

# THE CRITICAL SUCCESS FACTORS OF HALAL SCM SYSTEMS FOR MALAYSIAN SMES

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**Abstract** - Halal information availability is the most critical factors in many countries. Information sharing and integration of halal SCM system is required in backing up the Sharia law. Therefore, this study identifies the CSFs for Halal Supply Chain Management System (HSCMS) to help improve business engagement among SMEs in Malaysia. The study involved review of 41 articles and an interview of eight respondents from halal organizations to derive the applied CSFs for HSCMS implementation. Top management support, Islamic values and organizational clear vision are among the most preferred from 13 selected CSFs in considering the successful implementation of HSCMS.

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**Index Terms** - critical success factor, supply chain management, halal

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## I. INTRODUCTION

In 2015, Malaysian SMEs thrive exceeding the overall country overall growth rate despite the uncertainties and weak global economic performance. Growth of SMEs share to GDP was recorded near to 36% with the total SMEs growth of 13.6%. In halal market, there are numerous programs offered to the SMEs to support the entrepreneurs such as business transformation; exhibition and showcase; technology and commercialization; development of business premises; and development fund[1].

In the context of halal, Malaysia is a prominent country in Southeast Asia aiming to be the leader in halal industry. There are significant efforts by the country to become a global halal hub through capacity building and halal standards [2]. In achieving this mission, a proper setting of halal hub is needed in dissemination of halal information [3]. A system for halal hub shall be resilient in backing up the Sharia law [4]. At operational level, the system known as Halal Supply Chain Management System (HSCMS) is required for the purpose of enterprise integration [5]. This integration of halal information shall increase the business capabilities in attaining the organizational strategic objectives. The purpose of the study is to identify the CSFs for HSCMS to improve business engagement among SMEs in Malaysia.

## II. LITERATURE REVIEW

Supply Chain Management System is among the main implementation organization since 25 years ago [6], [7]. Generally SCM is rooted from logistic function that are widely applied in the area of manufacturing [8] in achieving operational optimization for production cycle and product improvement.

Nowadays, the SCM term evolve towards the issue of sustainability [9]–[11], green [12], [13], analytics capabilities [14] and cloud computing [15]. SCM is expected to thrive with vast technology without changing the fundamental characteristics.

From the literature, there are several types of systems that are related to enterprise system as shown in Table 1. The research focused defining the CSFs of Halal SCM as the research is still at the infant stage. In order to construct applicable framework, 41 articles from 1999 till 2017 are reviewed to determine the practical CSF for the implementation of Halal SCM System. To remain competitive in business for halal products, a proper implementation of Halal SCM System is needed. In general, our works arrangement discuss the broad concept of enterprise systems (ES), the enterprise resource planning (ERP) before moving towards halal supply chain and halal food construct. The large scale ES application compelled by fast changing business environment toward an integrated processes [16]. In other word, there are no such things as solitary module in ES. It binds the multiple application unit into an integrated structure. Moreover, the common ES nowadays also comprise the area of SCM. The configuration of integration model is done by stages in order to gain the positive outcome starting from the adoption level up to improved organizational effectiveness [17]. Factors that give impact toward the success of systems implementation is dependent on the development status of the countries. The countries might share similar CSF when they are in the same growth position [18].

ERP is the best example for ES implementation. The primary challenge for ERP is the best adaptation

possible by the organization [19]. On that score, the proper implementation ERP framework is needed to improve productivity and quality for business [34]. The constructs that are related to this study does not

only cover the technology part, but also the aspect of human and cultural [37]. The aspect of ES in ERP is also significant in the government service sectors [36].

