



The Effect of Individual and Organizational Orientation on Supply Chain Management (Study on Metal Processing MSME in Tegal)

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Abstract

This study aimed to determine the effect of individual supply chain orientation and organizational supply chain orientation on supply chain management. The subjects in this study were 100 companies engaged in metal processing located in the Tegal area, Central Java. Sources of data from this study were obtained by using a questionnaire distributed to owners and employees of metal processing companies. The data analysis method in this study uses SEM (Structural Equating Modeling) with the help of PLS (Partial Last Square) software. The results of this study indicated that individual SCO had a positive effect on organizational SCO. Organizational SCO had 3 variables, namely human resource, organizational design and information technology. Human resource for SCO had a positive effect to SCM strategic, organizational design for SCO took effect on strategic SCM and information technology took effect on SCM strategy. Then further research results were human resource for SCO had no effect on SCM operation, organizational design for SCO had no effect on operational SCM and the last one was technology information took effect on SCM operations. The final result was strategic SCM had a significant effect on operational SCM. This study broadened the understanding of the social and behavioral elements of SCM by classifying SCOs into individual SCOs and organizational SCOs

INTRODUCTION

The era of globalization as it is currently happening, requires companies to be able to survive and compete with various competitors. In order to survive and compete, companies can innovate and improve effectiveness and efficiency in various sectors. To increase effectiveness and efficiency, companies can use supply chain management that focuses on the production sector (Jadhav et al., 2019).

Supply chain management refers to the integrative philosophy of managing the total flow of distribution channels from supplier to consumers or last users. A well-managed supply chain usually establishes strategic and operational objectives by matching activities at each le-

vel. Strategic of supply chain management is a set of organizational activities that aim for the long term by setting benchmarks for supply chain management success and can be used by management for decision making (Lee & Nam, 2016). Operational supply chain management or also called tactical activities are activities that refer to a series of activities that focus on implementing strategic goals.

Supply chain orientation is values and beliefs shared by supply chain partners that helps organization to understand the strategy applied for managing supply chain and which behavior is allowed to show and not shown in organization (Patel et al., 2013). Supply chain orientation (SCO) can be divided into two, namely strategic SCO and structural SCO. They can be viewed as

possessing strategic and structural dimensions. Structural SCO represents the relational exchange between the supply chain and the internal operational activities. The concept of structural SCO has been interpreted in this research as the internal behaviours that facilitate relational exchanges across the internal supply chain.

Strategic SCO represents the relational exchange between external supply chain activities. Strategic SCO creates convergence amongst supply chain resources to improve performance (Dhaigude & Kapoor, 2017). SCO is also affected by a number of organisational characteristics including organisational size, culture, structure and management decision making as they all influence the alignment of the organisation toward the supply chain and the resources available. Identifying the relationship between SCO and organisational characteristics is, however, outside the scope of this study.

Supply chain management refers to the integrative philosophy, manages total distribution flow from supplier to the last user (Thornton et al., 2016). As philosophy, SCM needs approach system to see chain supply as one, not as a set of firms that do their functions independently.

There are characteristics of a well-managed supply chain management, including the setting of strategic goals and operational goals by matching the conditions at each level. SCM strategic is a set of activities that its long-term goal is for an organization with the main benchmark for SCM success and can be used by management for decision making. In contrast to strategic SCM, operational SCM refers to a series of project-focused activities (Yu et al., 2019), it can be daily, weekly, or monthly tasks that implement the company's larger strategic goals.

The main focus of strategic SCO is ensuring employee awareness of the entire supply chain process as well as all SCM flows and internal and external integration. In the same context, Strategic SCO is more likely to focus on emphasizing the understanding and perceptions of members in the company regarding the various flows in the supply chain (Widyarto, 2013). Strategic SCO creates convergence or centralizes supply chain resources with the aim of improving performance. Strategic SCO can also be called individual SCO, because it emphasizes the perception and awareness of each member of SCM. The strategic SCO perspective involves organizational members to act on how to manage the supply chain flow from suppliers to customers, taking a systems approach by looking at the supply chain holistically rather than as an organizer and seeking integration, synchronization and convergence of operations and strategic capabilities between companies (Yulita, 2019).

