to achieve operational objectives.

Human resources are generally recognized as essential to sustainability and performance in business. As a result, business organizations are eager to recruit talent in order to meet their corporate goals. The HR activities have been seen as having a strong connection to firm performance.

The best appropriate theory for explaining organizational resources was determined to be the Resource Based View (RBV) theory. RBV analyses and categorizes a company's strategic advantages based on its capabilities, talents, assets, and intangible assets (Pearce and Robinson, 2013). The core concept of RBV theory is that each business has a "unique" bundle of resources both real and intangible assets that the organizational capabilities then exploit.

According to Karia et al. (2015) claimed that the firm's relational resources are its embedded relationships. These connections aid in the development of trust between the company and its partners, as well as long-term collaboration and coordination. The contribute to the firm's activities and performance by improving the efficacy and efficiency of communication with suppliers and consumers. In this work, it can define relational resources as the firm's strong ties with its suppliers and customers. The objective of this study is to past literature for the factors of operational performance in logistic firm.

The current business climate is one of discontinuity, with constant and disruptive change. It is difficult for business firms to accurately estimate future performance. The modifications might

be modest or major and the major problem is the ability of a firm to effectively manage with this uncertainty in performance levels, rather than the magnitude of the functions (Selvam et al, 2016). As a result, strategic management in every business becomes a starting point. Furthermore, the discovery of factors or dimensions that influence company performance. Supply uncertainty, customer or demand uncertainty, and technological uncertainty are three causes of uncertainty. The level of variation and unpredictability in suppliers' product quality and delivery performance is characterized as supply uncertainty (Li and Lin, 2006). Supply uncertainties include the engineering level of the supplier, lead time, delivery reliability, arriving material quality, and so on (Lee and Billington, 1992). This uncertainty induced by the supplier may result in the firm's manufacturing process being postponed or even halted. Furthermore, these uncertainties will extend across the supply chain in the form of amplification of ordering unpredictability, resulting in excess stock, increased logistical costs, and inefficient resource utilization (Yu et al., 2001). Thus, the problem is how the uncertainty may be affected the operational performance and how the factors of resources influence the operational performance in logistics firm. The objective of this study is to review the past literature for the factors of operational performance in logistics firm.

LITERATURE REVIEW

i. Underpinning Theory

Resource-based view (RBV) theory are widely used for control and arrangement of capital in literature on business strategies. It takes an individual approach to the acquisition and effective utilisation of organisation (Day 2011). RBV assesses a company's strengths and skills to achieve net positive returns, customer loyalty and create a durable competitive edge. These resources may be tangible or intangible, including money, staff, information, IT and equipment (Formentini and Taticchi 2016).

The RBV illustrates well that an enterprise should manufacture superior goods or services than another company, create a sustainable competitive edge and minimize production costs (Vlachos and Malindretos, 2012). The RBV also promotes the idea that collaboration and information dissemination among individuals within a firm improves the knowledge that can be applied to business and provides a distinct source of competitive advantage (Bouranta et al., 2017), as interconnected internal capital work together to achieve the best results at the lowest cost (Lozano et al., 2015). According to Hunt and Morgan, (1995), Lafferty and Hult, (2001), Crittenden et al, (2011) on the basis of this theory, in line with many scholars, market-oriented businesses are in a unique position to adapt strategically to customers and stakeholders concerned with broader responsibilities to society and will thus achieve competitive advantages and superior performance in order to develop their businesses over the long term. According to Queiroz and Wamba (2019), companies are thus trusted related as a mixture of distinguishing tools allowing them to grow and create competitive advantage. The RBV approach will help address questions about organizational structure management (Treiblmaier, 2019). The RBV firms may gain a competitive advantage by owning and controlling specific types of resources which eventually leads to superior companies' results investigates the utility of analyzing firms on the capital side rather than on the commodity side in its research on capital and returns. Resource-based view (RBV) theory was widely used for the control and arrangement of capital in literature on business strategies. It takes an individual approach to the acquisition and effective utilisation of organisation. RBV assesses a company's strengths and skills to achieve net positive returns, customer loyalty and create a durable competitive edge. These resources may be tangible or intangible, including money, staff, information, IT and equipment. Theory of RBV of firm competencies to focused resources

commitments are associated with factors of operational performance such as human resources, organizational resources, relational resources and information technology. Thus, theory of RBV will apply in this study.

ii. Operational performance

Operational performance is the degree to which predetermined objectives are fulfilled by a process-oriented strategy, which tests capital effectiveness and the consistency of goods and services outputs (Shaw, 2003). Operational efficiency defines and analyses the characteristics associated with company performance outcomes including error rates, period of output and inventory sales. Operational success measures are an ongoing framework for the timely, effective and effective implementation, evaluation and pro-active disciplinary action to achieve operational objectives (Carter et al, 2000).

