

Supply Market Intelligence, Supply Management Influence, Supplier Integration and Sourcing Enterprise Performance as Antecedents of Buyer Financial Performance

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Abstract- The prime objective of the present study is to examine the impact of supply market intelligence and supply management influence on the financial performance of the buyer. Moreover, the impact of supplier integration and sourcing enterprise performance on buyer financial performance is examined as well. The questionnaires were distributed among 476 customers of automotive sector of Indonesia and 400 questionnaires were received back. The response rate was 84%. Moreover, in this study, Partial Least Square (PLS) path modeling was employed as a methodological technique to test and examine the hypotheses set and the effects within the constructs. All the proposed hypothesis was accepted. The findings of the study are important for the policy makers of the automotive sector of Indonesia.

Keywords; *Supply Management Influence, Supply Market Intelligence, Supplier Integration, Buyer Financial Performance, Sourcing Enterprise Performance, Indonesia*

1. Introduction

Competition at global level is mounting since last few years due to which companies are bound to re-think regarding their strategies by which they can save the cost of production and also provide customer services better than competitors. In several industries, production networks and suppliers have gone through various changes. A number of different activities by the organizations are being outsourced and they have to coordinate with both international and national networks which are known as suppliers. Therefore, integration of Supply chain also known as SC integration is very important factor so the organizations can achieve better performance [35-36]. For this reason, the aim of SC integration is to generate several different supply chains through material flows and coordinating the information [1].

The operational method and performance of business has been restructured in a number of different fundamental and essential way by a number of different organizations. These organizations are integration and looking for partners by which they can minimize their cost of operations [2]. Moreover, their another objective is to fulfil their social responsibility and environmental protection promise with the concept of sustainable business development. Performance is the act of fulfilling, achieving, implementing, and performing the assigned tasks which must be measured in terms of pre-defined sets of timing, fullness, money and precision. In another concept, it's been referred as measuring the activities and policies of the companies which results in the terms of finance. It's been used by the organizations so they can check the financial position, compliance and success of the organization. organizations most of the times measure these results through the values mentioned in the organizations profitability, capital employed, equity, assets, and return on investment [3].

A number of different firms are using supply management so they can gain and sustain the competitive advantage. The organizations acting proactively and using best supply chain related programs and practices are different from others in terms of collaboration, supplier partnerships, creating value on the basis of customer needs, fulfilling internal and external requirements, identifying opportunities, collection of market intelligence, and working closely with the suppliers of the market [4].

At the strategical and tactical level of the organization, sourcing is the basic activity of the organization which is very critical as well. It deals with the issues of purchasing of the organization like what should be purchased, why it should be purchased, from where it should be purchased and when. The practitioners and managers of supply chain created this concept so they can implement, develop and improve strategies of strategic sources. Supply chain

management also termed as SCM is the activity and process in which the component and raw material needed by the organization to create a service or product is dealt. Moreover, it also deals with delivering the service or the product to the customers. Following activities are involved in the sourcing of the process like selection of suppliers, market interaction like negotiation, execution of strategy, development of strategy, evaluating the market of the supplier, and understanding the customer needs [5].

For organizations to boost the competitiveness and performance of organization, SCM is the most effective and important strategy. Managers try to seek the design of organization and attempts to develop the integration by which SCI is allowed in the organization. among the internal concepts of the organization, another important aspect is the integration of supplier and customers. Researchers mentioned that performance is impacted by the integration of organization with suppliers who may integrate at the strategic and operational level. Integration of supply chain needs the organization to be integrated simultaneously downstream and upstream and it has a number of different benefits as well [6].

The outsource service provider can be used by the organization during the market research. Whereas, the organizations must also collect the relevant information from all of the stakeholders. The all point of doing market research is to recognize the conditions of market research and its ability to supply the product through new or current supplier. In this manner, one of the most important steppingstones is the integration of supply market to create the strategy. Moreover, intelligence of supply market has the capability to impact the future competitive advantage [7].

It's been suggested in past studies that strategies of supply management like SC member's collaboration, information sharing, and integration of supply management have very strong influence on organization [8]. Past studies revealed that performance and innovativeness of the organization is largely impacted supply management. It is because the operations of supply chain is at the supplier's and organizational intersection, therefore the collaboration of organization with suppliers, especially for the purpose of sustainability. Moreover, for the sustainable performance of organization, supply management plays very important role. The strategies of supply management are adopted for the support of sustainable development of organization at the operational and strategic [9]. Therefore, there is need to understand and increase the understanding at the same level regarding the important role of organizational capability of sustaining and function of supply management. In order to improve the sustainable performance, organizations need to report the issues of sustainability in terms of organizing, reporting and controlling the supply

management according to the vision of the organization [10].

