

# The Role of Firm Size and Customer Orientation on Halal Transportation Adoption

\*Yusrizal Sufardi Mohd Yunan<sup>#1</sup>, Mohd Helmi Ali <sup>\*2</sup>, Syed Shah Alam<sup>#3</sup>

<sup>#1</sup>*Graduate School of Business, Universiti Kebangsaan Malaysia  
43600 UKM, Bangi, Selangor, Malaysia*

\*Corresponding author: <sup>1</sup>yusrizal.yunan@gmail.com

<sup>3</sup>shahalam@ukm.edu

<sup>#2</sup>*Centre of Business And Digital Economics, FEP, Universiti Kebangsaan Malaysia  
43600 UKM, Bangi, Selangor, Malaysia*

<sup>2</sup>mohdhelmi@ukm.edu.my

**Abstract**— The purpose of this paper is to propose an innovation adoption framework in the context of halal transportation. This paper provides a discussion on the development of halal transportation adoption framework using Technology-Organization-Environment (TOE) framework insight with literature. Currently, the issues on halal transportation adoption have still not been resolved even though several motivational factors have been identified to gain the attention from potential adopters. This paper further proposes innovation adoption factors for halal transportation. It consists of two internal organizational dimensions, namely: firm size and customer orientation. In addition, this paper also explains the roles that firm size and customer orientation can play on halal transportation adoption. Halal transportation adoption framework is important to halal logistics providers as it gives a significant input to the adoption of their services. Overall, this paper contributes to a newly-developed innovation adoption framework in the context of halal transportation.

**Keywords**— Halal transportation adoption, firm size, customer orientation

## 1. Introduction

A transportation issue in halal industry in Malaysia is referring to the segregation between halal food and non-halal food along the halal supply chain activities. In, 2017, a segregation incident happened when halal mutton was store in the same container with pork during transportation activity. Malaysian Muslim consumers were shocked with such discovery and this incident had waken up public awareness about the halal goods distribution along halal supply chain [1]. The incident gained attention from Muslim consumers since it involved the issues on the contamination of halal products during transportation activities. The shipment of

halal products should avoid any segregation issues between halal and non- halal products to safeguard the integrity of halal products [2]. Meanwhile, the existence of halal transportation has been dedicated to protect the status of halal goods along transportation activities [3]. Therefore, the adoption of halal transportation is the key on halal goods integrity issues.

In the past, Muslim consumers were not aware of the halal supply chain aspects such as the halal transportation activities [4], [5]. This had brought about the lack of understanding that the halal transportation issue could also contribute to the integrity of halal food. A glaring lesson from the halal mutton incident is that the Muslim consumers now are more mindful that the halal transportation is a must in ensuring of supply chain integrity. Ideally, the government and Muslim consumers are always wanting to avoid halal integrity issues along the supply chain specifically in the context of halal transportation.

Despite the value of halal transportation being offered to halal eco system, halal transportation adoption received low support from halal goods manufacturers [6]–[8].

According to [9], the cost had become a barrier on halal transportation adoption. Regardless of the argument, [10] found that 52.3 % of halal goods manufacturing were willing to pay to adopt halal transportation, where the big and small firms showed more intention rather than medium-sized firms.

Nevertheless, according to [11], the demands from Muslim consumers and organizational social responsibility to maintain halal values can encourage the adoption of halal transportation

among halal goods manufacturers. The failure to manage halal transportation adoption issues will threaten Malaysia's position as a global halal hub centre. Furthermore, Malaysia has targeted to become a global centre for halal integrity as mentioned in Malaysia Halal Master Plan [12].

In spite of the abundance of discussions on halal transportation such as operation management [13]–[15] and human resource [16], the issue of adoption is still far from a conclusive solution. The adoption issue still needs further investigations.

According to [17], arguments on the study of the adoption of halal transportation among halal manufacturers is very scarce. Moreover, the service industry also suffers the same problem as the halal transportation [18]

On the other hand, several variables have been tested in the halal transportation adoption studies as shown in Table 1.