According to Voss et al., (2012), operational performance applies to elements of an organization's process that can be measured. Production efficiency and error rates, processing time, on-time delivery, cost of quality and scrap reduction, productivity, and inventory control are all factors to consider. According to Srinivasan et al. (2011), supply chain efficiency refers the level of performance of the processes used within the firm's supply chain department. The strategic dimensions in which organizations choose to compete have been identified as operational performance (Chavez et al, 2015). By delivering high-quality products and services in a timely manner, better operational performance may boost customer satisfaction. Its use delivery, flexibility, cost, and inventory to evaluate a firm's operational success based on previous research (Chavez et al, 2015, Lau et al, 2018 and Santos et al, 2019).

Operational performance described as the competitive firms' strategic dimensions, and it comprises operational level indicators such as flexibility and delivery. (Chavez et al, 2015). Quality management system outcomes are also displayed at operational levels. According to Birech (2011) highlighted a number of performance metrics in the operations region, including productivity measures, quality measures, inventory measures, lead-time measures, preventive maintenance measures, performance to schedule, and utilization; specific measures, such as cost of quality, variances, period expenses, and safety measured on a common scale such as number of hours without an accident.

ii. Human Resource in Operational Performance

Human resources have always been seen as the most important aspect of many types of businesses. In terms of efficiency, a company's practice of sustaining and training its employees is one of the benefits that employers give to their employees who work as managers and production workers that had a significant impact on the growth of these companies (Othman & Abdullah, 2016). According to Lombardi et al. (2020) have also looked at the impact of human resource management activities on organizational innovation, and whether there is a link between that and information management competency. Researchers have identified the significance of HRM in operational performance in a variety of ways, including performance enhancers (Delaney & Huselid, 1996).

According to Cristiani and Peiró's (2019), it built efficient and collaborative HRM processes that resulted in lower employee turnover and improved operational and financial results. HRM aggregated outcomes, such as labor productivity, turnover, and employee satisfaction also help to enhance internal organizational performance, such as productivity and quality, and these gains, in turn, have a positive impact on firm financial performance. (Bosellie et al.,

2005). Financial performance is positively correlated with productivity and quality (Cooke, 2018; Crook et al., 2011). In terms of efficiency, a company's practice of maintaining and training its personnel are some of the benefits that employers provide their people to serve as managers and production workers have had a significant impact on the growth of these companies (Othman & Abdullah, 2016).

iii. Organizational Resources and Operational Performance

The best appropriate theory for explaining organizational resources was determined to be the Resource Based View (RBV) theory. RBV analyses and categorizes a company's strategic advantages based on its capabilities, talents, assets, and intangible assets (Pearce and Robinson, 2013). The core concept of RBV theory is that each business has a "unique" bundle of resources both real and intangible assets that the organizational capabilities then exploit (Pearce and Robinson, 2013). The organization's resources and competencies allow it to gain a competitive edge (Pesic, 2007).

Organizational resources refer to the employee experience in the "upstream" (Dollard and Bakker, 2010), distal parts of the organizational environment at a contextual and system level (Kalliath, 2012). Organizational resources are defined as components of the organizational environment, physical and psychological system levels that are not particular to the function and which impact directly or indirectly the organizational engagement of the environment, employment resources and commitment.

In general, organizational resources are system supplies and support sources that people and groups may draw from to assist accomplish psychological, attitudinal, motivational, behavioral, team and organizational results (Albrecht et al, 2018). Organizational performance is a key indication of whether a company will succeed or fail. Performance is measured quantitatively and qualitatively, and it is attained via the efforts of individual individuals and departments (Zehir et al., 2016).

iv. Relational Resources and Operational Performance

Relational resources have gotten a lot of attention from management experts among the numerous categories of firm resources (Wong and Karia, 2010 and Shou et al, 2017). According to Gretzinger and Royer (2014) also agreed, by referencing Nahapiet and Ghoshal (1998) for their use of the multi-dimensional framework of social capital in analyzing relational resources.