The Indonesian automotive industry is as important as any other automotive industry around the globe. Within Indonesia, it plays important role in terms of economic growth of the country. The automotive sector contributes more than 10 percent of the Indonesian GDP. In 2017, the automotive sector of Indonesia was the fifth largest sector of Asia in terms of vehicle production and 17th largest globally [11]. Therefore, the objectives of current study are to explore supplier integration and sourcing enterprise performance as significant mediator between supply market intelligence and buyer financial performance and also between supply management influence and buyer financial performance. Furthermore, present study aims to add-on the existing literature regarding the constructs of study (buyer financial performance, sourcing enterprise performance, supplier integration, supply market intelligence, supply management influence). This study highlights the importance of supply chains and its regarding variables.

2. Literature Review

2.1. Buyer Financial Performance

The capability of the company that is buying to aid the social capital by provide good quality, reasonable pricing, product safety, good lead time and good sales which helps to increase profits of the firm. According to studies, in order to increase performance of the buyer for some investments, buying organization take few steps to aid performance of the suppliers and ability to invest in different assets like material or non-material that are for some special purpose. For instance, investment of the buyer in assets directly particularly to the exchange between the buyer and supplier [12]. The buying company should get some means that are reliable according to the priorities of an organization through which firm can compete in the market. Product cost, its quality, flexibility and dependability are some competitive measures. Dependability criterion is in direct relation with the confidence on product and services. In the case of confidence on the product, it will work according to the specifications and in the matter of services, it is to deliver products at right time and to solve the problems quickly [13].

Financial performance is a measure through which financial growth of an organization can be measured after some time. Moreover, financial action is used to increase sales, business worth and profit generation of the company by the management of assets, equity, financing, expense and revenues either its current or non-current for the shareholders. The main reason of financial action is to give whole and complete information to the stakeholders and shareholders of the organization to let them take part in the process of decision making. This is used for

evaluation and comparison among companies in aggregation [14].

2.2. Sourcing Enterprise Performance

One of the basic objectives of SCM is to manage flow of information and materials from the supply point to sales point. SCM is also identified in the terms of managing raw product, material that is in making process and inventories from its origin point to consumption point. It is further described as to plan and controlling information and material from supplier to consumer. To expansion of business geographically. Supply chains involve many organizations. many organizations expect collaboration with third party and supplier to expand the activities. To assess the extent to which relation had in past few years results in improvement in design of the product, its quality and less lead time from buyer company [15].

2.3. Supplier Integration

Supplier integration take place when the partners of the company along with supplier's structure strategies of an organization, exchange knowledge and information and develop a process that is synchronized. It is considered as the main source of advantage as it plays a role in improvement of inter-enterprise operations. It also provides a platform to maximize the efforts to meet requirements of the customers for the products and to respond according to market needs. Companies can get insights into supply processes, its abilities and threats, which enables them to plan and predict effectively for product, its design and its cost [16, 34].

According to the past literature, Supplier integration is referred as the extent to which an organization shares its information and create partnership with supplier for good management of material, flow of information, results in getting smooth process of production. Integration and control mean:

- to increase communication and link administrative body of the company through operational integration
- capability to tackle, control and maintain behavior by strategic interdependence
- social relations and control by integration and control

Integration is developed by enhancing the capability to control the results through social and operational interaction. Influence is also related with planning, which means the extent of involvement of an employee in strategic planning of the company. Better planning is related with more involvement of an employee in process of planning [4].

2.4. Supply Market Intelligence

Rapidly growing and accepting in supply chain management organizations is known as Market Intelligence. In a context of SCM, market intelligence is referred as to gather and analyze the information that is relevant to supply market of the firm particularly to support exact and confident procurement process of decision making. It is also defined as to increase chances of advantages and to reduce threats and risks by increasing knowledge of market dynamics and base composition of the supply [17].

A fundamental theme of this research is an SMI organization is different and can do more than just collecting and analyzing data. Truly effective SMI companies can engage stakeholders by providing requirements of the knowledge and spreading information to guarantee its application in an organization [18].

