

## THE IMPACT OF STAKEHOLDER PRESSURE ON THE RISK MITIGATION ACTIVITIES OF THE FIRM

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**Abstract:** This paper aims to assess how the risk management activities of a firm influence through stakeholder pressure. This study is based upon KM literature and stakeholder theory for developing a homological model for this study. The multiple stakeholders put pressures upon supply chains for risk minimization, majorly because of the stakeholders' stake in the success of an organization. Firms can employ organizational strategies for minimizing the risks associated with supply chain, by mobilizing the supply chain's KM resources that may help to improve the cooperation and collaboration among the firm's supply base. Therefore, firms tend to become highly responsive towards customer demand changes. A total of 374 questionnaires were returned from 438 questionnaires that were distributed to the managers of agriculture indicating a 70% response rate. The SEM-PLS is used for the analysis of data. A firm may collaborate with its supplier through engaging in the improved planning activities for risk mitigation. A strong association is found among firm with supplier and the ability of a firm to obtain benefits through the implementation of risk mitigation activities. Those firms which closely cooperate and connect with supplier are likely to be in a position to fully understand the capacity constraints and develop rapidly reorganizing capability i.e. reorganizing the production arrangement for employing alternative supply sources.

**Key words:** knowledge management, stakeholders, supplier, risk

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### Introduction

In the postmodern era of business, the supply chains are subject of an intense and increasing competitive pressure which is mounting the SC risk (Lachová et al.). This has increased the operational complexity and the uncertainty in SC particularly among the SC partners, and consequently the risk on SC partners has grown and in recent times (Jaradat et al., 2017). This has led the modern days' firms into situation where they are facing unique threats of managing the SC risk (Man et al., 2015; Wiengarten et al., 2016 ; Brindley, 2017; Ślusarczyk & Grondys, 2019). These continuous threats of uncertainty in SC outcomes are forcing the manufacturing firms to develop novel and efficient ways to manage as well as

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mitigate the risk associated with the manufacturing supply chains. Though the recent literature suggests many strategic solutions, yet the SC risk and its management is a puzzle whose parts seems not to be fixed. One of the vigilant realizations that the organizations in the post-modern ear have made is the incorporation of knowledge-driven system for the mitigation of firm's level risk as well as achieves the sustainable competitive advantages. However, there is number of approaches, which firms in these days are employing for the mitigation and management of SC risk. However, the knowledge management capability appears as one of the most effective SC risk management strategies, and there is an increasing interest of researchers in exploring the nexus between the knowledge management and SC risk. Many researchers have claimed the knowledge management as a useful tool of management of SC risk as it helps the firm in being proactive in foreseeing the threats and forecasting the opportunities associated with the SC of any manufacturing firms. Hislop et al. (2018) in their seminal work argued that Knowledge management is one of the most effective strategies of managing supply chain.

First, the knowledge management bring culture of commitment and trust; this culture helps the SC partners in developing a synergic relationship by discouraging the opportunism and striving for a win-win situation for all stakeholders. The commitment and trust also bring coordination and effective communication in SC related issues. Darko et al. (2016) argued that the coordination and trust in a SC which mainly is product of effective knowledge management helps in developing an effective response strategy in the time of any crisis and particularly in the any crisis in SC management. It also helps the partner firms in keeping and managing the secrets of partner firms. Secondly, the knowledge management in any firms smoothen the flow of information to and from the organizational and made it possible for all the stakeholders to get first-hand knowledge, which the partners can use in time of any short term as well long-term situation of crisis (Hussain et al., 2019). The information flow is at the heart of SC risk management, the right information at right time and right place can help the partner firm in coordinating with the firm facing any difficult situation (Saini et al., 2019). Lastly the knowledge management brings a culture of teamwork, which promotes the culture of joint problem solving and install integration through effective coordination throughout the SC. The team work also bring new sources and as per rescuers the sourcing through Km is one of the most effective and efficient tool of SC risk management (Mohapatra et al., 2016). The firms working in teams often receive positive and critical comments, opinions, or suggestions from partners in SC and this pressure make them more accountable and consequently bring efficiency in the SC management, which reduces the SC risk.

