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Inda Sukati; Ba Awain, Ali Mohsin Salim; Ismaeel, Raghed Ibrahim

Article

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Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
<https://www.zbw.eu/econis-archiv/>

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The Role of Supply Chain Innovation for New Normal on the Relationship between SCM Practices and SMEs Performance

Inda Sukati, Universitas Putera Batam, Jalan R. Soeprapto, Muka Kuning, Batam, Indonesia*

Ali Mohsin Salim Ba Awain, University of Technology and Applied Science. Nizwa, Sultanate of Oman

Raghd Ibrahim Ismaeel, University of Mosul, Iraq

ABSTRACT

This study proposes strategic partnerships with main suppliers (SPWMS), strategic partnerships with target customers (SPWTC), information sharing with supply chain partners (ISWSCP), internal supply chain integration (ISCI), and supply chain innovation (SCI) in new normal and SMEs performance. The result showed that: (1) SPWMS was a significant predictor of SMEs performance, (2) SCI in new normal was not a significant moderator of the relationship between SPWMS and SMEs performance, (3) SPWTC was a significant predictor of SMEs performance, (4) SCI in new normal did not significantly moderate the relationship between SPWTC and SMEs performance. (5) ISWSCP was a significant predictor of SMEs performance, (6) SCI in new normal was not a significant moderator of the relationship between ISWSCP and SMEs performance, (7) ISCI was the significant predictor of SMEs performance, (8) SCI in new normal was not a significant moderator of the relationship between ISCI and SMEs performance.

KEYWORDS

SCM practices, SMEs performance, supply chain innovation

INTRODUCTION

The COVID-19 pandemic has disrupted people's lives and livelihoods in an unprecedented way. These threats have affected people's physical and mental well-being, or social and physical capital; other threats have created many problems in us with regard to the way we live and the reason for our existence today. The era after the recovery of the COVID-19 pandemic began to be called the 'new normal era'. This is an era full of challenges, uncertainty and instability. In this era of agility, curiosity, risk mitigation, learning by exploring, learning by doing, and focus, are highly expected. In this new normal, all concepts including supply chain and logistics concepts will undergo a re-transformation. These concepts will be more original as the world experiences more socio-economic

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*Corresponding Author

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problems indicating the need for change. The type and strength of changes in the new normal era will depend on the type and number of programs tested during the emergency status or community stability. In this new normal era, more innovative supply chain solutions are expected to deal with market fluctuations (Mohamed Buheji, 2020).

The term of new Normal is used to reflect fundamental changes in society or the business environment which refers to significant changes in supply chain practices, financial institutions and business conditions as a whole. The term new normal era has been used after the financial crisis in 2007 to 2008, then after the global recession from 2008 to 2012 and now the post-pandemic era of COVID-19. The term has been used in various other contexts to indicate that something that was previously abnormal has become normal again (Gomstyn, Alice, 2009). Similar to the era of the COVID-19 pandemic, the term new normal can also refer to human behaviour after this pandemic. Some experts anticipate that the coronavirus pandemic will change people's daily lives. This includes limiting contact with other people, such as not shaking hands and not hugging when they see each other. In addition, the need to maintain distance from other people or social distance. So, in general it is likely that the pandemic behaviour will persist even though the pandemic has recovered (Saggu, A. & Anukoonwattaka, W. 2015).

The business sector that has been most affected by the COVID-19 pandemic is SMEs. SMEs make the most significant contribution to economic growth and sustainable development because SMEs create people's income, provide employment opportunities to develop wealth and motivate entrepreneurs to utilize their talents to create opportunities to become financially independent and take part in income redistribution. SMEs as vehicles of the globalization era and considered to be international linking value chains through different business activities m. Globalization brings small business opportunities to create market niches, the ability to expand business, integration in technology and promotes the ability to acquire advanced technology, lower cost rationing risks, and increase financial returns (Mohamed Abdirahman, 2019).

In the new normal era, SMEs need to innovate in the supply chain to improve the economy as well as improve business engines, the key is to reduce under-functioning companies and add well-functioning business units. The creation of companies in the new normal era brings enthusiasm to create new normal business activities, bring in new goods and services and increase employment opportunities by creating new normal job opportunities. SMEs are considered as a significant source of new production processes, increased economic productivity resulting in sustainable economic development and better living conditions for people in certain areas (Muhammad Usaini, 2014).

The management of supply chain has drawn significant attention in various sectors especially in SMEs sector because supply chain innovation in new normal have a significant impact on SMEs performance. Because SCM is a complex system that interacts with many different dimensions in business organization and also in SMEs and with main suppliers, target customers, and internal firm's collaboration, SMEs need to innovate in business processes and consider supplier processes and customer needs and achieve effective SCM practices. Supply chain (SC) innovation practices in the new normal era help SMEs achieve efficiency and improve quality management for customer value creation, which is expected to result in increased SME performance in new normal conditions (DonHee Lee, 2011).

In many countries including Oman. SMEs are an important source of job creation and economic growth (Hijzen et al, 2010; Criscuolo et al, 2014). However, the attention of governments in many countries to SMEs is still lacking (Aradanaz-Badia et al, 2017). However, in today's new normal economy, SMEs play an important role in economic growth, reducing poverty, increasing job creation, innovation, and reducing unemployment (Stokes et al., 2010). In developing countries in particular, SMEs play a key role in contributing to the rural economy, poverty alleviation, job creation, entrepreneurship development, export growth, and the manufacturing industry (Stokes et al., 2010; Arora et al., 2017). Therefore, SMEs are considered critical and the backbone for the economy, especially in developing countries (Khalil, M. K., Khalil, R & Khan, S. N, 2019). However, previous

studies have neglected the moderating effect of supply chain innovation in the new normal between management practices. Therefore, this study aims to investigate the moderating role of supply chain innovation in the new normal on the relationship between SCM practices and SME performance.