Effecting and successful SMI includes few points that are described below:

- to monitor supply market and its trend like supplier changes, shortages and to alter the strategies of the firm according to ongoing trend of the market
- to identify services and materials to support strategy of the organization
- to develop supply option and plans to support plans of the company
- to support needs of an organization for diverse supply base [19].

There are few outcomes from the analysis of SMI. These are basically lie at the center of the cost of commodity and to monitor the supply to avoid any disturbance in the supply. Internal cost drivers as order volume, leverage, proximity and external drivers as demand, investment and raw material are identified in the research [20].

2.5. Supply Management Influence

The capability to align and manage stakeholders and integration of strategic sourcing of the objectives between higher management and enterprise-level strategies is known as Supply management influence. SMI should be taken seriously within an organization. It is mainly a capability to develop solid case of business around their mindset, influencing process of decision making and extent of business insight in the context of supply. This feature is also important in literature of entrepreneurship. Furthermore, entrepreneurial organizations have strong planning, referred as using integrative devices like task force, committees, and man force to implement decisions. It ensures the involvement and active participation of managers in this process [21]. To influence executive managers by more flexibility and more ability to tolerate the risk is also important. SMI directly effects the strategic decision, also found in past literature, whereas, to apply integrative devices like taskforce, integrative personnel

and committees are main source of fact collection for supply base. SMI permits the supply managers to participate actively in the process of planning, and also encourage them to take part for introducing new ideas for the product. The participation of supply management at this level brings suppliers to the table [22].

2.6. Sourcing Enterprise Performance and Buyer Financial Performance

In the current era, the competition in the market is trans-organizational firms are the strategic asset of the organization which are able to design the network alliance. The alliance is designed as the supplier's key factor which are most likely to take advantage like gaining sustainable advantage and perform better than competitors. Organizations can get more than normal return from the market by working on the suppliers and supply chain. The early mover organizations can use a number of different resources from the market like using technology, knowledge and capability of the supply chain. In this aspect, financial performance of the organization can be improved by performance of source enterprise and converting it into relational rents and strategic advantage [23]. Key indicators of performance therefore show improvement in the financial performance of the organization in terms of creating wealth of the stakeholder by improving their market share, growth, profitability and relational rents.

2.7. Supplier Integration and Sourcing Enterprise Performance

The key managerial strategy to improve the performance of organization is the supplier integration. The prime focus of the present study is the supplier integration which is apply of eye of researchers and managers of logistics because it impacts the capability and performance of organization in both short and long run basis. Whereas, if the supplier and customer coordinate with each other as part of system which is unified, they can get a number of different benefits like profitability, customer satisfaction, quality of product, order fill rate, inventories and reduction in cost [24].

2.8. Supply Market Intelligence and Supplier Integration

As mentioned by [22], there exist ability by which strong relationship with supplier can be developed, more knowledge can be perused, more knowledge of cost saving can be gathered, and the stakeholders can remain in regular communication. by this way, mutual expectations and trust can be built among the customers by which further relationship can be developed. This investment in specific aspects of relationship and knowledge exchange as asset take place in terms of some conditions in which

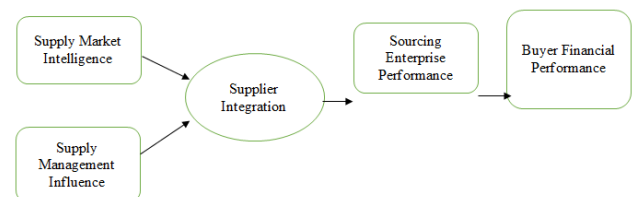
expected value of the customer is fulfilled by the organization and the value given to the customer exceeds the expectations. Through integration of market integration, suppliers are better identified and with the passage of time, they become closer to each other and form liaison through the management of supplier relationship. As a result, improvement in outcomes can be posited. Thus, supply market intelligence is associated with increased levels of supplier integration.

2.9. Supply Management Influence and Supplier Integration

As credibility is built by the organization through supply management by putting resources that are value added into the process of strategic planning, they can get credibility with external suppliers. The reliance of these networks is on the internal communication, market knowledge, relational skills and ability of supply management to coordinate. The internal planning process is also influenced by the supply management along with team-based process integration which can have measurable impact on reducing the cycle time of the product delivery, improvement in design of the product and quality. Thus, supplier integration is largely influenced by the supply management [22].