### **Literature Review**

Stakeholder pressure is taken as a one of the key and critical factor that affect the risk taking behavior of ay firms. Stakeholders are referred as external and internal

entities, which affect the supply chain practices and policies of a firm. According to (Saini et al., 2019) one of the significant ways of exerting pressure by the stakeholders is by enforcing firms to implement supplier management practices within the organization. This is because stakeholders may be susceptible to harm or negative publicity because of the firm's action, therefore, stakeholders would ascertain scrutiny and close management of the firm's suppliers. For instance, the relationship between Mattel Corporation and its suppliers (Giannakis and Papadopoulos, 2016).

Supply chain processes related knowledge are utilized by firms to plan and implement in collaboration with the suppliers, and to satisfy the requirements and needs of both parties to ensure an effective sourcing relationship. A number of scholars (Kerzner, 2019; Awan and Kraslawski, 2017; Giannakis and Louis, 2016; Man et al., 2015) have also praised the benefits that are gained through joint planning among supplier, since it enhances the supply chain visibility of a firm through information sharing, real-time responses towards change and better communication. Those firms which closely work with suppliers using joint planning activities are more likely to monitor when and how a certain type of product is manufactured and is being distributed. This allows the firm to make an appropriate decision about the level of inventory by becoming fully aware of the total product volume which are being manufactured, transported and delivered. With respect to SC risk, (Saeed et al., 2019) conducted a research and discussed the significance of joint planning and supply base relationship in SC risk management. The benefits arising from risk mitigation programs are not generally recognized by firms unless they are enforced by internal or external forces to develop and implement an effective SC risk mitigation strategy (Gaur et al., 2019). Stakeholders persuade firms to plan farsightedly for the occurrence of any risky events. In fact, the stakeholders' impact must not be underestimated. Consequently, an internally oriented or short-term risk mitigation activities can be initiated by a firm, before formally establishing a supply relationship management capability (involvement of firm suppliers directly to the risk mitigation programs) and KM capabilities. This is actually integrated to deal with stakeholders' pressures for taking immediate actions. The conceptual framework of the current study is influenced by the seminal work of Cantor et al., (2013). However, the current study is among the pioneering to investigate the mediating role of KM and JPWS. Thus, we proposed the hypothesis as:

*H1: Stakeholder pressure has significant impact on the knowledge management.*

*H2: Stakeholder pressure has significant impact on the joint planning with suppliers.*

*H3: Stakeholder pressure has significant impact on the risk mitigation activities.*

*H4: knowledge management has significant impact on the risk mitigation activities.*

*H5: Joint planning with suppliers has significant impact on the risk mitigation activities.*

*H6: Knowledge management mediates the relationship between stakeholder pressure and risk mitigation activities.*

*H7: Joint planning with suppliers mediates the relationship between stakeholder pressure and risk mitigation activities.*

### **Research Methodology**

At the data collection stage, 438 questionnaires were distributed randomly at the two airports in north Malaysian region. For obtaining greater response rate, the questionnaires were distributed manually, particularly to ensure data validity and reliability (Kilubi and Rogers, 2018). Thus, a total of 374 questionnaires were returned from 438 questionnaires that were distributed to the respondents indicating a 70% response rate, which is acceptable as per (Straus, 2017) definition. From these 374 questionnaires, we omitted 94 questionnaires that were unusable or incomplete. The remaining questionnaires were used for further analysis, thereby accounting for 52% response rate. According to (Isa et al., 2017), the minimum acceptable range for the response rate for survey studies is 30 percent.

Partial least square technique or PLS-SEM is built and developed from the basic statistical analysis which is based on an iterative approach of explaining the inner structure variance, it is also referred as a components-based technique (Hair Jr et al., 2014). This technique comprises of multiple techniques, i.e. differentiation analysis, multiple regression, analysis of variance, cluster analysis and logistic regression (Hair Jr et al., 2014). PLS-SEM can efficiently perform multiple regression analysis (Hair et al., 2014) and is recommended to be employed in exploratory research.