LITERATURE REVIEW

SMEs Performance

Business organizations, especially SMEs have an important role in today's economy. Successful SMEs are a key element of the economic growth of developing countries. Therefore, many experts view SMEs as a determining engine for a country's economic progress. Business performance in creating competitive products and services and good customer service is the focus of every SME because only through performance can SME continue to grow even in difficult times. Thus, the performance of SMEs is one of the most important business variables and a key indicator of economic performance (Corina Gavrea, Liviu Ilies, Roxana Stegorean, 2011). UKM performance is a contextual and practical concept related to the phenomenon studied by many previous researchers (Robert B. Carton, 2004).

Evaluating the performance of SMEs is always attractive to management teams and researchers. In addition, measuring the performance of SMEs in the current economic environment is an important issue for academics and practicing managers. Researchers have developed efforts to determine steps for the concept of SME performance. In this case, there are incomplete injections and on-going debate on SME performance issues (Oman Taouab, Zineb Issor, 2019).

Chong (2008) proposes that SMEs can measure their performance using financial and non-financial measures. Financial measures include pre-tax profit and turnover while non-financial measures focus on issues related to customer satisfaction and customer reference level, delivery time, waiting time and employee turnover. Recognizing the limitations of relying solely on financial or non-financial measurement, modern SME owners have adopted a hybrid approach using both financial and non-financial measures. This measure serves as a precursor to action (H Gin Chong, 2008).

Supply chain innovation and investment capability can determine SME performance (Francis et al. 2012). Hult et al., (2004) argue that "the adoption of supply chain innovations is usually intended to contribute to the performance or effectiveness of a company". SMEs are known for their creativity and the development of new products and services (Kenny & Reedy 2006). However, SMEs sometimes fail to recognize the opportunities available to them in the market, including the flexibility to tailor products and services to the needs of their customers (O'Regan et al., 2006). Thus, SMEs must be strong competitors, fast paced, innovative, market driven, or early markets to provide better performance and growth in the long run (Beinhocker 1997, quoted in Al-Ansari, Y 2014).

SMEs with innovative behaviours have a positive view of obstacles and barriers as learning opportunities and not as negative incidents (Mahemba & De Bruijn 2003). Keskin (2006) also believes that SMEs with innovative capabilities can positively impact their business growth performance. Supply chain Innovation can positively impact SME's business growth performance (Otero-Neira et al., 2009) when different levels of performance are related to the type of supply chain innovation being developed. To assess the business performance and revenue growth of SMEs, a diverse set of indicators such as new products and services, sales growth, profitability, productivity, and market share are used, where the most profitable and productive companies are strategies oriented towards quality strategic behaviour, supply chain innovation, and customer satisfaction (Aragon-Sanchez & Sanchez-Marin 2005). These indicators have been used in various research studies to evaluate business growth performance and can distinguish between good and / or bad SMEs (Hadjimanolis 1999; Calantone, Cavusgal & Zhao 2002; Mahemba & De Bruijn 2003). However, this study adds supply chain innovation variables and moderating variables.

SCM Practices

Many studies have examined the multi-dimensional involvement of SCM practices. Lenny Koh, et al, (2007) describes supply chain practices as they include a combination of all organizational activities initiated with the primary aim of improving management in the supply chain process. In addition, Li et al. (2006), describing SCM practices refer to various interrelated activities carried out in the organization to promote efficient and effective supply management. There are some previous researchers who used various SCM practices. For example, continuous business process flows, company and supplier partnerships, proper cycle time, sharing information about technology with supply chain partners, and outsourcing activities (Donlon, 1996). Choon Tan et al. (2002), introduced 6 elements of SCM practice; namely integration of internal supply chain, customer service management, information sharing with supply chain partners, geographical understanding, supply chain features, and real-time capabilities. Chen and Paulraj (2004), proposed identified communication, supplier-based reductions, cross-teams, long-term association, and supplier involvement in measuring supplier-buyer relationships in the supply chain. Tan et al. (1998) identified customer relationships, quality, and purchases to represent SCM practices. Thus, literature reflects SCM practices from a different perspective but ultimately one universal objective is to improve organizational performance. Focus of studies on SCM practices in SMES. We investigate four elements of SCM practice; namely (1) Strategic Partnerships with Major Suppliers, (2) Strategic Partnerships with Target Customers, (3) Information Sharing with Supply Chain Partners and (4) Internal Supply Chain Integration.

Relationship Between SPWMS and SMEs Performance

SPWMS refer to long-term associations with SMEs and their valued suppliers (Li et al., 2006). Some researchers have described that SPWMS are designed to leverage the operational capabilities and strategic capabilities of participating corporate employees to facilitate them to their next significant advantage (Monczka et al., 1998; Noble, 1997; Stuart, 1997). In addition, sharing intentionally promotes direct, long-distance relationships and promotes joint planning and problem solving (Gunasekaran et al., 2001). SPWMS enable SME organizations to work more efficiently and effectively with more important suppliers willing to share responsibility for product success (Li et al., 2006).

Previous studies have shown that SPWMS have a significant and positive effect on SME performance (Li et al., 2006; Wijetunge, 2017). In addition, SPWMS play an important role in supply chain innovation and there is study that explains that SPWMS have a positive impact on supply chain innovation. In addition, supply chain innovation will impact SME performance (Maalouf, 2018).