2.10. Theoretical Framework

From the above literature, following research framework and hypotheses are developed:



2.11. Research Hypotheses

H1: Sourcing Enterprise Performance and Buyer Financial Performance are in significant relationship with each other.

H2: Supplier Integration and Sourcing Enterprise Performance are in significant relationship with each other.

H3: Supply Market Intelligence and Supplier Integration are in significant relationship with each other

H4: Supply Management Influence and Supply Market Intelligence are in significant relationship with each other.

3. Methodology

In this study, Partial Least Square (PLS) path modeling was employed as a methodological technique to test and examine the hypotheses set and the effects within the constructs [25]. Studies proposed this technique to

estimate path model involving constructs that use multiple number of indicators for estimating the latent constructs. Furthermore, it is desirable to apply PLS technique when multiple exogenous latent constructs are added into the model, to estimate only a small number of endogenous latent constructs [26]. Hence, PLS is a structural equation modeling technique that tends to determine associations among the model constructs and among latent constructs and their respective indicators by performing regression. Moreover, in Partial Least Square method, there are no certain restrictions for testing the associations among the model constructs using interaction technique [27].

In order to test the hypotheses in this research, PLS path model was adopted because of various reasons. Several researchers from the marketing and management [28] fields have widely used PLS as a powerful statistical method in their researches. In this study, 476 employees from the customers of automotive firms in Indonesia were targeted by delivering self-administered questionnaires to them, and in return, total 400 questionnaires were obtained from these 476 questionnaires, with a response rate of 84%.

4. Results

The significance of measurement and structural model in PLS-SEM is clear from the above discussion. PLS-SEM offers several advantages; i) PLS-SEM works well even for small sample size and non-normal data, in addition, it does not require much cost and can flexibly analyze data obtained from the reflective and formative items. ii) Single-item constructs can be easily and effectively handled through PLS-SEM and it also estimate parameters with greater efficiency, resulting in high statistical power outcome than the outcome obtained through CB-SEM. This has also made the application of PLS-SEM suitable for various situations [26]. Thus, for assessing the statistical results, a sequential two-stage approach is adopted in this study.

Initially the outer model was assessed in the first stage of Partial Least Square Structural Equation Modeling (PLS-SEM) approach by calculating and observing the measures' convergent validity, discriminant validity and the composite reliability [26]. Therefore, this section determines the reliability and validity of the instruments.

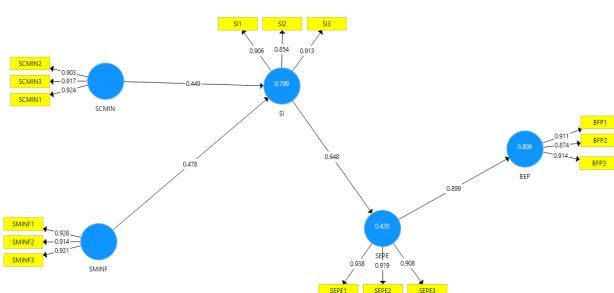


Figure 2. Measurement Model

Studies conducted under the field of social sciences generally used the Cronbach alpha coefficient to measure the reliability and internal consistency, whereas, in PLS-SEM a more conservative measure is employed [29]. In this regard, composite reliability is referred as one of a significant internal consistency measure [30]. Therefore, internal consistency was observed in this study by estimating composite reliability values, which should not be less than 0.70 to be acceptable [26]. Afterwards, the reliability of each indicator was assessed by examining the outer factor loadings. The value 0.70 or above is considered to be the threshold level for outer loadings [25].

Table 1. Outer Loading

	BEP	SCMIN	SEPE	SI	SMINF
BFP1	0.911				
BFP2	0.874				
BFP3	0.914				
SCMIN2		0.903			
SCMIN3		0.917			
SEPE1			0.938		
SEPE2			0.919		
SEPE3			0.908		
SI1				0.906	
SI2				0.854	
SI3				0.913	
SMINF1					0.928
SMINF2					0.914
SMINF3					0.931
SCMIN1		0.924			

Convergent validity shows the degree to which measures of the same construct are positively correlated, in such a way that a higher proportion of variance is shared among indicators of a construct. The measures like average variance extracted (AVE) and outer loadings for each indicator were calculated in order to ascertain the convergent validity of the measurement model. Here AVE describes the grand mean of indicators' square loadings, which are involved in the model, and the threshold level for the AVE is equal to or greater than 0.50 [30] [26]. If the AVE values fall within the threshold level, then it shows that the indicators are responsible in explaining half of the variance in their respective construct.