### **Results**

The measurement model was assessed by determining the reliability of each individual item, content reliability (discriminant validity and convergent validity) and internal consistency reliability (Ab Hamid et al., 2017). For each item, the individual item reliability was assessed by observing each constructs' outer loadings. For this purpose, a rule of thumb was considered to rate those items which lie within the 0.40-0.70 range (Hair Jr et al., 2014).

The internal consistency reliability shows that to what extent same concept is measured by all items of a particular construct (Ab Hamid et al., 2017). Cronbach alpha and composite reliability coefficients are generally used for assessing the internal consistency. In present study, composite reliability coefficient is chosen to confirm the internal consistency reliability. Similarly, the recommended value for composite reliability coefficient as suggested by (Hair Jr et al., 2014) is 0.7 or above. Thus, the present findings of this research show greater than 0.50 loadings for AVE, thereby indicating that convergent validity is achieved for each latent construct.

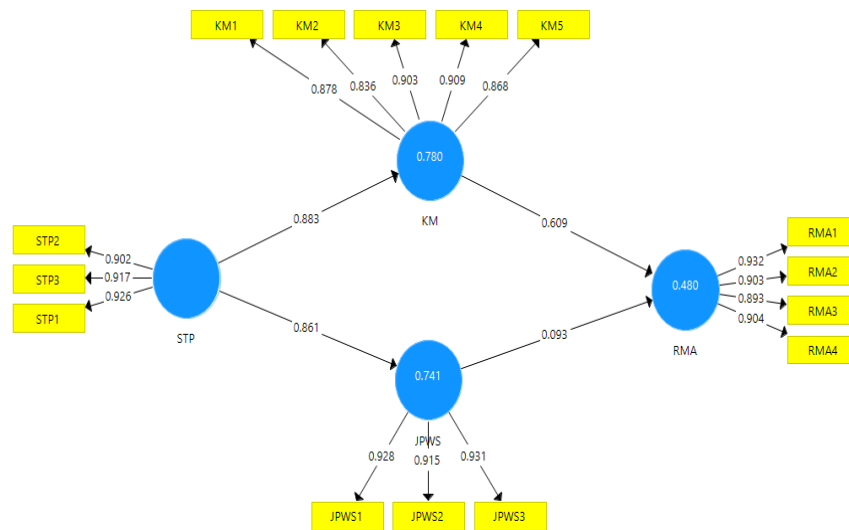


Figure 1: Measurement model

Table 1: Reliability

	Cronbach's Alpha	rho_A	CR	(AVE)
JPWS	0.915	0.917	0.946	0.855
KM	0.926	0.928	0.944	0.773
RMA	0.929	0.929	0.950	0.825
STP	0.902	0.903	0.939	0.837

The discriminant validity for current research was also responsively achieved by considering (Heale and Twycross, 2015) rule of thumb, according to which the AVE values must be equal or above 0.50. After estimating the measurement model, the structural model was also examined in this study.

Table 2: Validity

	JPWS	KM	RMA	STP
JPWS	0.894			
KM	0.893	0.879		
RMA	0.636	0.691	0.908	
STP	0.861	0.833	0.669	0.915

For assessing the significance of path coefficients, this study performed a bootstrapping method by deploying 5000 samples for 281 cases. The mediation is a process of variables' interference in other variables relationship (Veloutsou, 2015). Mediation analysis shows the presence of an indirect effect on the endogenous and exogenous variables relationship through the presence of an intervening variable.