**Table 1: The System Range Related to Halal Supply Chain Management**

No	System Scope	Description	Author
1	Enterprise System	Emphasized on the conceptual framework for related ES modules.	Møller (2005)[16]; Govindaraju (2012) [17] & Soja et al. (2015)[18]
2	Enterprise Resource Planning	The study comprises the public and commercial that could leverage towards pattern and future ERP which have linkage to SCM.	Markus & Tanis (2000) [19]; Holland & Light (1999) [20]; Amini & Sadat Safavi (2013) [21]; Umble, Haft, & Umble (2003) [22]; Somers & Klara (2001) [23]; Bhatti (2005) [24], Razmi, Sangari, & Ghodsi (2009) [25]; Nofal & Yusof (2015) [26]; Hasibuan & Dantes (2012) [27]; Tarhini, Ammar, Tarhini, & Masa'deh (2015) [28]; Denolf, Trienekens, Wognum, Van Der Vorst, & Omta (2015) [29]; Hanafizadeh, Gholami, Dadbin, & Standage (2010) [30]; Nah & Lau (2001) [31]; Zhang, Lee, Huang, Zhang, & Huang (2005) [32]; Bajwa, Mooney, & Garcia (2004) [33]; Maditinos et al. (2012) [34]; Ağaoğlu, Yurtkoru, & Ekmekçi (2015) [35]; Li et al. (2017) [36]; Sharma & Daniel (2016) [37]; Saade & Nijher (2016) [38]; Nandi & Kumar (2016) [39]; Shatat (2015) [40]; Shaul & Tauber (2013) [41];
3	Supply Chain Management	Covered the SCM concept through framework and CSFs that is aligned between the theory and practices. The study also consider the both technology and human aspect.	Lambert & Cooper (2000) [42]; Gunasekaran & Ngai (2004) [43]; Chen & Paulraj (2004) [44]; Soni & Kodali (2013) [8]; Syazwan, Talib, Bakar, & Hamid (2014) [45]; Ab Talib, Abdul Hamid, & Zulfakar (2015) [46]; Hamidin et al. (2015) [47]; Leyh & Thomschke (2015) [48]; Luthra, Garg, & Haleem,(2016) [49]; Raut, Narkhede, & Gardas (2017) [50]
4	Halal SCM	Emphasized on the principle, model and integrity issues in Halal SCM practices.	Zulfakar, Anuar, & Talib (2014) [51]; Tieman & Ghazali (2013) [52]
5	Halal Food System	The research focused on the halal food management system	H. H. A. Talib, Ali, & Idris, (2013) [53]; Mohamad & Backhouse (2014) [54]; Ahmad, Abdul Rahman, Othman, & Ungku Zainal Abidin (2016) [55]

One of the most prominent research [42] is highlighting the elements of integration for business function in SCM. The latter framework is extended toward comprehending the theory and actual practices of SCM [44]. The further perspective of integration moreover strengthening the enterprise system in configuring the modules related to each level [17]. The other studies review the cotemporary trend through various scale and coverage to identify the list of related CSF in SCM [8], [56], [57]. The fundamental aspects of SCM consider the functional areas that are exchanging information through cross organizational departments and to the external participants.

Among the determinant factors in SCM implementation is the use of technology. Currently,

technology plays the main enabler for SCM in handling the complexity of the business. The review showed that there are significance in aligning the technology framework for implementation [43] and collaborative informational SCM systems [47]. Furthermore, the technology shall generate vast opportunities to grow the business [58].

During the recent years, SCM transforms the mode of information and material movement from the supplier to the end customer. The operational adjustment is inevitable to suit the transformation of the new processes in any system change. The factor of compatible culture among the SCM participants is important to align the operational objective with the organization goal. The culture and values that are sharable among the organization stakeholder is

critical in achieving successful implementation [31]. The link between the culture and religion in many ways is significant in most organization. As the Islamic thought is concerned, halal shall be completely compliance to the sharia law [59]. Furthermore, the Muslims [60] in following the Islamic way of life should be very certain on the halal status of anything they would consume in daily life. The basis in defining the significant characteristics of halal require more stringent procedures compared to conventional SCM practices [56], [61]. Furthermore, the organization might consider the true culture in handling the halal products that required one's understanding in the Sharia Law. In the compliance to the latter needs, one of the prominent halal governance body in South East Asia, Department of Islamic Development Malaysia (JAKIM) required all the halal certification holders to appoint their Halal Executive who must be a Muslim and qualified in Islamic studies with specific Halal Executive certification [62]. This is to ensure that the halal organization do not mislead in fulfilling their continuous supply chain activities within the halal Sharia context. On the other hand, the non-Muslims business owner could participate in offering the halal products as they comply with the condition of halal certification.

### III. METHODOLOGY

This section describes the research methodology for CSFs Halal SCM implementation framework. The research methodology chosen is based on suitability to achieve the objective. Qualitative method is the main methodology in this study. An overview of the methodology is shown in the Figure 1.

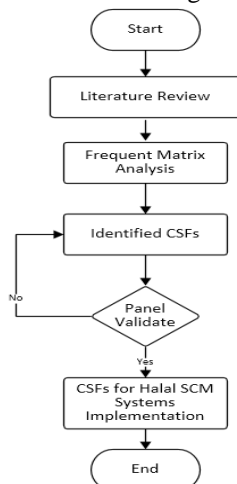


Figure 1: Halal SCM System Implementation Research Design

This study critically reviews SCM in general, SCM systems, Halal SCM and also identifies the CSFs for SCM implementation during the literature review process. Based on the identified 101 CSFs from 41 journals, the CSFs are analyzed by using the frequent matrix analysis to shortlist the most frequent applicable 20 CSFs. The CSFs are then validated by eight experts and practitioners of halal participants. The experts comprises two from IT expert on SCM implementation and six from Halal SCM SMEs practitioners. The panel members are selected based on their qualification and experience in the halal and supply chain implementation. During panel validation, interviews are used to evaluate the CSFs. In addition, case studies used are based on the practical experience of the panel members in the Halal SCM implementation. The panel members then have to come to census on the CSFs. The CSFs results from the panel census are applied for Halal SCM systems implementation.

