

# Pushes and Pulls of ISO28000 Implementation in Supply-Chain of Malaysia Mining

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**Abstract**—Supply chain security is one of the components of an industry's strategy to protect their chain from any risk that can damage their supply chain. ISO 28000 is a standard which specify requirement for security management system for the supply chain. However, there are still many organizations didn't apply for this standard. Still many mining industries are doubtful about the effectiveness of ISO 28000. This paper objective to examine the pushes and pulls of ISO 28000 implementation for Pahang mining industry. From literature, potential pushes and pulls are identified, then the researchers undergo interview session with experts in mining industry from Pahang of Malaysia. Based on the interview result, this study introduces a list of pushes and pulls to the supply chain security standard. This contributes to implementation of ISO 28000 in mining industry of Malaysia, specifically Pahang. In the industry, the result of this study is beneficial for supply chain managers and policy-makers to ease the ISO implementation and reduce supply chain risks.

**Keywords**— Supply chain management, Mining industry, Security management, ISO 28000

## 1. Introduction

Supply chain security is one of the components of an organization's strategy to secure their supply chain from threat, and it is very critical for public sector as well as private sector [1]. It should not allow the chain to be affected by the risk from theft and damage [2]. An International Organization for Standardization (ISO) meets requirements of security management system, especially for the supply chain, which is formed and named ISO 28000 [3].

Thus, organizations can use the procedures, policies and controls of ISO 28000 to reduce the security

risks in supply chain management [4]. ISO 28000 is a standard that is suitable to implement by all size of mining organization, from domestic to global. There are a few literature reviews to identify pushes and pulls for ISO28000 implementation in industries (for example [5,6,7,8]), however very few of them were validated for the mining industry. Table 1 and Table 2 are showing the motives and barriers by past studies based on previous studies.

**Table 1.** Pushes for ISO 28000 implementation [7]

Achieve organization objectives and business goal
Better reaction to customer requirement
Bring better services to importer
Carry forward business cooperation
Continuous improvement (TQM)
Cost reduction and avoid greater loss
Economic efficiency benefits and financial aspects
Facilitate public and worker confidence
Facilitate a whole risk approach to manage risk
Faster resumption of operation
Gain respect from competitor
Help improve business performance
Higher visibility (container, information and material flow)
High satisfaction level
Improve customer services
Increase efficiency of the company
Increase company productivity
Increase employee's performance

Increase the effectiveness of inventory management
More trust from customer
Prevent occupational diseases and work incident, improve SOP
Prevent and measure the threat
Prevent tangible and intangible damage and manage risks
Recognition by customers and peers
Reduce the secondary inspection
Reduce shipping and cycle time
Reduce negative impact of breaches when they occur
Reduce lead time variance
Robust worldwide and much better known
Strengthen stakeholder confidence
Systematic supply chain
Supplier and customer relationship get better

**Table 2.** Pulls for ISO 28000 implementation [8]

Poor legislative framework
Lack of government support and guidance on how to implement
High implement fees paid to consultancy agencies
High auditing fees paid to registration/accreditation agencies
No financial support and incentive to assist in implementation
Large amount of documentation
Missing of customer demand
Missing of government agencies pressure and demand
Missing of supplier demand
Benefit of ISO 28000 is not guaranteed
Lack of top management commitment
High cost of changing system to accommodate ISO 28000
Duration of implementation
Organization lack of specialist in supply chain risk management
Organization lack of knowledge about certified system
Organization lack of resources to implement

Therefore, the main objective of this article is to study motivations and challenges of ISO28000 implementation in supply chain on mining industry. This study focuses on Pahang, the biggest state of Malaysia. This is due to easy access for the researchers and the reported need for more works in this area [9].

## 2. Methodology

The research approach being use is qualitative method. The target population for this study is the experts in mining industry in Malaysia, while the sample chosen is panel of experts in mining Industry in Pahang. Therefore, the researchers, for this study, conducted interviews with experts of mining industry in Pahang. This study used snowball sampling which means researcher start find initial expert(s) and then gets the contact and information of other expert from that individual expert(s). This sampling method is used as it can help the researcher to access the not-listed professionals of the field. The panel of experts chosen who, all, have following background:

- at least 2 years' experience in supply chain management
- at least 1 years' experience in mining industry
- at least with a general knowledge about ISO 28000

The interview was conducted face to face and for the respondent that were not available to face to face interview researcher conducted the interview through a phone call. The researchers used semi-structure interview format for this study. Researcher will first confirm information of participants which include name, position in company and experience of participants. Then the list of barriers and motivation form two recent publication [7,8] were asked for validation, Lastly the experts were asked to add additional pushes and pulls (benefit and/or barriers of ISO28000 implementation) to the list, based on their experience.

## 3. Result

The Pushes listed by past article [7] was being validated by the researcher through interview. Based on the experts, most of the benefits listed is being validated except three, 'better reaction to customer requirement', 'increase employee's performance' and 'as a marketing tool (maintain good market relation) to expand international market and increase opportunity to win huge contract'.

Table 3 show the additional benefits being listed by the experts. The additional benefits that listed by experts have the potential to become and attract Pahang mining industry to implement ISO 28000.

**Table 3.** Additional benefits

Create new compete chance
Can be a competitive advantage
Expand their market or other activities that brings advantage to their company by using the fund for security omission
Help the country to increase image
Save inventory
Reduce work injury rate
Invest in other more potential project by using the fund for security omission
Company reputation increase
Help to get to know your customer better
Lead to competitiveness increase gained currency across the global.

On the other hand, the barriers listed by the past publishes work [8] was being validated by the experts. Based on to the experts, most of the barriers listed is being validated except 'missing of supplier demand'.

Table 4 show the additional barriers being listed by the experts. The additional barriers that listed by experts are the obstacles to mining industry to implement ISO 28000.

**Table 4.** Additional barriers

Lack of competitor use ISO 28000
Organization didn't face security issue in supply chain operation
Mining company that not register can run operation normally
Organization didn't consider own supply chain system will face accident or security issue
Government didn't put much attention on mining industry
Organizational culture that not ready to accept changes
Lack of popular supply chain organization use ISO 28000

#### 4. Conclusion

To conclude, this study developed a framework to list barriers and benefits of ISO28000 implementation for mining industry. The barriers of ISO28000 implementation had been validated through experts of the field and some additional barriers provided. Benefits of implementation of ISO 28000 was also being validated as well; some extra barriers also determined for the mining industry of Malaysia.

Pahang mining industry still haven't exposed to the full benefits of ISO 28000 yet. This result from the current study is beneficial for supply chain managers and supply-chain policy-makers in mining industry, to ease the ISO28000 implementation and reduce their supply chain risks. This study could bring benefit to other industries, as well, that wish to eliminate barriers of ISO28000 implementation.

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