**Table 1 : Several Previous Studies on Halal Transportation Adoption**

Scholar	Variable		
	Technology Factor	Organization Factor	Environment Factor
[6]	Perceived Benefits	Organization Readiness	Customer Pressure
			Competitive Pressure
[19]		Familiarity With Innovation	Geographical Setting
		Status Characteristics	Societal Culture
		Position in Social Network Positively	Political Condition
[20]	Profit	Customer Service	Business Trend
[21]	Complexity	Awareness	Supplier Availability
		Top Management Support	

[17]	Perceived Benefits	Organization Readiness	Customer Pressure
	Complexity		Competitive Pressure
[22]	Perceived Benefits	Organization Readiness	Customer Pressure
	Cost		

Source : Compiled by the author

Table 1 shows that firm size and customer orientation as organizational factors, have not been proposed by any previous innovation adoption studies in the context of halal transportation adoption. This scenario opens up the opportunity to perform a new halal transportation study to strengthen the understanding of halal transportation adoption from the organizational factor perspectives. Therefore, this paper aims to fulfil the knowledge gap on halal transportation adoption by exploring the organizational issues on halal transportation adoption. This argument was supported by [17] that suggested further research on halal transportation adoption should be performed to enhance the understanding on halal transportation issues.

In order to provide a clearer context of halal transportation adoption, this paper proposes halal transportation adoption from an internal organizational perspective, following the suggestion of [23]. Therefore, the information gathered from the literature can be used to understand the roles played by internal organizations (i.e. firm size and customer orientation) on halal transportation adoption

The present research has been informed by Technology-Organization-Environment (TOE) theory, which suggests that internal organizational factors such as firm size [20], [21] and customer orientation [24], [25] can be predictors on innovation adoptions such as halal transportation adoption [26][27][28].

The rest of the paper is organised as follows. In Section 2, it explains the role play by firm size and customer orientation on halal transportation adoption and the proposition of the conceptual

model. Section 3 discusses the conceptual framework, the implication of this paper and potential future research.

## 2 Conceptual Definitions and Proposition

The [8] suggested that halal transportation is a new concept that can be considered as innovation on transportation services. This was supported by [17] that halal transportation is referred to the transportation activities that are *sharia* compliance and considered as a new practice in the modern transportation operation. The firm size [29] [30] and customer orientation [31][32] have been suggested to be predictors on innovation adoptions. The definition and the relationship between these two variables together with halal transportation adoption will be elaborated further.

### 2.1 Halal Transportation Adoption

Halal transportation is one of the components in halal logistics [33]. It plays a role to bring halal goods from one point to another point. The transportation fleet such as lorry, haulage, train or vessel that are used in halal transportation activities must be clean and safe according to *sharia* rules. Halal transportation is focusing to serve transportation for halal goods and avoid any potential on contaminations between halal and non-halal goods along the supply chain activities. This is in contrast to the conventional transportation practice that allows halal and non-halal goods to be mixed together during transportation [7].

Halal transportation has played an important role in the halal industries. According to [34], halal products can be exposed to contamination risks if conventional transportation is used. This is because by using halal transportation, halal goods manufacturers can avoid any probability for their goods to be mixed with non-halal or haram goods during transportation activities. Therefore, [35] highlight that the main focus of halal transportation is to safeguard the integrity of the halal products.

To support the adoption of halal transportation, government agencies such as Malaysian Standard and Jabatan Kebajikan Islam Malaysia (JAKIM) have introduced the operation procedure namely MS 2400-1:2010. MS 2400-1: 2010 is a guideline that makes the halal transportation operation easier

to understand and implement. Moreover, it will increase the intention to adopt halal transportation among halal industry players since it can reduce the complexity of halal transportation. This is supported by [17] that determine one of the barrier factors on halal transportation adoption a complexity. Despite the introduction of MS 2400-1:2010. MS 2400-1: 2010, the adoption is on voluntary basis and there is no legal enforcement on halal transportation adoption [36].

Therefore, the adoption of halal transportation is relying on the capability of halal goods manufacturers to self adopt halal transportation without any laws obligations. Normally, the voluntariness adopters come from the big firms [37], [38]. Nevertheless, [39] and [40] suggested that the firm size also can be a factor on the innovation adoption from small medium enterprise (SME) perspective. Moreover, in order to produce halal food, it should reflect the requirement of consumer halal dietary whereby this needs to be taken off by having a very good customer orientation.