Hence, the following hypotheses are: (H₁) SPWMS has positive impact on SMEs performance and (H₃) The relationship between SPWMS and SMEs performance moderated by Supply chain innovation

Relationship Between SPWTC and SMEs Performance

SPWTC is a business concept in recognizing, knowing, and using customer needs in order to produce the goods and services needed by doing business that are superior to competitors so that customers feel satisfied and loyal (Boon-itt and Wong, 2011; Childerhouse and Towill, 2011; Droge et al., 2012; Flynn et al., 2010; Huo, 2012; Kannan and Tan, 2010; Lai et al., 2014; Lau et al., 2010; Schoenherr and Swink, 2012; Wong et al., 2011b; Devaraj et al., 2007; Fabbe-Costes and Jahre, 2007; Koufteros et al., 2010; Zhao et al., 2011). Therefore, SPWTC is important in understanding the main customer needs and providing goods and services according to customer needs, and a logical partner of integration with suppliers and integration with customers (Thun, 2010). This is done by focusing the company on the customer, understanding the customer's product, culture, market, and organization, and reacting efficiently to customer needs and wants (Boon-itt and Wong, 2011). Frohlich and Westbrook (2001), Kim (2006), Rosenzweig et al. (2003), and Vickery et al. (2003) conceptualized enterprise integration with customers as part of SME external integration connections

Apart from that, strengthening the cooperation between SCM practices and SME performance, supply chain innovation is needed to provide opportunities for discovering and developing new markets, new segments, new customers, and new ways to meet customer needs. In addition, the extraordinary increase in trade interest and the growth of the SME industry based on business supply chain innovation and the creation of competitive advantages. In addition, due to increasingly fierce competition, the management ability to control supply innovation and manage the supply chain innovation process is very important for SMEs because it has an impact on SME performance, limited resources will have a negative impact on SME growth in the future. Kanter (2006 quoted in Kamariah bte Ismail, et.al, 2014) refers to supply chain innovation as a renewable natural resource that is accessible to everyone that is only limited by human efforts (Kamariah bte Ismail, et.al, 2014).

Therefore, the following hypotheses will be tested: (H₂) SPWTC has positive impact on SMEs performance and (H₄) the relationship between SPWTC and SMEs performance moderated by Supply chain innovation

Relationship Between ISWSCP and SMEs Performance

ISWSCP refers to appetizers to personal data in all partner systems, which allows monitoring of product / service progress in the supply chain (H. L. Lee, V. Padmanabhan and S. Whang, 1997). This type of activity includes data processing, representation, distribution, acquisition, and storage of end-to-end inventory status and location, order status, demand conditions, cost-related data, and performance status. Visibility of key process data allows SC members to consider important actions in making effective decisions. In this way, supply chain members can deal with product flow problems more quickly, which results in more responsive demand planning (T. M. Simatupang and R. Sridharan, 2005)

The interaction of information sharing with other disciplines of the framework plays a key role in integrating other disciplines into the overall SMEs. Furthermore, information sharing, in general, simplifies the synchronization of decisions by providing timely, relevant and accurate information needed to make efficient decisions in supply chain planning in the practice of SMEs (T. M. Simatupang and R. Sridharan, 2005).

Information technology has become a key area that can greatly influence innovation in supply chains. In fact, information technology must be seen as a key driver for achieving distributed ways of working across SME systems that have led to new IT applications such as EDI, RFID, WMS, web services, and service-oriented SMEs that enable network partners to ventilate and coherent information and timely coordinate the activities of those who have made concepts such as timely delivery successful (Tan et al., 2011). Therefore, it can be said that, if stakeholders want an innovative supply chain that can provide a sustainable SME sector, then adequate research must be devoted to the field of information technology. Therefore, the supply chain itself can only be considered as innovative when supported by a strategic infusion of modern technology knowledge that will help drive the process and create sustainable relationships with all relevant stakeholders (Jiva Lakhabhai Odedra, 2017).

Supply chain innovation is vital role of the SMEs” (Teece 2010), which is considered to be a central activity that involves the entire SMEs and conditions its behaviour to facilitate value creation of competitive advantage and SMEs performance. Innovation in supply chain is an indefinable concept that has complexity and interactive processes of demand-and-supply-side elements of customers and research and development outcomes ((Yahya Darwish Yahya Al-Ansari, 2014).

Remaining competitive in today’s modern world require organizations to pursue innovation in supply chain (Teece, 2007 cited in Kamariah bte Ismail, et.al, 2014). Hence the million-dollar question in this regard relates with ‘how to innovate’ which still draws researcher’s attention. Clausen, et al (201 cited in Kamariah bte Ismail, et.al, 20143) recently focused on this challenge by attending to the question and used prior theory to identify four modes of innovation i.e. open exploration, closed exploration, open exploitation, and close exploitation. It has been suggested by researchers that SMEs have limited innovation as compared to larger enterprises. However, this misconception has been negated by Kaufmann and Todtling (2002 cited in Kamariah bte Ismail, et.al, 2014) who

highlight that SMEs are more innovative due to their heterogeneous character but are restricted in innovative capacity due to their financial and human resources. Similarly, Rosenbusch et al (2011 cited in Kamariah bte Ismail, et.al, 2014) have identified several factors that affect the relationship between supply chain innovation and SME performance. They are of the view that new SMEs benefit more from innovation than the mature organizations mainly due to their flexibility to accept change in their environment or industry (Kamariah bte Ismail, et.al, 2014).

Consequently, the following hypotheses will be tested (H_3) ISWSCP has positive impact on SMEs performance and (H_5) The relationship between ISWSCP and SMEs performance moderated by Supply chain innovation

Relationship Between ISCI and SMEs Performance

ISCI can be interpreted as a firm practice in combining and developing information internal or company internal resources for the purpose of generating knowledge outside the boundaries of a department or function, to support external integration activities, and ultimately achieve alignment of goals and improve company performance, especially SMEs performance (Alfalla) Luque et al., 2013; Fabbe-Costes and Jahre, 2007; Huo, 2012; Koufteros et al., 2010; Leuschner et al., 2013; Sanders, 2007; Zailani and Rajagopal, 2005; Zhao et al., 2011, Zhao et al., 2013). In simpler terms, this is the company level that sets structural strategies and practices into integrated and synchronized activities to meet customer demand and work effectively with suppliers (Boon-itt and Wong, 2011; Zhao et al., 2011). Therefore, the ISCI of SMEs is a chain of activities or functions within SMEs that produce goods and services that are deliver to customers. All Integration of these functions involves a holistic SME performance process across departmental boundaries, and thus integrating from material management to production, sales, and distribution is essential to fulfil customer request at lower costs (Basnet, 2013).

