

Managing Knowledge, Service Innovation and Service Experience in Hospitality Industry: A Proposed Framework

Poh Wai Choo¹, Tan Cheng Ling² and Yudi Fernando³

^{1,2} Graduate School of Business, Universiti Sains Malaysia, Penang, Malaysia,

³ Faculty of Industrial Management, Universiti Malaysia Pahang, Kuantan, Malaysia

stevenchoo0611@yahoo.com.sg

tanchengling@usm.my

yudi@ump.edu.my

Abstract: Organisation knowledge, customer market intelligence, intellectual capital from frontline managers and frontline employees represent the true “intangible resources/assets” in a Hospitality Industry (HI) organisation. These intangible resources/assets provide the creative potential for service/product innovation. Innovation is an HI organisation’s strategic and technical “know-how” in sustainable economic growth. Service/product innovation per se does not benefit a HI organisation unless it manifests current superior service experience quality value in the customer-driven marketplace. The objective of this study is to provide the theoretical justification on the strategic know-how in executing an organisation’s knowledge-based social perspective (culture, structure, human resource) and technical perspective (technology) with the collaborative support from frontline managers and frontline employees to increase the organisation service innovation. The success of service/product innovation implementation can influence high customer service experience quality (EXQ) which could help attract more tourists and increase occupancy in hotels in Malaysia. Service innovation could improve service offerings, avoid similar service failures and reduce costs in HI organisations. Without replenishing latest external customer knowledge, an HI organisation is less capable of discovering and exploiting new opportunities. This study provides 38 synthesised literature evidences via content analysis on critical factors that influence the effectiveness of knowledge management within the HI organisation, which in turn influences a successful HI organisation service innovation and high EXQ. The study aims to motivate managers/hotel industry players/future researchers in HI organisations to use innovation as a tool for strategic economic growth. The finding can be referred to as continuously exploring innovative ways to manage and leverage an organisation’s knowledge resources through internal and external network structures. This can enable the actors (frontline managers and frontline employees) to access and share diverse knowledge with each other to effect more exceptional creativity and innovation, thereby meeting EXQ. Hopefully future researchers would further investigate the potential value of systemic absorptive capacity process construct in HI service innovation.

Keywords: knowledge-based social perspective, knowledge-based technical perspective, service innovation, service experience quality

1. Introduction

Hospitality Industry organisations attempt to establish a systemic organisation internalisation of “knowledge-based social perspective” (culture, structure, human resource) and “knowledge-based technical perspective” (technology) (Salem, 2014). This effort is crucial to devolve the right set of “knowledge know-what systematically, know-why, know-how, and problem-solving methods”(Lopez-Nicolas & Merono-Cerdan, 2011) upon the right individual [e.g. frontline employees (FLE) and frontline managers (FLM)] and collective individuals [e.g. cross-functional team (CFT) leaders] to increase their service innovation competency. The competency of individual “service innovation behaviour” in a team reacts at meeting individual customer expectations (Scott & Bruce, 1994) and the competency of collective individuals on “new service development” reacts as a whole at meeting organisation focused group of customer expectations (Matear, Gray, & Garrett, 2004).

The right synergy of pooling collective and creative intelligence/knowledge from individual, collective individuals (e.g. CFT leaders) and leveraging organisation resources (e.g. knowledge management infrastructure) during close encounter of customer-relation interaction touch points, thereby discover new knowledge (create and innovate), and increase the feasibility to apply new knowledge to solving problems, and translate these efforts into new products/services that offer superior customer service experience quality (EXQ) value in the customer-driven marketplace.

1.1 Hospitality industry in Malaysia

Malaysia has received 26.8 million tourists compared to 25.7 million tourists in 2015. Correspondingly, tourist receipts have risen by 18.8%, contributing a capital inflow of RM82.1 billion to the country’s revenue against RM69.1 billion in 2015. The average length of stay of a tourist has increased 0.4% in 2016 to 5.9 nights (Tourism

Malaysia, 2017). Given the arrivals of international tourists to Malaysia as the primary source of capital inflow (Tourism Malaysia, 2017) and Malaysia has been facing stiff competition from Thailand in terms of tourist arrivals between 2013 to 2015 (ASEAN, 2017), the authors of this research are motivated to learn about the service innovation performance model studied by Hu, Horng, and Sun (2009) in the Taiwan international tourist hotels, and attempt to adapt the model to the Hospitality industry (HI) in Malaysia. The authors aim' to motivate Malaysian hotels to improve on their service innovation performance (SIP) (Hu et al, 2009) to effect higher EXQ (Khan, Garg & Rahman, 2015) in Malaysian hotels. The authors believe that the improved EXQ would help attract more tourists and increase hotel occupancy in Malaysia.