### 2.2 Firm Size

Firm size can be considered as an internal organizational factor that influences innovation adoptions in many types of industries such as the logistics industry [41]; manufacturing industry [28] [42]; hotel industry [29]; plastic and chemical industry [38]. A lesson learnt from the other sector that can be borrowed into the halal industry is that firm size also plays an important role in halal transportation adoption. The big firms are usually more able to allocate a certain resource and cushion against risks [43]. Moreover, the big firms are also more capable to absorb any impact of failures on innovation adoptions. According to [44], the firm capabilities reflect the readiness of the firm to adopt a new innovation. In contrast, the small halal goods manufacturers may not be involved in halal transportation adoption since it involves extra capital in the transportation operation.

This argument has been supported by [45] that claimed the small firms may have problems to invest in the newer technology. Additionally, [46] suggested that cost can be a barrier on innovation adoptions. This situation can also be expected to give a similar impact towards the halal

transportation adoption. However, according to [10], the big and small firms are more willing to spend money on halal transportation adoption compared to medium-sized firms. It is interesting to discover why only big and small firms are interested and willing to spend more money on halal transportation but not the medium-sized firms.

As a result, it shows that there is a gap understanding of firm size matter which requires further investigation. Because of that, this paper proposes that there are relationships between firm size and halal transportation adoption. Therefore, the first proposition of the study is:

P1 : There are relationships between firm size and halal transportation adoption among halal goods manufacturers.

**2.3 Customer Orientation**

Customer orientation has been determined as a predictor on innovation adoptions in many types of industries such as mixed industries in France [24]; service sector in Hong Kong [25]; hotel industries in Greece and Cyprus[47]; telecommunications, computer hardware, semiconductor, and manufacturing equipment industries in United States [48]. Because of that, similar impacts are expected to happen in the halal industry on halal transportation adoption.

Customer orientation refers to the organization policy to put the needs of customers as a firm priority [49][50][51]. Therefore, the organizations that are based on customer orientation will be more sensitive with their customer satisfaction [24] and demand [52].

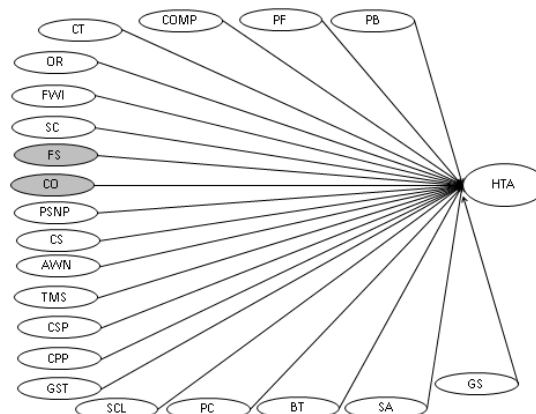
Meanwhile, the needs of Muslim consumers from the halal industry to adopt halal transportation have been determined. Muslim consumers have voiced out their willingness to pay in order to ensure the halal products that they consume are delivered via halal transportation services [53]. Additionally, [54] claims that Muslim consumers are willing to pay 5% to 10% extra price for the products that are produced by halal transportation adopters. This argument shows that the adoption of halal transportation has gotten a high demand and attention from the Muslim consumers. Moreover,

the customer orientation firm base will put halal transportation as a priority action in transportation operations. This is supported by [55] that industries should increase the practices that can fulfill customer satisfaction. Therefore, the next proposition of the study is:

P1 : There are relationships between customer orientation and halal transportation adoption among halal goods manufacturers.

**3. Research Implication And Conclusion**

Firm size and customer orientation are proposed to be the predictors on halal transportation adoption. The conceptual framework depicting the relationships among the variables of this paper is illustrated in Figure 1.