Many researchers have previously argued that ISCI encourages greater intra-company collaboration and coordination between various functions within SMEs. This is achieved mainly through sharing through higher integration of data / information systems and cross-functional collaboration (Schoenherr and Swink, 2012; Williams et al., 2013). For example, Pagell (2004) emphasizes that internal integration allows better use of each function / department. We conclude that the internal integration of the supply chain allows companies to better explain functional interdependencies. Thus, better functional coordination and cross-functional teams, allow staff to manage disagreements and conflicts that arise across individual functions (Vickery et al., 2003).

Innovation in supply chain is an important tool that provides the opportunities for new discoveries and building new markets. In addition, there is an increase in interest trading and extraordinary industrial growth based on innovation and the creation of competitive advantages. In addition, due to increased competition, the ability to control innovation and manage the innovation process has become very important for governments and organizations because of its impact, limited and inadequate resources will have growth in the future. Some authors call innovation as a natural renewable source that can be accessed by all who are limited only by human efforts (Kamariah Ismail, et.al, 2014)

Herzlinger (2006, quoted in DonHee Lee, 2011) suggested that there are three types of supply chain innovations: (1) customer-focused, (2) technology-based, and (3) integrators." Customer-focused innovation focuses on reducing customer waiting time and operating costs. Customer-focused innovation increases the productivity of SME employees by reducing waiting times for customers. Technology-based innovation is to improve delivery systems that are dependent on Supply Chain so that process improvement can provide high-quality SME products, improve customer service, reduce product and service delivery times, and improves the quality of products delivered and information technology (IT) applications. Integrator innovation is to improve the efficiency of SME operations, customer purchases, and integrated networks, Information Technology, and Supply Chain activities.

Hence, the following hypotheses will be tested (H_6) ISCI has positive impact on SMEs performance and (H_8) the relationship between ISCI and SMEs performance moderated by Supply chain innovation

RESEARCH METHODOLOGY

Research Design

This research adopted the cross sectional survey design using both quantitative and qualitative approaches. The cross sectional survey design was adopted due to the fact that data was collected between Jan to April 2020. In this study, the main focus on investigating the linkage between SCM practices (considered as Independent variable/IV) and SME performance (considered as dependent variable/DV). Furthermore, this study also investigates the role of supply chain innovation (considered as moderating variable/MV) in new normal after COVID-19 on the relationship between SCM practices and SMEs performance in Salalah, Sultane of Oman.

Population

The target population of this research was 162 registered SMEs in Dhofar, Sultane of Oman (see https://www.zawya.com/mena/en/business/story/2184_SMEs_registered_in_Oman_in_May_2019-SNG_149672226/) access Jun 7, 2020. These firms were the small and medium due to their inability to employ more competent staffs to manage their supply chain innovation in new normal. This study was conducted in Salalah, Sultana of Oman with 94 Food and beverages SMES.

Sampling Frame

A sampling frame consists of a list of all the items where a representative sample will be drawn for the purpose of a given study. In this study, the sampling frame was a list of food and beverages industry that was 94 registered Food and beverages SMEs in Salalah, Sultanate of Oman. A sampling frame follow the following formula was used to determine the sample size for the survey based on simple random sampling. By using the following formula, we find 76 respondents for this research.

$$n = \frac{Z^2 pqN}{e^2 (N - 1) + Z^2 pq} \quad (Pagano, Gauvreau, 2000)$$

Sampling Method

Stratified random sampling will be used in this study where the subjects are selected in a way that the subgroups in the population would be more or less reproduced in the sample. From the sampling frame, there were 7 key food and beverage sectors of the 94 food and beverage sectors in Salalah Sultanate of Oman. The food and beverage sectors are divided into 7 groups/strata (Table 1), each key sub sector forming a stratum. Stratified random sampling guarantees that every stratum is well represented in the sample, it also more accurate in representing the population characteristics. Division of the population into stratum is based on the different features of the population and a random sample is picked from each stratum (Kothari, 2004). Sampling error is reduced considerably using this method. The study involved a sample size of 76.

The following formula was used to determine the sample size for the survey based on simple random sampling.

RESEARCH FINDING AND DISCUSSION

Response Rate

The number of questionnaire distributed was 76 questionnaires but the number of questionnaire was collected was 54 questionnaires (71%). Out of 54 collected questionnaires only 47 questionnaires were usable questionnaire (61.84%).

Table 1.
Sample size

Food and beverage listing by sector	No. of Food and beverage company	formula	Strata sample	Stratum percentage
Restaurant	29	$76 \times 29 / 94$	23	30.26%
Cafeterias	6	$76 \times 6 / 94$	5	6.57%
Food manufacturing operation	13	$76 \times 13 / 94$	10	13.15%
Catering business	7	$76 \times 7 / 94$	6	7.89%
Food transportation services	12	$76 \times 12 / 94$	10	13.13%
Pubs	5	$76 \times 5 / 94$	4	5.26%
Delis	22	$76 \times 22 / 94$	18	23.68%
Total	94		76	100%

Hypotheses Testing

H_1 - H_4 : SPWMS, SPWTC, ISWSCP, and ISCI has positive impact on SMEs performance

To test the (H_1 - H_4), the multiple regression analysis for SPWMS, SPWTC, ISWSCP, and ISWSCP were conducted to determine the proportion of SMEs performance (dependent variable) which would be predicted by SPWMS, SPWTC, ISWSCP, and ISWSCP (independent variable). The linear regression model for SPWMS, SPWTC, ISWSCP, and ISWSCP were found to be statistically insignificant { $F=1.999$, $p=0.02$ }. Therefore, SPWMS, SPWTC, ISWSCP, and ISWSCP are a significant predictor of SMEs performance because p value is less than 5%.