Recently, Karia et al. (2015) claimed that the firm's relational resources are its embedded relationships. These connections aid in the development of trust between the company and its partners, as well as long-term collaboration and coordination. The contribute to the firm's activities and performance by improving the efficacy and efficiency of communication with suppliers and consumers. In this work, it can define relational resources as the firm's strong ties with its suppliers and customers (Karia et al. 2015). Relational resources have a major influence on a firm's competitive advantages, according to past studies (Ogunmokun and Li, 2001; Story et al., 2009; Karia et al., 2015). This focuses on the importance of the company's external relationships, such as with suppliers and consumers (Karia et al., 2015).

v. Information technology as a mediator factor

Information technology (IT) act as a mediator factors influence the operational performance because of capabilities of IT have a difference impact in used for different countries and there

have a different effect to the logistic firm. Thus, IT act as mediator factors to examine the implication of IT capabilities for the logistic performance. IT consists of the production, processing, storage, security and sharing of all electronic information systems employing computers, storage and networking systems, as well as physical devices, infrastructure and techniques. In view of the ongoing development of these technologies and their rising application in global business, the performance impacts of IT investment remain a hot subject (Sabherwal and Jeyaraj 2015; Chaysin et al, 2016). IT capability is one of the most important variables in supply chain management and plays a crucial role in improving supply chain performance. The success of the supply chain is inextricably linked to IT competence (Zhang and Wang, 2011).

Furthermore, one of the top three important success criteria is the utilization of IT knowledge in supply chain management. Users' IT expertise is critical for fully leveraging accepted technology to improve corporate operations (Ang et al., 2000). According to Ang et al. (2000), IT knowledge may be obtained through training and courses. Furthermore, IT re-configurability has a major impact on supply chain performance. It provides business activities with the benefits of robustness, flexibility, and agility (Basheer et al, 2019). Technology has become a prerequisite in good corporate operations, and supply chain technology has become a need in human existence. According to Basheer et al, (2019), in addition to commercial operations, technical functions are significantly reliant on providing a trustworthy intermediate for high-quality information transfer. As a result, supply chain technology will be more significant than ever before in the textile and garment industries.

vi. Research framework

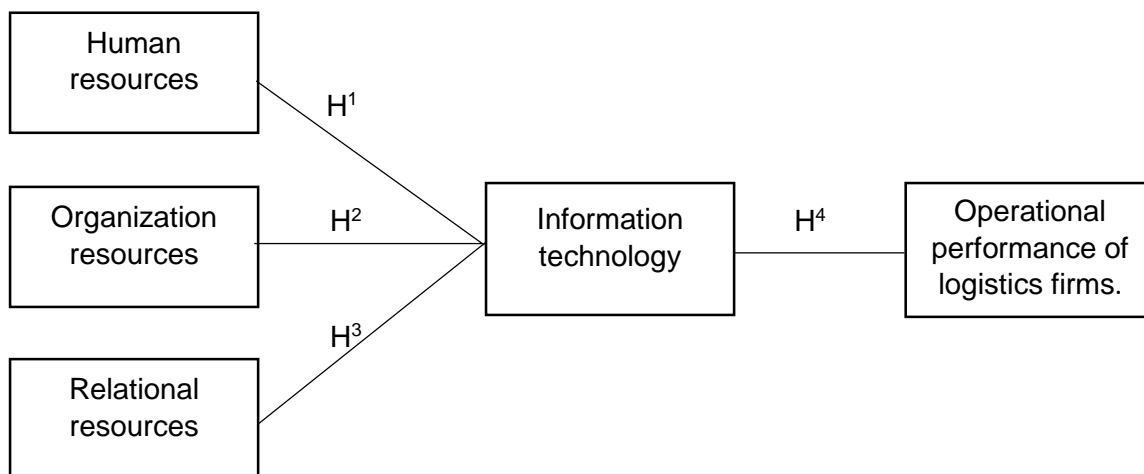


Figure1: Research framework

Based on the Figure 1, the factors of human resources, organizational resources and relational resources influence the operational performance with the information technology act as mediating variable.