PB	Perceived Benefits	PF	Profits
COMP	Complexity	CT	Cost
OR	Organization Readiness	FWI	Familiarity With Innovation
SC	Status Characteristics	FS	Firm Size
CO	Customer Orientation	PSNP	Position in Social Network Positively
CS	Customer	AWN	Awareness

	Service		
TMS	Top Management Support	CSP	Customer Pressure
CPP	Competitive Pressure	GST	Geographical Setting
CSL	Societal Culture	PC	Political Condition
BT	Business Trend	SA	Supplier Availability
GS	Government Support		

Figure 1: The Proposed Conceptual Framework

Figure 1 shows that there have been many variables tested in the previous halal transportation adoption studies. However, this paper proposes to add two new variables (i.e. firm size and customer orientation) in the halal transportation adoption framework. The addition of firm size and customer orientation can enhance the halal transportation adoption model. Specifically, firm size and customer orientation are being recognized as an organizational factor based on the Technology-Organization-Environment (TOE) framework.

Thus, this paper offers both academic and managerial contribution. In terms of academic contribution, this paper fills in the gaps in innovation adoption studies by including another two new variables on halal transportation adoption studies. Firm size and customer orientation are new organizational variables that have not been proposed in any previous halal transportation studies. By including firm size and customer orientation, it can enrich and strengthen the halal transportation adoption framework. Perhaps, this new framework can help to enrich the academic sources on halal transportation adoption studies.

In terms of managerial contribution, this paper explains the roles played by the size of the halal goods manufacturing firms and the effects on internal customer orientation policy on the halal transportation adoption. Thus, managers must understand that while they are considering to be halal transportation adopters, the capability of the firm to make the move is an important point to be considered. On the other hand, the needs and demands from their customers to get products transported by halal transportation should be put as a priority. The decision to focus on customer demand can help halal goods manufacturers to increase the effectiveness [56] and performances of their businesses [57].

Due to the limited empirical evidences of the influence of firm size and customer orientation on halal transportation adoption, further study on this issue is reasonable. An empirical analysis of the relationship between firm size, customer orientation and halal transportation adoption would expose the direction of the relationship. The result from empirical research can strengthen the argument of firm size and customer orientation as predictors on halal transportation adoption, where the significance level can be determined. In addition, future research can consider to extend this conceptual model in the context of halal warehouse adoption model.

## References

- [1] H. Said, "Maqis seizes containers of unseparated halal, non-halal meat at Tanjung Pelepas," *New Straits Times*, 2017. [Online]. Available: <https://www.nst.com.my/news/crime-courts/2017/07/258158/maqis-seizes-containers-unseparated-halal-non-halal-meat-tanjung>.
- [2] M. H. Ali, K. H. Tan, and Za. M. Makhbul, "Mitigating halal food integrity risk through supply chain integration," *Asia Pacific Ind. Eng. Manag. Syst.*, vol. 44, no. 0, pp. 0–9, 2013.
- [3] T. Z. Yaacob, H. S. Jaafar, and F. A. Rahman, "An Overview of Halal Food Product