The moderating effect of SCI in new normal on the relationship between SPWMS, SPWTC, ISWSCP, ISCI on SMEs performance

To test the (H_5 - H_8) we use the moderating of SCI in new normal on SPWTC, SPWTC, ISWSCP, ISWSCP and SMEs performance. This study identified SCI in new normal as the moderator variable affecting the relationship between SPWMS, SPWTC, ISWSCP, ISWSCP (independent variable) and SMEs performance (dependent variable). Using the moderated multiple regression (MMR) analysis, the moderating effect of the variable (interaction term) were analysed by interpreting the R^2 change in the models obtained from the model summaries and by interpreting the regression coefficients for the interaction term obtained from the coefficient tables. Regression analysis was performed to test the moderating effect of SCI in new normal on the relationship between SPWMS, SPWTC, ISWSCP, ISWSCP and SMEs performance. The finding show that statistically was not significant, that is, in all cases p value was bigger than 0.05. This implies that (SCI) in new normal does not significantly moderate the relationship between SPWMS, SPWTC, ISWSCP, ISWSCP and SMEs performance.

CONCLUSION

This study proposes a conceptual model of SCM practices on relationships with SME performance. The study also investigates the role of SCI in new normal on the relationship between SCM practices and SME performance. SCM practices are considered as independent variables which include four sub-variables namely SPWMS, SPWTC, ISWSCP, and ISCI. SME performance is considered as an independent variable consisting of financial performance and non-financial performance. Most of the previous research focused on the relationship between SCM practices on organizational performance

in general. However, the scope of this research is on the SME sector and we add a new variable, namely supply chain innovation in new normal which is considered a moderating variable.

A multivariate of regression model was built. Data was collected from 76 SMEs companies at Salalah, Sultane of Oman. In this research, the following results were obtained: (1) SPWMS, SPWTC, ISWSCP, and ISCI were a significant predictor of SMEs performance, (2) SCI in new normal was not a significant moderator of the relationship between SPWMS, SPWTC, ISWSCP, and ISCI on SMEs performance. The specifics of each hypothesis testing result can be summarized in Table 2

DISCUSSION

The current research is focus on investigating the linkage between SCM practices and SMEs performance. This research also assesses the role of supply chain innovation in new normal on the relationship between SCM practices and SMEs performance. The target respondents were the food and beverage SMEs manager/owner in Salalah, Sultanate of Oman.

This study showed that a significant relationship between SPWMS and SMEs performance. The finding in line with (Childerhouse and Towill, 2011; Danese and Romano, 2011; Danese, 2013; Das et al., 2006; Droge et al., 2012; Huo, 2012; Leuschner et al., 2013; Lockström et al., 2010; Narasimhan et al., 2010; Petersen et al., 2005; Swink et al., 2007; Vereecke and Muylle, 2006). The successful SPWMS necessitates for performance of the firm include SMEs. Thus, it is vital for a SMEs to communicate effectively with its main suppliers, and to frequently upgrade data gathered in the intentional integration processes. This should happen since the SMEs may have outdated data that do not expose new or ongoing problems in the real business environment (Das et al., 2006; Handfield et al., 2009; Narasimhan et al., 2010). As argued earlier SPWMS is obtained through data sharing, and collaborations amongst companies and their suppliers (Ragatz et al., 2002). When this occurs, there is more of a chance to facilitate regular deliveries in smaller sizes, utilize more than one source of supply, assess substitute supply sources in relation to quality and delivery instead of cost, and create long-term SPWMS to enhance performance (Handfield et al., 2009). Such mutual and timely exchanging of operational and market data, enables the SMEs to better predict and respond to alterations in customer demands (Zailani and Rajagopal, 2005); Zimon, D. and Madzík, P. (2019).

SPWTC on SMEs performance also investigated on this research. We found that there is a strong linkage between SPWTC on SMEs performance in Salalah, Sultanate of Oman. The research finding is related which some previous study (Boon-itt and Wong, 2011; Childerhouse and Towill, 2011; Droge et al., 2012; Flynn et al., 2010; Huo, 2012; Kannan and Tan, 2010; Lai et al., 2014; Lau et al.,

Table 2.
Summary result of hypotheses testing

Hypothesis	Description	Results
H ₁	SPWMS has positive impact on SMEs performance	Accepted
H ₂	SPWTC has positive impact on SMEs performance.	Accepted
H ₃	ISWSCP has positive impact on SMEs performance	Accepted
H ₄	ISCI has positive impact on SMEs performance	Accepted
H ₅	The relationship between SPWMS and SMEs performance moderated by SCI in new normal	Rejected
H ₆	The relationship between SPWTC and SMEs performance moderated by SCI in new normal.	Rejected
H ₇	The relationship between ISWSCP and SMEs performance moderated by Supply chain innovation in new normal	Rejected
H ₈	The relationship between ISCI and SMEs performance moderated by SCI in new normal.	Rejected

Source: Survey results

2010; Schoenherr and Swink, 2012; Wong et al., 2011b). They argue that SPWTC is an important feature in better understanding the requirements of key customers, and the logical counterpart of SPWMS (Thun, 2010). It does so by enabling SMEs to penetrate deep into the customer firm, in order to understand the customer's product, culture, market, and organization, in order to efficiently react to customer needs (Boon-itt and Wong, 2011). Authors such as Frohlich and Westbrook (2001), Kim (2006), Rosenzweig et al. (2003), and Vickery et al. (2003) have also conceptualized SPWTC as a part of the external (vertical) connection of the SMEs performance.

The research findings also show that ISWSCP has a significant effect on the performance of SMEs in Salalah, Sultanate of Oman. This finding is in line with previous research which suggests that information-sharing interactions with other disciplinary frameworks play a key role in integrating other disciplines into the overall SME. Information sharing, in general, simplifies decision synchronization by providing timely, relevant and accurate information needed to make efficient decisions in supply chain planning in SME practice (T. M. Simatupang and R. Sridharan, 2005); Calatayud, A., Mangan, J. and Christopher, M. (2019). The supply chain itself can be considered innovative if it is supported by a strategic infusion of modern technological knowledge that will help drive processes and create sustainable relationships with all relevant stakeholders (Jiva Lakhabbhai Odedra, 2017).