Structural SCO has more formal characteristics. Meanwhile, the focus of structural SCO

is on organizational artifacts that facilitate SCM. SCO involves the development and maintenance of internal behavioral factors that facilitate exchange relationships. They describe trust, commitment, compatibility, and top management support as elements of SCO. Structural SCO has four categories, namely: organizational design, human resource, information technology, and organizational measurement.

Organizational design includes the process of developing the formal structures and systems of coordination and control that needed to achieve the goals of the company and the supply chain. According to the previous literature, there are three important areas that describe organizational design for SCO, namely: integration, structure and collaboration. Organizations that implementing SCO should emphasize hiring employees with knowledge and skills, specific logistics expertise, and intrapersonal skills (Rakhmawati et al., 2019). In addition, the ability to adapt and willingness to learn is also very important to achieve supply chain. Information technology for SCO serves as a coordination mechanism linking departments within an organization and across companies in the supply chain.

HYPOTHESES DEVELOPMENT

Organization is a social unit that is structured and managed to achieve a goal. Therefore, the opinions, perceptions of an individual and the behavior of an employee are colors in an organization. Some organizational theorists state that organizations change only because employees who work in organizations change (Ismiyah, 2018). To transform from traditional supply chain management to an efficient and successful supply chain, the key is that supply chain managers change their thinking from disparate supply chains to supply chains synergistically by doing collaboration. Supply chain managers who lack of collaborative and communicative culture of supply chain strategy are more likely to respond a change with confusion or apathy. In contrast, supply chain managers who can see new ideas and are ready to collaborate to their supply chain members openly are more likely to actively respond changes that occur (Sherlywati, 2018). This kind of perception allows organizations to focus on organizational artifacts to implement SCM. Therefore, the following hypothesis is formulated:

- H1: Individual SCO has positive effect on human resource for SCO.
- H2: Individual SCO has positive effect on organizational design for SCO.
- H3: Individual SCO has positive effect on technology information human resource for SCO.

Organizational SCO needs a special separator from SCM. Organizational SCO is an organizational artifact that can facilitate effective and efficient SCM such as organizational design for SCO, human resource for SCO and information technology for SCO (Trent, 2006). Organizational design can form an organizational culture that can control and coordinate the organizational structure with the aim of achieving supply chain goals. Setting coordinated goals and being aware of these goals can have a positive impact on SCM activities (Luo et al., 2018).

Some scholars argue that recognizing the importance of supply chain knowledge, skills, and abilities helps carry out SCM activities. In this way, organizational culture is formed by recognizing the importance of sharing and exchanging information among supply chain partners. Human resource for SCO and information technology for SCO are environmental factors that must be developed before SCM activities can be implemented (Khan et al., 2012). Therefore, the following hypothesis is formulated:

H4: Human resource for SCO has a positive effect on strategic SCM.

H5: Organizational design for SCO has a positive effect on strategic SCM.

H6: Technology information for SCO has a positive effect on strategic SCM.

H7: Human resource for SCO has a positive effect on operational SCM.

H8: Organizational design for SCO has a positive effect on operational SCM.

H9: Technology information for SCO has a positive effect on operational SCM.

Many companies formulate strategic supply chain based on their overall strategy and use SCM facilities to realize supply chain strategies and to achieve organizational goals. Integrated information, which includes various information and information technology, has a positive impact on logistics integration, which leads to operational integration with suppliers in logistics activities (Jacobs & Subramanian, 2012). Collaborative planning and collaborative decision making can influence collaborative implementation. In supply chain collaboration, supply chain partners with others carry out production and distribution planning together. Sales decisions of supply chain promotions, discounts, and new product introductions are often decided by all supply chain partners. Collaborative decision making has a positive impact on the implementation of the sales plan in the retail shop.

An organization is unlikely to undertake strategic SCM if it fails to describe effectively into operational SCM activities. At the same time, if operational SCM is not aligned with strategic

SCM, it will suffer from a lack of cohesion (Nepal, 2012). A well-defined and well-planned strategic SCM will enable operational SCM activities to be carried out effectively and efficiently. Therefore, the following hypothesis is formulated:

H10: Strategic SCM has a positive effect on operational SCM.