### DISCUSSION

Most of the research for in SCM over ES leading towards Halal SCM were mostly focused on process model and framework. The resolution was to improve the customer-supplier relationship and the systems that could support the overall supply chain operation [63]. The others emphasize on to define the business activities [19], [64] that rely on the fundamental basis of SCM. This study of halal SCM focused on the aspect of system implementation that have the dissimilar process and relationship model [5] compared to the conventional SCM theory. The ES implementation somehow should rely on the acceptable framework [65]. It is suggested that there a need to have a concrete framework in achieving the sustainable halal business [5]. The CSF identified in this research will be embedded into the halal SCM implementation framework in determining the success of halal supply chain systems.

Forty one articles were reviewed and 101 CSFs were identified. Based on frequent occurrences analysis, 20 selected CSFs from the literature are shown in Table 2. The component of management support, education, clear vision, project management and change management are among the top five on the list for successful system implementation. Those are the management factors that showed the complexity of the systems the need to be understood even by the non-technical members [65].

Table 2: CSFs Base on Occurrences Analysis

No	Critical Success Factors	Number Occurrences
1	Top Management Support & Commitment	28

2	Education on new business process, training, knowledge transfer	20
3	Clear vision, goals and objectives	18
4	Project Management	16
5	Careful Change Management	15
6	Communication among the implementation team members	14
7	Business Process Reengineering	13
8	End user involvement	13
9	The use of project knowledge and implementation consultant	12
10	Adequate software selection	12
11	Data exchange and information quality	11
12	Monitoring and evaluation of performance	10
13	Vendors and customer partnership	10
14	Project team competence	10
15	IT infrastructure and technologies	9
16	Reduce trouble and Risk Management	9
17	On-going vendor support	9
18	Project team composition, skills and teamwork	8
19	Organizational cultures and maturity level	8
20	Implementation strategies and process	7

The interview was done to apply the selected CSFs in the context of halal SCM. The respondents were asked about the most applicable CSFs in their business over halal SCM systems implementation. The session objective ranked the CSFs that are most related and important. Respondents were also given the opportunity to define the other important CSF that is not listed in table 1. After thorough interview, 10 most required CSFs for halal SCM implementation system is analysed and recorded as shown in Table 3.

**Table 3: The CSFs Selected by the Respondents in Percentage**

No	Critical Success Factors	Percentage
1	Top Management Support & Commitment	100
2	Islamic Values and Monitoring Practices (Halal Compliance)	88
3	Clear vision, goals and objectives	88
4	Project Management	75
5	Education on new business process, training, knowledge transfer	63
6	Careful Change Management	63
7	Communication among the implementation team members	63
8	Vendors and customer partnership	63
9	Business Process Reengineering	50
10	Data exchange and information quality	50
11	Implementation strategies and process	50
12	IT infrastructure and technologies	50
13	Project team composition, skills and teamwork	50

The element in Table 3 showed the CSFs trend in halal SCM which are applicable to the conventional SCM that hold at least 50% of the respondents' endorsement. Top management support is at the highest rank by accomplishing full endorsement from the respondents. Surprisingly, the respondents also

indicate Islamic Values which is not in the literature by getting 88% approval. This is the new construct that the halal participants need to be aware. As sharia practices are required to fully understand by the product participants; as for Muslims halal is the one part of the way of life [59]. The application of Islamic

values in the workplace is important in gaining the confidence of Muslims who strictly follow the halal dietary law [66]. The others CSFs by rank are clear vision; project management; education for new business process; change management; communication among members; vendors and customers partnership; Business Process Reengineering; data exchange and information quality; implementation strategies and process; IT infrastructure and technologies; and project team composition, skills and teamwork. In general, 13 CSFs are recorded to have at least 50% approval from the respondents. In the next stage, the CSFs of halal SCM shall be matched against the implementation phases.

## CONCLUSION

The identified CSFs for HSCMS implementation is an effort in building part of paradigm in halal information and engagement standard. The finding showed that 13 selected CSFs gained at least 50% of organizational approval. Top management support being the top CSFs in many studies is aligned with our study which hold 100% endorsement from the halal participants. The Islamic values and practices is an exclusive finding by this study that highlighted the importance of good values of Islam in halal industry. Clear vision, goals and objectives of CSF imply the importance of agreed direction towards halal practices. The CSFs selected have similar trend of acceptance by the halal participants. This could be applied to the halal SCM framework in attaining desirable success in related system implementation. The finding is also heading toward standard implementation practice in the area halal SCM. This research can be expanded in constructing elements for the HSCMS implementation framework.

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