- Contamination Risks During Transportation,” *Sci.Int.(Lahore)*, vol. 28, no. 3, pp. 3183–3190, 2016.
- [4] K. Bonne and W. Verbeke, “Religious values informing halal meat production and the control and delivery of halal credence quality,” *Agric. Human Values*, vol. 25, no. 1, pp. 35–47, 2008.
- [5] S. G. Alqudsi, “Awareness and Demand for 100% Halal Supply Chain Meat Products,” *Procedia - Soc. Behav. Sci.*, vol. 130, pp. 167–178, 2014.
- [6] A. H. Ngah and T. Ramayah, “Modelling the Intention to Adopt Halal Transportation Among Halal Pharmaceutical and Cosmetic Manufacturers in Malaysia,” *Adv. Sci. Lett.*, vol. 24, no. 1, pp. 205–207, 2018.
- [7] A. B. A. Hamid, M. S. A. Talib, and N. Mohamad, “Halal Logistics : A Marketing Mix Perspective Halal logistics : A marketing mix perspective,” *Intellect. DISCOURSE*, vol. 22, no. 2, pp. 191–214, 2014.
- [8] N. Karia, N. Mohamad, M. H. A. H. Asaari, and S. Kamaruddin, “Assessing Halal logistics competence: An Islamic-based and resource-based view,” in *IEOM 2015 - 5th International Conference on Industrial Engineering and Operations Management, Proceeding*, 2015, pp. 1–6.
- [9] A. H. Ngah, Y. Zainuddin, and R. Thurasamy, “Adoption of Halal Supply Chain among Malaysian Halal Manufacturers: An Exploratory Study,” *Procedia - Soc. Behav. Sci.*, vol. 129, pp. 388–395, 2014.
- [10] M. Tieman and M. Van Nistelrooy, “Perception of Malaysian Food Manufacturers Toward Halal Logistics,” *J. Int. Food Agribus. Mark.*, vol. 26, no. 3, pp. 218–233, 2014.
- [11] S. Zailani, K. Kanapathy, M. Iranmanesh, and M. Tieman, “Drivers of halal orientation strategy among halal food firms,” *Br. Food J.*, vol. 117, no. 8, pp. 148–163, 2015.
- [12] S. Bahli, “Awareness On The Halal Industry,” *Int. Halal Conf. Pakistan 2011.*, no. March, p. 22–23 March, 2011.
- [13] N. Ahmad and S. M. Shariff, “Supply Chain Management: Sertu Cleansing for Halal Logistics Integrity,” *Procedia Econ. Financ.*, vol. 37, pp. 418–425, 2016.
- [14] N. A. Aziz and S. S. Sulaiman, “Role of the Local Authority in Issuing License for Halal Certified Premise in the City of Shah Alam,” in *Procedia - Social and Behavioral Sciences*, 2014, vol. 121, pp. 133–143.
- [15] M. A. Mohamad, S. Mansor, N. Ahmad, A. W. A. Wan, and I. M. Wali, “The reliability of halal product transportation using GPS tracking system,” *J. Theor. Appl. Inf. Technol.*, vol. 90, no. 2, pp. 188–196, 2016.
- [16] N. N. Gurcharan and S. Mohamad, “Factors Influencing General Employee ’ S Perception and Attitude Towards Halal Logistics Adaptation,” *Sci.Int.(Lahore)*, vol. 28, no. 2, pp. 1841–1848, 2016.
- [17] A. H. Ngah, Y. Zainuddin, and R. Thurasamy, “Barriers and enablers in adopting Halal transportation services : A study of Malaysian Halal Manufacturers,” *Int. J. Bus. Manag.*, vol. II, no. 2, pp. 49–70, 2014.
- [18] M. M. Habib and C. Jungthirapanich, “Research framework of educational supply chain management for the universities,” *Proc. - Int. Conf. Manag. Serv. Sci. MASS 2009*, pp. 3–6, 2009.
- [19] Z. J. M. Husny, M. Z. S. M. Hussien, and M. I. I. Tan, “Service Innovation: Halal Logistics Intention Adoption Model,” *Int. J. Supply Chain Manag.*, vol. 6, no. 1, pp. 146–154, 2017.
- [20] N. W. R. Shah, A. Muhammad, S. Mohamad, and S. J. Harlina, “Halal Logistics Success Factors by Conventional Transportation Providers : A Review,” *J. Appl. Environ. Biol. Sci.*, vol. 6, no. 9S, pp. 53–58, 2016.
- [21] A. H. Ngah, Z. Yusserrie, and R. Thurasamy, “Barriers and enablers in adopting of Halal warehousing,” *J. Islam. Mark.*, vol. 6, no. 3, pp. 354–376, 2015.
- [22] A. H. Ngah, Y. Zainuddin, and R. Thurasamy, “Contributing factors of Halal warehouse adoption,” in *Management and Technology in Knowledge, Service, Tourism & Hospitality*, 2014, pp. 89–94.
- [23] M. S. A. Talib and A. B. A. Hamid, “External Factors Evaluation of Malaysia Halal Logistics Industry,” in *International Conference on Innovation Driven Supply Chain 2014*, 2014, pp. 1–10.
- [24] S. Pekovic, S. Rolland, and H. Gatignon, “Customer orientation and organizational innovation: the case of environmental management practices,” *J. Bus. Ind. Mark.*, vol. 31, no. 7, pp. 835–848, 2016.
- [25] A. K. Y. Law, C. T. Ennew, and D. Mitussis, “Adoption of Customer Relationship Management in the Service Sector and Its Impact on Performance,” *J. Relatsh. Mark.*, vol. 12, no. 4, pp. 301–330, 2013.
- [26] H. Gangwar, H. Date, and R. Ramaswamy, “Understanding determinants of cloud computing adoption using an integrated TAM-TOE model,” *J. Enterp. Inf. Manag.*, vol. 28, no. 1, pp. 107–130, 2015.
- [27] S. Sun, C. G. Cegielski, L. Jia, and D. J. Hall, “Understanding the Factors Affecting the Organizational Adoption of Big Data,” *J. Comput. Inf. Syst.*, vol. 58, no. 3, pp. 193–203, 2018.
- [28] A. Gutierrez, E. Boukrami, and R. Lumsden, “Technological, Organisational and Environmental factors influencing managers’ decision to adopt cloud computing in the UK,” *J. Enterp. Inf. Manag.*, vol. 28, no. 6, pp. 788–807, 2015.
- [29] Y.-S. Wang, H.-T. Li, C.-R. Li, and D.-Z. Zhang, “Factors affecting hotels’ adoption of mobile reservation systems: A technology-organization-environment framework,” *Tour.*