Figure 1. Research Model

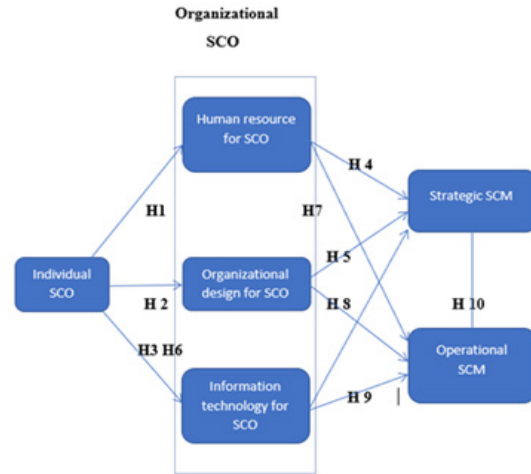


Figure 1: Research Model

METHOD

This research was conducted in the metal processing industry in the area of Tegal, Central Java. There were more than 200 MSMEs (micro, small and medium enterprises) who were members of an association. The products from these industries also vary: mosque domes, building materials, engine parts were produced in Tegal city industries so it could be said that Tegal was the Japan of Indonesia.

In this study, total sample used were 100 SMSEs metal processing in Tegal. The data collected were primary data with data collection techniques using a questionnaire instrument. The questionnaire measurement in this study used a likert scale ranging from strongly disagree with a score of (1) to strongly agree with a score of (5).

Descriptive analysis is a method that can provide information by providing a description or descriptive of the data that has been collected. The purpose of descriptive analysis is to provide an overview of each variable based on the average of each category.

Structural Equation Model (SEM) is a statistical technique that is able to analyze the pattern of relationships between latent constructs and their indicators, latent constructs with one another, and direct measurement errors.

The outer model determines the relationship between the latent construct and its indicators, while the inner model determines the relationship between the latent construct and other

latent constructs.

RESULT AND DISCUSSION

Table 1. Convergent validity

Variable	Indicator	Factor loading	Standard	Conclusion
Individual supply chain orientation	ISCO1	0.896	0.7	Valid
	ISCO2	0.783	0.7	Valid
	ISCO3	0.855	0.7	Valid
	ISCO4	0.876	0.7	Valid
Human Resources SCO	HSCO1	0.751	0.7	Valid
	HSCO2	0.831	0.7	Valid
	HSCO3	0.820	0.7	Valid
Organizational Design SCO	OSCO1	0.842	0.7	Valid
	OSCO2	0.858	0.7	Valid
	OSCO3	0.822	0.7	Valid
Information Technology for SCO	TSCO1	0.862	0.7	Valid
	TSCO2	0.815	0.7	Valid
	TSCO3	0.843	0.7	Valid
	TSCO4	0.832	0.7	Valid
Strategic SCM	SSCM1	0.917	0.7	Valid
	SSCM2	0.835	0.7	Valid
	SSCM3	0.893	0.7	Valid
	SSCM4	0.914	0.7	Valid
	SSCM5	0.886	0.7	Valid
Operational SCM	OSCM1	0.845	0.7	Valid
	OSCM2	0.862	0.7	Valid
	OSCM3	0.862	0.7	Valid
	OSCM4	0.853	0.7	Valid
	OSCM5	0.821	0.7	Valid

Based on the calculations in the table above, the loading factor is greater than 0.7. The questionnaire distributed to respondents is valid.

Table 2. Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Human Resources SCO	0.721	0.728	0.843	0.642
Individual SCO	0.877	0.902	0.915	0.729

Information Tech	0.859	0.860	0.904	0.702
Operational SCM	0.903	0.905	0.928	0.720
Organizational SCO	0.795	0.807	0.879	0.707
Strategic SCM	0.934	0.936	0.950	0.791

From table above it can be seen that all variable mark in testing reliability, either use Cronbach's Alpha or Composite reliability, the value > 0.70, and testing validity by using AVE (Average Variance Extracted), the value > 0.50. Therefore, it can be concluded that the variables tested are valid and also reliable, so it can be continued for testing the structural model.