CONCLUSIONS

The objective of the study to review the past literature for the factors of the operational performance in logistic firm, thus there are ambiguous findings from the past studied that the operational performance is supported with the factors of human resources, organizational resources, relational resources and information technology for the logistic firm. First factor of the operational performance is human resources and from the past studied was found that human resources positive influence the operational performance with the human resources management such as labor productivity, turnover and employee satisfaction (Boselie et al., 2005). Second factor is organizational resources also influence operational performance to measure either company will succeed and failed (Albrecht et.al 2018). Another factor is relational resources refers to the firm relationship for the connection in the development of trust between the company and its partners and this factors also influence the firm competitive advantage and directly affect to the operational performance (Karia et.al 2015). Information technology act as mediator variable because roles of IT is most influencing the operational performance. IT capability also one of the most important variables in supply chain management and plays a crucial role in improving supply chain performance (Zhang and Wang, 2011). As a conclusion, all the variable influences the operational performance in the logistic firm.

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REFERENCES

- Albrecht, S., Breidahl, E., & Marty, A. (2018). Organizational resources, organizational engagement climate, and employee engagement. *Career Development International*.
- Ang, C. L., Davies, M., & Finlay, P. N. (2000). Measures to assess the impact of information technology on quality management. *International Journal of Quality & Reliability Management*.
- Basheer, M., Siam, M., Awn, A., & Hassan, S. (2019). Exploring the role of TQM and supply chain practices for firm supply performance in the presence of information technology capabilities and supply chain technology adoption: A case of textile firms in Pakistan. *Uncertain Supply Chain Management*, 7(2), 275-288.
- Birech, K. W. (2011). The effect of performance contracting strategy on the Performance of state corporations in the Energy sector in Kenya (Doctoral dissertation).
- Boselie, P., Dietz, G., & Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human resource management journal*, 15(3), 67-94.
- Bouranta, N., Psomas, E. L., & Pantouvakis, A. (2017). Identifying the critical determinants of TQM and their impact on company performance. *The TQM Journal*.
- Carter, C. R., Kale, R., & Grimm, C. M. (2000). Environmental purchasing and firm performance: an empirical investigation. *Transportation Research Part E: Logistics and Transportation Review*, 36(3), 219-228.

- Chavez, R., Yu, W., Gimenez, C., Fynes, B., & Wiengarten, F. (2015). Customer integration and operational performance: The mediating role of information quality. *Decision Support Systems, 80*, 83-95.
- Chaysin, P., Daengdej, J., & Tangjitprom, N. (2016). Survey on available methods to evaluate IT investment. *Electronic Journal Information Systems Evaluation Volume, 19*(1).
- Cooke, F. L. (2018). Concepts, contexts, and mindsets: Putting human resource management research in perspectives. *Human Resource Management Journal, 28*(1), 1-13.
- Cristiani, A., & Peiró, J. M. (2019). Calculative and collaborative HRM practices, turnover and performance. *International Journal of Manpower*.
- Crittenden, V. L., Crittenden, W. F., Ferrell, L. K., Ferrell, O. C., & Pinney, C. C. (2011). Market-oriented sustainability: a conceptual framework and propositions. *Journal of the Academy of Marketing Science, 39*(1), 71-85.
- Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen Jr, D. J. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of applied psychology, 96*(3), 443.
- Day, G. S. (2011). Closing the marketing capabilities gap. *Journal of marketing, 75*(4), 183-195.
- Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management journal, 39*(4), 949-969.
- Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology, 83*(3), 579-599.
- Formentini, M., & Taticchi, P. (2016). Corporate sustainability approaches and governance mechanisms in sustainable supply chain management. *Journal of cleaner production, 112*, 1920-1933.
- Gretzinger, S., & Royer, S. (2014). Relational resources in value adding webs: The case of a Southern Danish firm cluster. *European Management Journal, 32*(1), 117-131.
- Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of marketing, 59*(2), 1-15.
- Jarillo, J. C. (1988). On strategic networks. *Strategic management journal, 9*(1), 31-41.
- Kalliath, T., Kalliath, P., & Albrecht, S. L. (2012). The influence of job, team and organizational level resources on employee well-being, engagement, commitment and extra-role performance. *International Journal of Manpower*.
- Karia, N., Wong, C. Y., Asaari, M. H. A. H., & Lai, K. H. (2015). The effects of resource bundling on third-party logistics providers' performance. *International journal of engineering business management, 7*(Godište 2015), 7-9.