MANAGERIAL IMPLICATIONS

The study showed that SPWMS, SPWTC, ISWSCP, and ISCI have significant impact on SMEs performance. However, the moderating influence of SCI in new normal on the relationship between SCM practises (SPWMS, SPWTC, ISWSCP, and ISCI) on SMEs performance did not exist. The findings of the study have several implications for SCM practices in the SMEs industry. This result suggests that the managers on SMEs industry should strengthen the SPWMS, SPWTC, ISWSCP, and ISCI to enhance SMEs performance. Moreover, Managerial perspective is concerned with applicability of the proposed model in decision making procedures. SMEs Managers can benefit from the findings of this study in the design, analysis, and improvement of their SCM practices in order to have an integrated SCM practices which contributes to end customer values. Through applying the proposed approach, they can avoid mismatching between their applied practices of SCM practices (SPWMS, SPWTC, ISWSCP, and ISCI) and expected SMEs performance.

The finding of this research also showed that SCI in new normal did not moderate the relationship between SCM practises (SPWMS, SPWTC, ISWSCP, and ISCI) and SMEs performance. This study was carried out in SMEs in Salalah, Sultanate of Oman. Some SMEs managers on this research still not aware of SCI. However, some researchers suggested that SMEs need to focus on SCI, especially in new normal after COVID-19 pandemic because effective service delivery and the benefits of innovation in SCM are high quality products / services, lower costs, timely delivery, and effective operations (DonHee Lee, 2011). The practices of SCI in new normal within organizations helps SMEs achieve efficiency and quality management practices for current and new customer value creation, which is expected to result in improved SMEs performance in new normal. Therefore, SCI in new normal can be a useful tool in SMEs industry. The SMEs organization by necessity limits individual initiatives, but clear objectives and thoroughly outlined job descriptions help individuals understand their responsibilities. Evaluation feedback that is constructive and clear may help SMEs employees focus better on important tasks. It is up to an organization's leaders to employ the right methods to achieve supply chain innovation in new normal. Hence, SCI in new normal is an imperative as SMEs face different kinds of challenges, especially challenges of Covid-19.

DIRECTIONS FOR FUTURE RESEARCH

The research has already depicted several limitations. One of the limitations of this research only focuses on SMEs. Thus, future research should consider these limitations, including size of

companies, and multi companies and industries. First, the study has focused on the impact of SCM practices on SMEs performance. SCM practices include a set of complex processes, which deal with the environment uncertainties, which requires SCM practices to deliver revenue, sales volume and customer satisfaction. Hence, it is important to develop and understand appropriate operational processes with advanced IT for internal and external functions based on companies' characteristics. In addition, a possible direction that researchers could explore what type of system could be developed to help seamless coordination between companies and suppliers. Additionally, Companies or SMEs characteristics tend to require different types of operational processes to increase their performance. It is a common challenge for customer and potential customers to select the best supplier for their SMEs at a reasonable cost. Researchers could explore how SMEs or companies should deal with such complex situations and what type of advanced technologies is used to provide rich information for better SMEs performance.

Second, this study considered supply chain innovation for new normal as moderating variable that moderate the relationship between SCM practices and SMEs performance. Supply chain innovation in new normal need appropriate process and advance information technology, which deal with new condition after COVID-19. Hence, this condition need a new mind-set that appreciates the importance of having 'life business models' that sustain happiness without being strained with 'what happens to you', but 'what happens from you'. Researchers could explore how to Settle into the "New Normal", more programs need to mitigate the feeling and the fear of the 'BIG changes' coming so fast, and that would have an immediate psychological effect such as the unavailability of jobs. The alternative of working from home is becoming more competitive where many people and even organisations that are trying to survive are fighting for such rare type of jobs. Therefore, all of business need to discover our new normal role as it is a game while we are trying to deal with the unstable 3 F's around us: Family, Finance, and Freedom (Buheji and Ahmed,2020).

The future business environment uncertainty and dynamic context of food and beverage industry and the range internal relationship (i.e. inter-departmental relationship of food and beverage firms) and external linkage (i.e. Strategic Partnership with Main Suppliers (SPWMS), Strategic Partnership with Target Customer (SPWTC), Information Sharing with Supply Chain Partners (ISWSCP), Supply Chain Innovation for New Normal (SCI) provided this research with a suitable platform to progress knowledge and contribute to organizational theory, operations management and operational performance. Accordingly, this research empirically tested for the moderating impact of Supply Chain Innovation for New Normal on the relationship between SCM practices SMEs performance. Therefore, this study theoretically also contributes to supply chain management theory, logistics theory and theory of firm performance. However, research on the role of supply chain innovation on the relationship between SCM practices and SMEs performance is still limited. Consequently, need more depth investigate in future research on supply chain innovation especially in future uncertainty business environment.