In PLS method, retrieval decision for accepting or refusing a hypothesis based on value significance (P Value), and the value of T-table. Criteria of reception or rejection of hypothesis is if t- significance value > 1.96 and/or p-value < 0.05 at 5% then Ha is accepted and Ho is rejected, on the contrary if t-statistic value < 1.96 and/or p- value > 0.05 at the 5%, then Ha is rejected and Ho is accepted. Following hypotheses proposed in this study:

Table 3. Path Coefficient

	Original Sample (O)	T Statistics (O/STDEV)	P Value
Individual SCO -> Human Resources for SCO	0.341	2.577	0.010
Individual SCO -> Organizational design for SCO	0.307	2.119	0.035
Individual SCO -> Information Technology for SCO	0.392	2.935	0.003

Human Resource for SCO -> Strategic SCM	0.280	2.137	0.033
Organizational Design for SCO -> Strategic SCM	0.245	2.156	0.032
Information Technology for SCO -> Strategic SCM	0.315	2.449	0.015
Human Resource for SCO -> Operational SCM	-0.170	1.426	0.155
Organizational Design for SCO -> Operational SCM	-0.183	1.418	0.157
Information Technology for SCO -> Operational SCM	0.329	2.116	0.035
Strategic SCM -> Operational SCM	0.504	2.991	0.003

From table above could be seen that Individual SCO construct had positive impact (O = 0.341) on Human Resources for SCO. T-Statistic value on the construct relationship was 2.577 >

1.96, and the P-Value was 0.010 < 0.05. because of that, first hypothesis stated that Individual SCO affected human resource for SCO accepted. The main focus of strategic SCO or individual SCO is ensuring employee awareness of the entire supply chain process as well as all SCM flows and internal and external integration. Strategic SCOs are more likely to focus on emphasizing the understanding and perceptions of members in the company regarding the various flows in the supply chain. Strategic SCO creates convergence or centralizes supply chain resources with the aim of improving performance.

From table above could be seen that Individual SCO construct had positive impact (O = 0.307) on Organizational Design construct for SCO. T-Statistic value on the construct relationship was 2.119 > 1.96, and the P-Value was 0.035 < 0.05. Therefore, second hypothesis stated that Individual SCO had a positive effect on organizational design for SCO accepted. Organization is a social unit that is structured and managed to achieve a goal. Therefore, the opinions, perceptions of an individual and the behavior of an employee are a color in an organization. Organizational theorists state that organizations change only because employees who work in organizations change. To transform from traditional supply chain management to an efficient and successful supply chain, the key is that supply chain managers change their thinking from disparate supply chains to supply chains that are synergized through collaboration.

From table above could be seen that Individual SCO construct had positive impact (O = 0.392) on Information Technology construct for SCO. T - Statistic value on the construct relationship was 2.935 > 1.96, and the P-Value was 0.003 < 0.05. Therefore, third hypothesis stated that Individual SCO had a positive effect on technology information for SCO accepted. Research related to strategic SCO conceptualizes SCO through an emphasis on the importance of strategic direction in managing supply chains. The strategic SCO perspective involves organizational members to act on how to manage the supply chain flow from suppliers to customers, taking a systems approach by looking at the supply chain holistically rather than as a building block and seeking integration, synchronization and convergence of operations and strategic capabilities between companies.

From table above could be seen that construct of Human Resource for SCO had positive impact (O = 0.280) on construct of Strategic SCM. T - Statistic value on the relationship of construct is 2.137 > 1.96, and the P-Value was 0.033 < 0.05. Therefore, the fourth hypothesis stated that human resource for SCO had a positive impact on strategic SCM accepted. Some scholars argue that recognizing the importance of supply chain knowledge, skills, and abilities helps

carry out SCM activities. SCM is a human-centered phenomenon. Although financial, equipment, technology, and market-based resources are necessary for effective SCM, the employees who actually get the job done in an enterprise are critical to the effective functioning and exploitation of each of these resource categories. In addition, companies must also focus on strategies and policies related to supply chain-oriented HR. Emphasizes the importance of using work teams with the aim of providing facilities to improve logistics and supply chain decision making (can be for operational SCO).

From table above could be seen that construct of Organizational Design for SCO had positive impact ($O = 0.245$) on construct of Strategic SCM. T-Statistic value on the relationship of construct was $2.156 > 1.96$, and the P-Value value was $0.032 < 0.05$. Therefore, the fifth hypothesis stated that Organizational Design for SCO had a positive effect on strategic SCM is accepted. Organizational design includes the process of developing the formal structures and systems of coordination and control necessary to achieve company and supply chain objectives. The organizational design for SCO is an environmental factor that must be established before SCM activities can be implemented. Organizational design can form an organizational culture that can control and coordinate the organizational structure with the aim of achieving supply chain goals. Setting coordinated goals and being aware of these goals can have a positive impact on SCM activities.