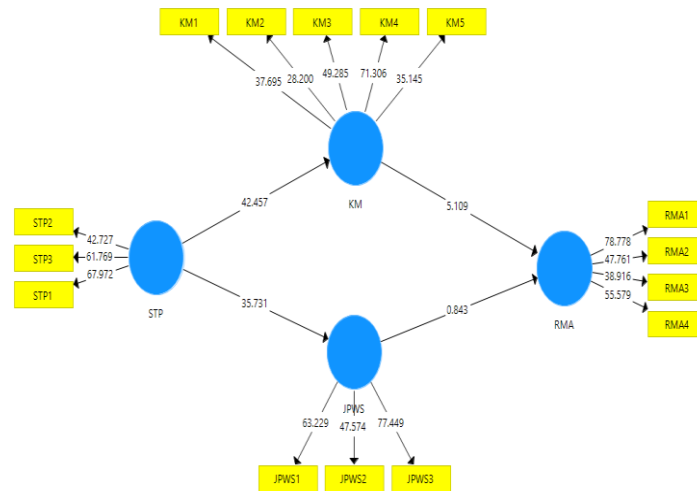


Figure 2: Structural model

Table 3: Direct Relationship

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
JPWS -> RMA	0.093	0.101	0.110	0.843	<b>0.199</b>
KM -> RMA	0.609	0.602	0.119	5.109	<b>0.000</b>
STP -> JPWS	0.861	0.861	0.024	35.731	<b>0.000</b>
STP -> KM	0.883	0.883	0.021	42.457	<b>0.000</b>
STP -> RMA	0.617	0.619	0.062	9.875	<b>0.000</b>

Table 4: Mediation

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
STP -> JPWS -> RMA	0.080	0.088	0.096	0.831	<b>0.203</b>
STP -> KM -> RMA	0.537	0.531	0.105	5.118	<b>0.000</b>

Although, it is not surprising that practitioners and scholars have been showing great interest towards developing a comprehensive understanding regarding how risk mitigation activities are implemented by organizations. A model is presented in this study to explain how stakeholders' pressure plays its role in affecting a firm's internal KM resource mobilization to alleviate SC risk. Connecting KM capabilities of a firm with the stakeholder pressure explains the significance of stakeholder pressure in the firm's risk management process. This research was extended to assess the impact of stakeholders on various SC collaboration activities.

Results show that pressure from the stakeholders persuade firms to increase their KM activities. Furthermore, the stakeholders' pressure also affect the way firm gain information and knowledge, how this knowledge is assimilated, and how it is

then distributed or disseminated to the partners of SC, so that each party may receive sufficient amount of information. Knowledge acquisition and dissemination by firms are of great significance when competing at a marketplace. As a matter of fact, significant efforts and time is required to gather, organize, and knowledge processing. A firm may collaborate with its supplier through engaging in the improved planning activities for risk mitigation. A strong association is found among joint planning efforts of firm with supplier and the ability of a firm to obtain benefits through the implementation of risk mitigation activities. Those firms which closely cooperate and connect with supplier are likely to be in a position to fully understand the capacity constraints and develop rapidly reorganizing capability i.e. reorganizing the production arrangement for employing alternative supply sources. Thus, firms involving in joint planning activities with suppliers may get access to the required information which assist in the firm's risk mitigation programs, consider benefits gained from these programs, observe the potential gains of these programs, and considering these programs to be advantageous for the firm. It also offers interesting implications in both practice and in future research to establish different supplier development programs. Consequently, these risk management practices can be shared by the supplier with its own supplier. Findings of this study also suggest that those firms which consider risk mitigation programs to be beneficial are likely to become more responsive towards the demands of their customers. Finally, the supply chain strives to become responsive towards the customer demand and requirements.

### **Conclusion**

This paper significantly contributes to the theoretical literature by applying a KM theory to the supply chain risk concept. The significant contribution of knowledge in new product designing, production and distribution has long been recognized by the economists. Furthermore, imperfect information availability is an important market feature. Within the supply chains, there is lack of proper information sharing within and among the firms. In addition, the imperfect information situation usually occurs between customers and firms. This research indicates KM theory as an informative and a great contribution to the SC risk literature. Thus, KM theory is integrated in this research to understand how information sharing throughout the SC can be improved with the implementation of KM practices for minimizing the problems stemming from information asymmetry, which greatly contribute to the poor handling of risk mitigating practices.

In future studies, the role of KM systems and information technology practices can be examined for minimizing the supply chain risk. Indeed, information technology's role may also act as a significant source for rapid acquisition of resources, explanation, and knowledge dissemination for mitigating risk throughout the SC. This study is one of the earlier studies which empirically tested the role of stakeholder theory in the risk mitigation activities.