REFERENCES

- Abdirahman, M. (2019). Effect of SMEs performance indicator of business turnover as a dimension of economic growth: Borama case.
- Al-Ansari, Y. (2014). *Innovation practices as a path to business growth performance: a study of small and medium sized firms in the emerging UAE market*, [PhD thesis, Southern Cross University, Lismore, NSW].
- Alfalla-Luque, R., Medina-Lopez, C., & Dey, P. K. (2013). Supply chain integration framework using literature review. *Production Planning and Control*, 24(8-9), 800–817. doi:10.1080/09537287.2012.666870
- Aradanaz-Badia, A., Awano, G., & Wales, P. (2017). *Understanding firms in the bottom 10% of the labour productivity distribution in Great Britain: "the laggards", 2003 to 2015*. Office for National Statistics.
- Arora, R., Haleem, A., & Farooquie, J. (2017). Impact of critical success factors on successful technology implementation in Consumer Packaged Goods (CPG) supply chain. *Management Science Letters*, 7(5), 213–224. doi:10.5267/j.msl.2017.2.005
- Basnet, C. (2013). The measurement of internal supply chain integration. *Management Research Review*, 36(2), 153–172. doi:10.1108/01409171311292252
- Boon-itt, S., & Wong, C. Y. (2011). The moderating effects of technological and demand uncertainties on the relationship between supply chain integration and customer delivery performance. *International Journal of Physical Distribution & Logistics Management*, 41(3), 253–276. doi:10.1108/09600031111123787
- Buheji, M. (2020). Forward from "Editor in Chief": The New Normal – A New Era Full of Inspiration and Resilience after COVID-19. *International Journal of Inspiration & Resilience Economy* 2020, 4(2), 0-0 doi:10.5923/j.ijire.20200402.00
- Buheji, M., & Sisk, S. (2020). *You and The New Normal*. AuthorHouse.
- Calatayud, A., Mangan, J., & Christopher, M. (2019). The self-thinking supply chain. *Supply Chain Management*, 24(1), 22–38. doi:10.1108/SCM-03-2018-0136
- Childerhouse, P., & Towill, R. (2011). Arcs of supply chain integration. *International Journal of Production Research*, 49(24), 7441–7468. doi:10.1080/00207543.2010.524259
- Criscuolo, C., Gal, P., & Menon, C. (2014). The dynamics of employment growth: new evidence from 18 countries. *CEP Discussion Paper No. 1274*, London: Centre for Economic Performance.
- Devaraj, S., Krajewski, L., & Wei, C. (2007). Impact of eBusiness technologies on operational performance: The role of production information integration in the supply chain. *Journal of Operations Management*, 25, 1199–1216.
- Lee, D. H. (2011). *The impact of supply chain innovation on organizational performance*. [PhD thesis. University of Nebraska].
- Droge, C., Vickery, S. K., & Jacobs, M. A. (2012). Does supply chain integration mediate the relationships between product/process strategy and service performance? An empirical study. *International Journal of Production Economics*, 137(2), 250–262. doi:10.1016/j.ijpe.2012.02.005
- Fabbe-Costes, N., & Jahre, M. (2007). Supply chain integration improves performance: The Emperor's new suit? *International Journal of Physical Distribution & Logistics Management*, 37(10), 835–855. doi:10.1108/09600030710848941
- Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management*, 28(1), 58–71. doi:10.1016/j.jom.2009.06.001
- Frohlich, M. T., & Westbrook, R. (2001). Arcs of integration: An international study of supply chain strategies. *Journal of Operations Management*, 19(2), 185–200. doi:10.1016/S0272-6963(00)00055-3
- Gavrea, C., Ilies, L., & Stegorean, R. (2011). Determinant of organizational performance: The case of Romania. *Management & Marketing Challenges for the Knowledge Society*, 6(2), 285–300.
- Gin Chong, H. (2008). Measuring performance of small-and-medium sized enterprises: the grounded theory Approach. *Journal of business and public affairs*, 2(1), 1-10.

Gomstyn, A. (15 June 2009). Finance: Americans adapt to the 'New Normal'

Hijzen, A., Upward, R., & Wright, P. (2010). Job creation, job destruction and the role of small firms: Firm-level evidence for the UK. *Oxford Bulletin of Economics and Statistics*, 72(5), 621–647. doi:10.1111/j.1468-0084.2010.00584.x

Huo, B. (2012). The impact of supply chain integration on company performance: An organizational capability perspective. *Supply Chain Management*, 17(6), 596–610. doi:10.1108/13598541211269210

Odedra, J. L. (2017). *Supply chain innovation for delivering sustainable construction in United Kingdom*. [PhD Thesis, De Montfort University, Leicester, United Kingdom]

Ismail, K., Wan Omar, W. Z., Soehod, K., Senin, A., & Shoaib Akhtar, S. (2014). Role of Innovation in SMEs Performance: A Case of Malaysian SMEs. *Mathematical Methods in Engineering and Economics. Conference paper..*

Kannan, V. R., & Tan, K. C. (2010). Supply chain integration: Cluster analysis of the impact of span of integration. *Supply Chain Management*, 15(3), 207–215. doi:10.1108/13598541011039965

Khalil, M. K., Khalil, R., & Khan, S. N. (2019). A Study on The Effect of Supply Chain Management Practices on Organizational Performance With The Mediating Role of Innovation in SMEs. *Uncertain Supply Chain Management*, 7(1), 179–190. doi:10.5267/j.uscm.2018.10.007

Khalil, M. K., Khalil, R., & Khan, S. N. (2019). A study on the effect of supply chain management practices on organizational performance with the mediating role of innovation in SMEs. *Uncertain Supply Chain Management*, 7, 179–190. doi:10.5267/j.uscm.2018.10.007

Kim, S. W. (2006). Effects of supply chain management practices, integration and competition capability on performance. *Supply Chain Management*, 11(3), 241–248. doi:10.1108/13598540610662149

Koufteros, X. A., Rawski, G. E., & Rupak, R. (2010). Organizational integration for product development: The effects on glitches, on-time execution of engineering change orders, and market success. *Decision Sciences*, 41(1), 49–80. doi:10.1111/j.1540-5915.2009.00259.x

Lai, K., Wong, C. W. Y., & Lun, Y. H. V. (2014). The role of customer integration in extended producer responsibility: A study of Chinese export manufacturers. *International Journal of Production Economics*, 147, 284–293. doi:10.1016/j.ijpe.2013.06.028

Lau, A. K. W., Yam, R. C. M., & Tang, E. P. Y. (2010). Supply chain integration and product modularity An empirical study of product performance for selected Hong Kong manufacturing industries. *International Journal of Operations & Production Management*, 30(1), 20–56. doi:10.1108/01443571011012361

Lee, H. L., Padmanabhan, V., & Whang, S. (1997). Information distortion in a supply chain: The bullwhip effect. *Management Science*, 43(4), 546–558. doi:10.1287/mnsc.43.4.546

Lenny Koh, S., Demirbag, M., Bayraktar, E., Tatoglu, E., & Zaim, S. (2007). The impact of supply chain management practices on performance of SMEs. *Industrial Management & Data Systems*, 107(1), 103–124. doi:10.1108/02635570710719089

Leuschner, R., Rogers, D. S., & Charvet, F. F. (2013). A Meta-Analysis of Supply Chain Integration and Firm Performance. *The Journal of Supply Chain Management*, 49(2), 34–57. doi:10.1111/jscm.12013

Taouab, O., & Zineb, I. (2019). Firm Performance: Definition and measurement model. *European Scientific Journal*, 15(1) 1857 – 7881.