From table above could be seen that construct of Information Technology for SCO had positive impact ($O = 0.315$) on construct of Strategic SCM. T-Statistic value on the relationship of construct was $2.449 > 1.96$, and the P-Value was $0.015 < 0.05$. Therefore, the sixth hypothesis stated that Technology information for SCO had a positive effect on SCM strategy accepted. Information technology for SCO is an environmental factor that must be developed before SCM activities can be implemented. Information technology for SCO serves as a coordination mechanism linking departments within an organization and across companies in the supply chain. The availability of information makes information technology easier to implement integrated logistics processes. Information technology is described as a very important initial requirement for companies that will try to use logistics capabilities to create a competitive advantage.

From table above could be seen that construct of Human Resource for SCO had negative impact ($O = -0.170$) on construct of Operational SCM. T - Statistic value on the relationship of construct was $1.426 < 1.96$, and the P-Value was $0.155 > 0.05$. Therefore, the seventh hypothesis stated that human resource for SCO had a

positive effect on operational SCM rejected. The concept of SCO and SCM is strategic which refers to long-term activities. While SCM operations are short-term, namely for daily, weekly and monthly activities. Human resources for SCO have no effect on operational SCM.

From table above could be seen that construct of Organizational Design for SCO had negative impact which ($O = -0.183$) with construct of operational SCM. T-Statistic value on the relationship of construct was $1.418 < 1.96$, and the P-Value was $0.157 > 0.05$. Therefore, the eighth hypothesis stated that organizational Design for SCO had a positive effect on operational SCM rejected. Similar to the influence of resources for SCO on operational SCM, the effect of organizational design for SCO on operational SCM also shows no effect. The concept of SCO and SCM is strategic which refers to long-term activities (Hong & Guo, 2019). While SCM operations are short-term, namely for daily, weekly and monthly activities.

From table above could be seen that construct of Information Technology for SCO had positive impact ($O = 0.329$) on construct of operational SCM. T-Statistic value on the relationship of construct was $2.116 > 1.96$, and the P-Value was $0.035 < 0.05$. Therefore, the ninth hypothesis stated that Information Technology for SCO had a positive effect on operational SCM accepted. The goal of information technology in the context of SCM is to ensure the availability of information at a single data access point and create an observable state of upstream to downstream changes in output or income and enable effective decision making from the large amount of incoming information related to supply chain decision making. Information technology is needed to improve operational performance and overall company performance by reducing processing time, increasing efficiency and minimizing errors. Good information technology is one of the keys to the success of companies that implement SCO because it can connect between departments and produce stronger integration. Companies that implement SCO should pay more attention to information technology which can be a facility to improve internal integration and collaboration across departments (Liu et al., 2019).

From table above could be seen that construct of strategic SCO had positive impact ($O = 0.504$) on construct of operational SCM. T-Statistic value on the relationship of construct was $2.991 > 1.96$, and the P-Value was $0.003 < 0.05$. Therefore, the tenth hypothesis stated that Strategic SCM had positive effect on operational SCM accepted. Many companies formulate supply chain strategies based on their overall strategy and use SCM facilities to realize supply chain strategies and to achieve organizational goals (Dong et al., 2019). Collaborative planning

and collaborative decision making can influence collaborative implementation. In supply chain collaboration, supply chain partners with other partners carry out production and distribution planning together. Collaborating decision making has a positive impact on the implementation of sales plans in retail stores.

CONCLUSION AND RECOMMENDATION

The purpose of this study was to determine the effect of individual supply chain orientation and organizational supply chain orientation on supply chain management in metal processing SMEs in Tegal. The results showed that Individual SCO had a positive influence on Human Resource for SCO, Organizational Design for SCO and Information Technology for SCO. The result of further research is that Human Resource for SCO, Information Technology for SCO and Information Technology for SCO have a positive influence on Strategic SCM. Then the results of further research are that Human Resource for SCO and Organizational Design for SCO have a negative influence on Operational SCM. While Information Technology for SCO has a positive influence on Operational SCM. The result of the last research is that strategic SCO has a positive influence on operational SCM.