Moreover, this study also illustrates the KM factors' impact on the risk mitigation activities. Only a limited set of theoretical explanation has been found regarding why and how firms engage and implement risk mitigation activity. Thus, this paper tends to offer both empirical and theoretical explanation that why and how firms involve in risk reduction strategies and in what ways these activities affect the firm's demand responsiveness. The current study also offers following additional opportunities for future research: This paper theoretically and empirically emphasizes upon the Supply chain's upstream portion and the issues associated with joint planning and KM capabilities. The supply chain parties also involve logistics service providers, customers, middlemen etc. Therefore, a future research must be conducted to analyze how collaboration can be occurred between downstream SC partners and KM practices for integrating risk mitigation activities. This research also involves limitations: such as, the sample for this study involves representatives from their respective SC firms at various levels. Although, no statistically significant difference is found on key constructs of our model that is between SC managers who are at the organization's higher-level position or key informants and the individuals at lower SC positions, therefore, a future research must integrate and evaluate the underlying research model by using a comprehensive senior-level SC sample.

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## WPLYW CIŚNIENIA STRON ZAANGAŻOWANYCH NA DZIAŁALNOŚĆ FIRMY W ZAKRESIE ŁADOWANIA RYZYKA

**Streszczenie:** Artykuł ma na celu ocenę sposobów działania firmy w zakresie zarządzania ryzykiem i jaki wpływ wywierają poprzez nacisk zainteresowane strony. Artykuł jest oparty na literaturze KM i teorii interesariuszy w celu opracowania modelu homologicznego dla tego badania. Wielu interesariuszy wywiera presję na łańcuchy dostaw w celu minimalizacji ryzyka, głównie ze względu na udział interesariuszy w sukcesie organizacji. Firmy mogą stosować strategie organizacyjne w celu minimalizacji ryzyka związanego z łańcuchem dostaw poprzez mobilizację zasobów KM łańcucha dostaw, które mogą pomóc w poprawie współpracy między bazą dostaw firmy. Dlatego firmy są bardzo wrażliwe na zmiany popytu ze strony klientów. Zwrócono ogółem 374 kwestionariusze z 438 kwestionariuszy, które zostały rozdane menedżerom rolnictwa, wskazując 70% wskaźnik odpowiedzi. SEM-PLS służy do analizy danych. Firma może współpracować ze swoim dostawcą, angażując się w ulepszone działania planistyczne w celu ograniczenia ryzyka. Silne powiązanie występuje między firmą a dostawcą i jej zdolnością do uzyskiwania korzyści poprzez wdrożenie działań ograniczających ryzyko. Firmy, które ściśle współpracują i łączą się z dostawcą, prawdopodobnie będą w stanie w pełni zrozumieć ograniczenia zdolności i szybko rozwinąć zdolność do reorganizacji, tj. Reorganizacji porozumienia produkcyjnego w celu wykorzystania alternatywnych źródeł dostaw.

**Słowa kluczowe:** zarządzanie wiedzą, interesariusze, dostawca, ryzyko

### 利益相关者压力对企业风险缓解活动的影响

**摘要:** 本文旨在评估公司的风险管理活动如何通过利益相关者的压力来影响。这项研究基于知识管理文献和利益相关者理论, 为该研究建立了同源模型。多个利益相关者在供应链上施加压力以最大程度地降低风险, 这主要是因为利益相关者对组织的成功至关重要。通过调动供应链的KM资源, 企业可以采用组织策略来最大程度地减少与供应链相关的风险, 这可能有助于改善公司供应基础之间的合作与协作。因此, 企业倾向于对客户需求变化做出高度响应。从438份问卷中总共返回了374份问卷, 这些问卷已分发给农业管理者, 表明答复率达到70%。SEM-PLS用于数据分析。公司可以通过参与改进的风险缓解计划活动来与其供应商合作。在企业与供应商之间以及企业通过实施风险缓解活动获得收益的能力之间建立了紧密的联系。那些与供应商紧密合作和联系的公司很可能会充分了解产能限制并迅速发展重组能力, 即重组生产安排以采用替代供应源。

**关键字:** 知识管理, 利益相关者, 供应商, 风险