- Lafferty, B. A., & Hult, G. T. M. (2001). A synthesis of contemporary market orientation perspectives. *European journal of marketing*.
- Lau, A. K., Lee, S. H., & Jung, S. (2018). The role of the institutional environment in the relationship between CSR and operational performance: an empirical study in Korean manufacturing industries. *Sustainability*, 10(3), 834.
- Lombardi, R., Manfredi, S., Cuzzo, B., & Palmaccio, M. (2020). The profitable relationship among corporate social responsibility and human resource management: A new sustainable key factor. *Corporate Social Responsibility and Environmental Management*, 27(6), 2657-2667.
- Lozano, R., Carpenter, A., & Huisingh, D. (2015). A review of 'theories of the firm' and their contributions to Corporate Sustainability. *Journal of Cleaner production*, 106, 430-442.
- Morgan, T. R., Tokman, M., Richey, R. G., & Defee, C. (2018). Resource commitment and sustainability: a reverse logistics performance process model. *International Journal of Physical Distribution & Logistics Management*.
- Muthemba, J. M. (2016). The relationship between reverse logistics and operational performance among manufacturing firms in Kenya (Doctoral dissertation, University of Nairobi).
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23(2), 242-266.
- Ogunmokun, G., & Li, L. Y. (2001). Marketing Control and Export Success: An Exploratory Study of Exporting Firms in the People's Republic of China. *Global Business Review*, 2(2), 167-176.
- Othman, M., & Abdullah, N. N. (2016). The conceptual assessment of Malaysian entrepreneurship environment and EO economic contribution. Othman, M., Saud, MB, Mat Isa, MA, & Abdullah, NN (2015). The Conceptual Assessment of Malaysian Entrepreneurship Environment and EO Economic Contribution. *Journal of Resources Development and Management*, 20, 15-20.
- Pearce, J. A., & Robinson, R. B. (2013). *Strategic management: Planning for domestic & global competition*. McGraw-Hill/Irwin.
- Pesic, M. A. (2007). Six Sigma philosophy and resource-based theory of competitiveness: An integrative approach. *Economic and Organization*, 4 (2), 199-208.
- Queiroz, M. M., & Wamba, S. F. (2019). Blockchain adoption challenges in supply chain: An empirical investigation of the main drivers in India and the USA. *International Journal of Information Management*, 46, 70-82.
- Sabherwal, R., & Jeyaraj, A. (2015). Information technology impacts on firm performance. *MIS quarterly*, 39(4), 809-836.
- Santos, H., Lannelongue, G., & Gonzalez-Benito, J. (2019). Integrating green practices into operational performance: Evidence from Brazilian manufacturers. *Sustainability*, 11(10), 2956.

- Shaw, T. (2003). Performance measures of operational effectiveness for highway segments and systems (Vol. 311). Transportation Research Board.
- Shou, Y., Hu, W., Kang, M., Li, Y., & Park, Y. W. (2018). Risk management and firm performance: the moderating role of supplier integration. *Industrial Management & Data Systems*.
- Srinivasan, M., Mukherjee, D., & Gaur, A. S. (2011). Buyer–supplier partnership quality and supply chain performance: Moderating role of risks, and environmental uncertainty. *European Management Journal*, 29(4), 260-271.
- Story, V., Hart, S., & O'Malley, L. (2009). Relational resources and competences for radical product innovation. *Journal of Marketing Management*, 25(5-6), 461-481.
- Swink, M., Narasimhan, R., & Kim, S. W. (2005). Manufacturing practices and strategy integration: effects on cost efficiency, flexibility, and market-based performance. *Decision Sciences*, 36(3), 427-457.
- Treiblmaier, H. (2019). Combining blockchain technology and the physical internet to achieve triple bottom line sustainability: a comprehensive research agenda for modern logistics and supply chain management. *Logistics*, 3(1), 10.
- Vlachos, I. P., & Malindretos, G. (2012). Market Access and Sustainability effects on regional performance: Evidence from the Messinian Region-Greece. *The Regional Science Inquiry Journal*, IV, 3, 137-153.
- Wong, C. Y., & Karia, N. (2010). Explaining the competitive advantage of logistics service providers: A resource-based view approach. *International Journal of Production Economics*, 128(1), 51-67.
- Zehir, C., Gurol, Y., Karaboga, T., & Kole, M. (2016). Strategic human resource management and firm performance: The mediating role of entrepreneurial orientation. *Procedia-Social and Behavioral Sciences*, 235, 372-381.
- Zhang, X., & Wang, H. (2011). Empirical research on associations among information technology, supply chain robustness and supply chain performance. *International Journal of Business and Management*, 6(2), 231.