- Manag.*, vol. 53, pp. 163–172, 2016.
- [30] Q. Jia, Y. Guo, and S. J. Barnes, “E2.0 post-adoption: Extending the IS continuance model based on the technology-organization-environment framework,” *Proc. Int. Conf. Electron. Bus.*, vol. 67, pp. 695–707, 2016.
- [31] U. Grisseemann, A. Plank, and A. Brunner-Sperdin, “Enhancing business performance of hotels: The role of innovation and customer orientation,” *Int. J. Hosp. Manag.*, vol. 33, no. 1, pp. 347–356, 2013.
- [32] O. C. Racela, “Customer Orientation, Innovation Competencies, and Firm Performance: A Proposed Conceptual Model,” *Procedia - Soc. Behav. Sci.*, vol. 148, pp. 16–23, 2014.
- [33] M. Tieman, “The application of Halal in supply chain management: in-depth interviews Marco Tieman Article,” *J. Islam. Mark.*, vol. 2, no. 2, pp. 186–195, 2011.
- [34] N. O. Emi, S. J. Harlina, and R. O. Muhamad, “Assessing Halalan-Toyyiban Food Supply Chain in the Poultry Industry,” *Procedia - Soc. Behav. Sci.*, vol. 00, pp. 1–10, 2011.
- [35] S. Zailani, M. Iranmanesh, A. A. Aziz, and K. Kanapathy, “Halal logistics opportunities and challenges,” *J. Islam. Mark.*, vol. 8, no. 1, pp. 127–139, 2017.
- [36] A. Zainuddin and S. M. Shariff, “Preferences for Halalan Toyyiban Retail Supply Chain Certification: A Case of Hypermarket,” *Procedia Econ. Financ.*, vol. 37, pp. 405–411, 2016.
- [37] Y. M. Wang, Y. S. Wang, and Y. F. Yang, “Understanding the determinants of RFID adoption in the manufacturing industry,” *Technol. Forecast. Soc. Change*, vol. 77, no. 5, pp. 803–815, 2010.
- [38] D. Askarany and M. Smith, “Diffusion of innovation and business size: a longitudinal study of PACIA,” *Manag. Audit. J.*, vol. 23, no. 9, pp. 900–916, 2008.
- [39] M. H. Ali and N. Suleiman, “Sustainable food production: Insights of Malaysian halal small and medium sized enterprises,” *Int. J. Prod. Econ.*, vol. 181, pp. 303–314, 2016.
- [40] P. Chatzoglou and D. Chatzoudes, *Factors affecting e-business adoption in SMEs: an empirical research*, vol. 29, no. 3, 2016.
- [41] R. Ramakrishnan, R. Usha, and W. L. K. Lok, “Adoption of RFID technologies in UK logistics: Moderating roles of size, barcode experience and government support,” *Expert Syst. Appl.*, vol. 41, pp. 230–236, 2014.
- [42] J. Strüker and D. Gille, “RFID adoption and the role of organisational size,” *Bus. Process Manag. J.*, vol. 16, no. 6, pp. 972–990, 2010.
- [43] F. Thiesse, T. Staake, P. Schmitt, and E. Fleisch, “The rise of the ‘next-generation bar code’: an international RFID adoption study,” *Supply Chain Manag. An Int. J.*, vol. 16, no. 5, pp. 328–345, 2011.