Suggestions for companies based on this research is for companies to understand the philosophy of Supply Chain Management, which is about how important it is for companies to understand and provide understanding to company members that Supply Chain Management is a series of activities that are interconnected, not as a set of separate jobs. Supply Chain Management can be one of the things that can make companies compete with various competitors. Suggestions for further researchers are expected to be able to conduct research related to supply chain orientation considering that this research has not been so much research using other variables or adding other variables.

REFERENCES

- Dhaigude, A., & Kapoor, R. (2017). The mediation role of supply chain agility on supply chain orientation-supply chain performance link. *Journal of Decision Systems*, 26(3), 275-293.
- Dong, C., Liu, Q., & Shen, B. (2019). To be or not to be green? Strategic investment for green product development in a supply chain. *Transportation Research Part E: Logistics and Transportation Review*, 131, 193-227.
- Hong, Z., & Guo, X. (2019). Green product supply chain contracts considering environmental responsibilities. *Omega*, 83, 155-166.
- Ismiyah, E. (2018). Manajemen Kualitas pada Supply Chain Kemasan Gelas di PT. Iglas (Persero) Surabaya. *Matrik: Jurnal Manajemen dan Teknik Industri Produksi*, 11(1), 8-23.
- Jacobs, B. W., & Subramanian, R. (2012). Sharing responsibility for product recovery across the supply chain. *Production and Operations Management*, 21(1), 85-100.
- Jadhav, A., Orr, S., & Malik, M. (2019). The role of supply chain orientation in achieving supply chain sustainability. *International Journal of Production Economics*, 217, 112-125.
- Khan, O., Christopher, M., & Creazza, A. (2012). Aligning product design with the supply chain: a case study. *Supply Chain Management: An International Journal*, 17(3), 323-336.
- Lee, T., & Nam, H. (2016). An empirical study on the impact of individual and organizational supply chain orientation on supply chain management. *The Asian Journal of Shipping and Logistics*, 32(4), 249-255.
- Liu, Z., Li, K. W., Li, B. Y., Huang, J., & Tang, J. (2019). Impact of product-design strategies on the operations of a closed-loop supply chain. *Transportation Research Part E: Logistics and Transportation Review*, 124, 75-91.
- Luo, Z., Chen, X., & Kai, M. (2018). The effect of customer value and power structure on retail supply chain product choice and pricing decisions. *Omega*, 77, 115-126.
- Nepal, B., Monplaisir, L., & Famuyiwa, O. (2012). Matching product architecture with supply chain design. *European Journal of Operational Research*, 216(2), 312-325.
- Patel, P. C., Azadegan, A., & Ellram, L. M. (2013). The effects of strategic and structural supply chain orientation on operational and customer-focused performance. *Decision Sciences*, 44(4), 713-753.
- Rakhmawati, A., Rahardjo, K., Kusumawati, A., & Nizar, M. (2020). Pengaruh Strategic Orientation, Government Regulation Terhadap Green supply chain management dan Environmental Performance. *AdBispreneur: Jurnal Pemikiran dan Penelitian Administrasi Bisnis dan Kewirausahaan*, 4(3), 181-191.
- Sherlywati, S. (2018). Urgensi penelitian manajemen rantai pasok: Pemetaan isu, objek, dan metodologi. *Jurnal Manajemen Maranatha*, 17(2), 147-162.
- Thornton, L. M., Esper, T. L., & Autry, C. W. (2016). Leader or lobbyist? How organizational politics and top supply chain manager political skill impacts supply chain orientation and internal integration. *Journal of Supply Chain Management*, 52(4), 42-62.
- Widyarto, A. (2013). Peran supply chain management dalam sistem produksi dan operasi perusahaan. *Benefit: Jurnal Manajemen dan Bisnis*, 16(2), 91-98.
- Yu, W., Jacobs, M. A., Chavez, R., & Feng, M. (2019). Data-driven supply chain orientation and financial performance: the moderating effect of innovation-focused complementary assets. *British Journal of Management*, 30(2), 299-314.
- Yulita, H. (2019). Pengaruh Strategi Orientasi Organisasi Terhadap Manajemen Rantai Pasok Hijau dan Kinerja Bisnis. *Jurnal Co Management*, 2(1), 123-138.