Table 2. Reliability

	Cronbach's Alpha	rho_A	CR	(AVE)
BEP	0.883	0.883	0.928	0.810
SCMIN	0.902	0.903	0.939	0.837
SEPE	0.911	0.912	0.944	0.850
SI	0.870	0.873	0.921	0.795
SMINF	0.915	0.917	0.946	0.855

On the other hand, discriminant validity is the degree to which a construct is distinct from other constructs involved in the model. When a construct is unique and is completely distinct from other constructs, sufficient

discriminant validity is said to be achieved [26]. For assessing a model's discriminant validity in PLS-SEM, two measures are required to be observed, where [31] criterion is comparatively more prudent measure. According to this criterion, a comparison is made between the correlations among latent constructs and the AVE square roots; and for each construct, these square roots of average variance extracted must turn out to be greater than the highest correlations among latent constructs, to be acceptable. Hence, it indicates the shared variance among the construct and its respective indicators, in comparison to other constructs involved in the model [26].

Table 3. Discriminant Validity

	BEP	SCMIN	SEPE	SI	SMINF
BEP	0.900				
SCMIN	0.627	0.895			
SEPE	0.899	0.655	0.888		
SI	0.701	0.860	0.648	0.891	
SMINF	0.643	0.861	0.621	0.864	0.894

The structural model explains the predictive ability of the model. Thus, the evaluation criteria for assessing the structural model in PLS-SEM are the path coefficients' significance and coefficient of determination (R²). However, according to other scholars [32] path coefficients, predictive relevance, coefficient of determination and effect sizes are the major considerations for the structural model assessment. Having established the constructs validity and reliability, convergent and discriminant validity, the structural model was assessed in the second stage.

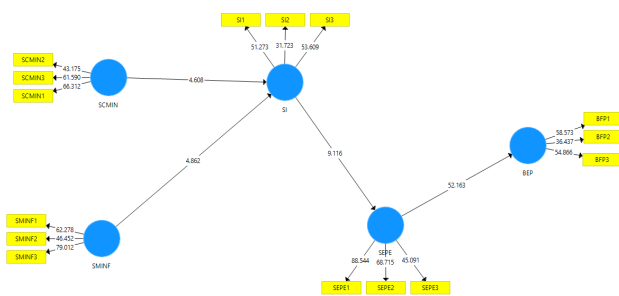


Figure 3. Structural Model

In Smart PLS 2.0, the bootstrapping method was carried out for the 362 cases, for determining the significance of path coefficients. The procedure included 5000 bootstrap samples without sign changes. In addition, parameters were estimated using path-weighting scheme. The standard errors obtained from the bootstrapping method thus helps to assess the path coefficients' significance and in testing the hypotheses [26].

Table 4. Direct Relationship

	(O)	(M)	(STDEV)	(O/STDEV)	P Values
SCMIN -> SI	0.449	0.444	0.097	4.608	0.000
SEPE -> BEP	0.899	0.899	0.017	52.163	0.000
SI -> SEPE	0.648	0.650	0.071	9.116	0.000
SMINF -> SI	0.478	0.483	0.098	4.862	0.000

Calculating the R-square or coefficient of determination for the endogenous latent variables is the next step in structural model estimation [25]. According to [27], R-square values such as 0.67, 0.19 and 0.33 indicate good, weak and moderate predictive ability, respectively.

Table 5. R-square

	R Square
BEP	0.809
SEPE	0.420
SI	0.799

5. Conclusion

The automotive sector is very important industry of Indonesia which is facing intense competition worldwide. Therefore, it is critical for the organizations dealing in this sector to derive the policies for the buying performance of the Buyer Financial Performance. For this reason, the present study has examined the impact of supply market intelligence and supply management influence on the financial performance of the buyer. Moreover, the impact of supplier integration and sourcing enterprise performance on buyer financial performance is examined as well. The data was gathered in the form of survey and 400 respondents gave feedback. Thus, the response rate of the present study was 84%. The findings revealed that Supply Management Influence and supply market intelligence are important predictor of supplier integration and Sourcing Enterprise Performance which in turn impacts the financial performance of the buyer. The findings of the study are important for the practitioners and policy makers of the supply chain and can be helpful to strive different policies and strategies as well.

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