- [44] S. S. Alam, M. Y. Ali, and M. F. M. Jani, “An Empirical Study of Factors Affecting Electronic Commerce Adoption among SMEs in Malaysia,” *J. Bus. Econ. Manag.*, vol. 12, no. 2, pp. 375–399, 2011.
- [45] R. Ramanathan, U. Ramanathan, and L. W. L. Ko, “Adoption of RFID technologies in UK logistics: Moderating roles of size, barcode experience and government support,” *Expert Syst. Appl.*, vol. 41, no. 1, pp. 230–236, 2014.
- [46] M. H. Miraz and M. Habib, “ICT Adoption in Small and Medium Enterprises: An Empirical Evidence of Service Sectors in Bangladesh,” *J. Econ. Bus. Manag.*, vol. 4, no. 8, pp. 482–485, 2016.
- [47] M. Theodosiou and E. Katsikea, “Antecedents and performance of electronic business adoption in the hotel industry,” *Eur. J. Mark.*, vol. 46, no. 1/2, pp. 258–283, 2012.
- [48] F. Wu, V. Mahajan, and S. Balasubramanian, “An Analysis of E-Business Adoption and its Impact on Business Performance,” *J. Acad. Mark. Sci.*, vol. 31, no. 4, pp. 425–447, 2003.
- [49] S. Nwankwo, “Developing a customer orientation,” *J. Consum. Mark.*, vol. 12, no. 5, pp. 5–15, 1995.
- [50] Q. Wang, X. Zhao, and C. Voss, “Customer orientation and innovation: A comparative study of manufacturing and service firms,” *Int. J. Prod. Econ.*, vol. 171, pp. 221–230, 2016.
- [51] S. Pekovic and S. Rolland, “Customer orientation and firm’s business performance A moderated mediation model of,” *Eur. J. Mark.*, vol. 50, no. 12, pp. 2162–2191, 2016.
- [52] A. Thoumrungroje and O. Racela, “The contingent role of customer orientation and entrepreneurial orientation on product innovation and performance,” *J. Strateg. Mark.*, vol. 21, no. 2, pp. 140–159, 2013.
- [53] R. Kamaruddin, H. Ibrahimi, and A. Shabudin, “Willingness to Pay for Halal Logistics: The lifestyle choice,” in *Procedia - Social and Behavioral Sciences*, 2012, vol. 50, pp. 722–729.
- [54] M. Tieman, M. C. Ghazali, and J. G. A. J. Van Der Vorst, “Consumer perception on halal meat logistics,” *Br. Food J.*, vol. 115, no. 8, pp. 1112–1129, 2013.
- [55] A. Y. Chowdhury, M. Z. Alam, and M. M. Habib, “Supply chain management practices in services industry: An empirical investigation on some selected services sector of Bangladesh,” *Int. J. Supply Chain Manag.*, vol. 6, no. 3, pp. 152–162, 2017.
- [56] Y. S. M. Yunan, C. A. Che Well, L. H. Osman, Z. Yazid, and A. A. M. Ariffin, “Post Service Quality as Predictor for Halal Warehouse Adopter Satisfaction,” *Int. J. Acad. Res. Bus. Soc. Sci.*, vol. 7, no. 4, pp. 999–1008, 2017.
- [57] Talib H.H.A, Ali K.A.M, and Idris F, “Quality management framework for the SME’s food processing industry in Malaysia,” *Int. Food Res. J.*, vol. 20, no. 1, pp. 147–164, 2013.