Prasad, V. (2004). *Strengthening policies through international cooperation*. Sweden: IKED/INSME International Roundtable.

Robert, B. Carton,(2004). *Measuring organizational performance: An exploratory study*. [PhD Thesis, The University of Georgia].

Rosenzweig, E. D., Roth, A. V., & Dean, J. W. Jr. (2003). The influence of an integration strategy on competitive capabilities and business performance: An exploratory study of consumer products manufacturers. *Journal of Operations Management*, 21(4), 437–456. doi:10.1016/S0272-6963(03)00037-8

- Saggu A., Anukoonwattaka W. (2015). "China's 'New Normal': Challenges Ahead for Asia-Pacific Trade". United Nations ESCAP. SSRN 2628613
- Sanders, N. R. (2007). An empirical study of the impact of e-business technologies on organizational collaboration and performance. *Journal of Operations Management*, 25(6), 1332–1347. doi:10.1016/j.jom.2007.01.008
- Schoenherr, T., & Swink, M. (2012). Revisiting the arcs of integration: Cross-validations and extensions. *Journal of Operations Management*, 30(1-2), 99–115. doi:10.1016/j.jom.2011.09.001
- Ebrahimi, S. M. (2015). *Examining The Impact of Supply Chain Integration On Organization Structure And Operational Performance in Oil and Gas Supply Chains: A Contingency Approach*. [PhD Thesis, The University of Sheffield Faculty of Social Sciences School of Management]
- Simatupang, T. M., & Sridharan, R. (2005). An integrative framework for supply chain collaboration. *International Journal of Logistics Management*, 16(2), 257–274. doi:10.1108/09574090510634548
- Stokes, D., Wilson, N., & Wilson, N. (2010). *Small business management and entrepreneurship: Cengage Learning*. EMEA.
- Tan, Y.-H. et al. (2011), *Accelerating Global Supply Chains with IT-Innovations: ITAIDE Tools and Methods*. Springer, UK.
- Teece, D. (2010). Technological innovation and the theory of the firm: The role of enterprise-level knowledge, complementarities, and dynamic capabilities. In B. H. Hall & N. Rosenberg (Eds.), *Handbooks in Economics* (Vol. 1, pp. 679–730). Elsevier Science Publishers.
- Thun, J. H. (2010). Angles of integration: An empirical analysis of the alignment of internet-based information technology and global supply chain integration. *The Journal of Supply Chain Management*, 46(2), 30–44. doi:10.1111/j.1745-493X.2010.03188.x
- Usaini, M. (2014). *Role of SMEs in Nigerian Economic growth: An Empirical analysis*. Cankaya University.
- Vickery, S. K., Jayaram, J., Droge, C., & Calantone, R. (2003). The effects of an integrative supply chain strategy on customer service and financial performance: An analysis of direct versus indirect relationships. *Journal of Operations Management*, 21(5), 523–539. doi:10.1016/j.jom.2003.02.002
- Williams, B. D., Roh, J., Tokar, T., & Swink, M. (2013). Leveraging supply chain visibility for responsiveness: The moderating role of internal integration. *Journal of Operations Management*, 31(7-8), 543–554. doi:10.1016/j.jom.2013.09.003
- Wong, C. Y., Boon-itt, S., & Wong, C. W. Y. (2011b). The contingency effects of environmental uncertainty on the relationship between supply chain integration and operational performance. *Journal of Operations Management*, 29(6), 604–615. doi:10.1016/j.jom.2011.01.003
- Zailani, S., & Rajagopal, P. (2005). Supply chain integration and performance: US versus East Asian companies. *Supply Chain Management*, 10(5), 379–393. doi:10.1108/13598540510624205
- Zhao, L., Huo, B., Sun, L., & Zhao, X. (2013). The impact of supply chain risk on supply chain integration and company performance: A global investigation. *Supply Chain Management*, 18(2), 115–131. doi:10.1108/13598541311318773
- Zhao, X., Huo, B., Selen, W., & Yeung, J. H. Y. (2011). The impact of internal integration and relationship commitment on external integration. *Journal of Operations Management*, 29(1-2), 17–32. doi:10.1016/j.jom.2010.04.004
- Zimon, D., & Madzík, P. (2019). Standardized management systems and risk management in the supply chain. *International Journal of Quality & Reliability Management*, 37(2), 305–327. doi:10.1108/IJQRM-04-2019-0121

Abu Bakar A. Hamid chose academia as his profession in 1992, beginning as a lecturer and later rising to a Professor of Marketing and Supply Chain Management. He holds a BBA and an MBA from Northrop University (USA) and a PhD from the University of Derby, UK. Currently he is attached to Putra Business School, Malaysia. He has demonstrated an excellent record of teaching and supervision for more than 25 years in the academic field, at both undergraduate and postgraduate levels. Above all, his achievement in graduating more than 42 PhD candidates proves his ability, capability, and passion in postgraduate supervisions. He has also produced impactful research and publications which directly strengthen his expertise in his area of interest. In particular, he has published more than 300 articles in competitive international journals, proceedings, books, and book chapters. He also managed to secure several competitive national grants and consultancies for various projects. Such commitment is truly a landmark of an academician. His accolades, academic recognition, and leadership demonstrate his level of professorship. His notable contributions are recognized locally and internationally, as proven by the multiple invitations he has received to be an invited speaker, reviewer, editor in journals, external assessor, and internal or external examiner. With such caliber, he has much to contribute to any academic institution in the world.