The remaining part of the paper is organised as follows: section 2.0, diffusion of Innovation theory; section 3.0, methodology and research; section 4.0, synthesis of previous studies; section 5.0, conceptual development and proposed theoretical framework; 6.0 future research; and section 7.0, presents a conclusion.

2. Diffusion of innovation theory

In this study, the four Diffusion elements of innovation in HI require the involvement of heterogeneity service team specialists who are the CFT members. The first diffusion element involves innovation with the assumptions that adoption success rate of delivering new services to focused customers is determined by five attributes, namely relative advantage, compatibility, complexity, trialability and observability (Rogers, 2003). These innovations as perceived by individuals (FLE and FLM) and collective individuals (FLM from various related departments) in a CFT of an HI organisation social system. On the other hand, HI organisation can modify or improve their current services to focused customers via re-invention from committed individual and collective individuals working in a collaborative CFT.

The second diffusion element involves a communication channel (Rogers, 2003) via systemic "knowledge-sharing process" of information (tacit and explicit knowledge) between customers and FLE; among FLE; between FLE and their immediate supervisors; between customers and FLM; and among FLM in a CFT. If members of the CFT are more to homophilous compared to heterophils, the process of innovation is more likely to be speedy when crystallizing new ideas, best method and the manifestation of alternative opinions (Mohamed, Stankosky & Murray, 2004) leading to multi-level SIP (Hu et al, 2009).

The third diffusion element involves a "time dimension of innovation adoption" (Rogers, 2003) assumptions that some innovations have a rapid rate of adoption; while others are adopted more slowly. The possible assumptions include the innovation-decision process requires systemic length of process time depending on prior related knowledge of innovation and HI organisation decision of adoption or rejection; synergy between innovativeness of an individual unit and the adoption decision of the collective- individual unit in the organisation; and the innovation rate of adoption in an HI organisation system involves collective individuals (CFT leaders) decision to adopt organisation-level service innovation.

The fourth diffusion element involves "social system structure" (Rogers,2003) which involves three main types of innovation-decisions: (1) optional innovation-decision made by individuals (FLE and FLM) who have choices to adopt or reject an innovation (e.g. customisation accordance to individual customer preference); (2) collective innovation- decision made by CFT who has choices to adopt or reject an innovation by binding members of a system according to conventional organisation goal/vision, (3) authority of innovation decision made from top management, who has choices to adopt or reject an innovation that are made by relatively few individuals in a system who possess power, status, or technical expertise.

3. Research and methodology

In designing the research propositions for section 5.1 and 5.2, this research has selected and analysed descriptively a total of 38 high-quality academic journal articles from 1994 to 2017. These samples of academic journals have been selected explicitly by authors of this research from their university peer-reviewed research cluster (innovation in operation management) in accordance to a selected internationally recognised academic journal quality standard set by Australia Business Dean Council 2016 master journal list (ABDC, 2017). For reasons of credibility and manageability, the samples are limited to A*, A and B (top three tiers), which are regarded as highly reputable among business researchers.

The three groups of screening clues have been observed and the contents of the written research synthesised. Group 1 comprises of 32 academic journal articles cover a wide range of the KM infrastructure, includes “knowledge-based culture”, “knowledge-based structure”, “knowledge-based people”, “knowledge-based technology”. Group 2 consists of 3 academic journal articles related to “Service Innovation performance”, and group 3 also comprises of 3 academic journal articles pertaining “customer service experience quality”.

In this paper, the authors attempt to answer the following research questions (1) Does knowledge-based culture influence the service innovation? (2) Does knowledge-based structure influence service innovation? (3) Does knowledge-based people influence service innovation? (4) Does knowledge-based technology influence service innovation? (5) Does service innovation relate to service experience quality? Feasible assimilated explicit answers to the five mentioned research questions are discussed in the succeeding section of 4.0 synthesis of previous studies and 5.0 conceptual development and proposed theoretical framework.

4. Synthesis of previous studies

The three principle measures (variables) are synthesised in the following sub-sections. The first subsection relates to KM infrastructure is from Salem (2014), which includes organisation knowledge-based social perspective (culture, structure, human resource) and technical perspective (technology). The second subsection relates to SIP is from Hu et al (2009); while the subsequent subsection relates to EXQ is from Khan et al. (2015).

4.1 Knowledge management infrastructure

KM requires infrastructure to enhance its efficiencies. The term “KM infrastructure”, “knowledge assets”, and “knowledge enablers” are used interchangeably in the KM literature (Hassanien & Dale, 2013; Lee & Choi, 2003). KM has emerged over the last decade to become one of the most debated management concepts (Salem, 2014). However, in the hospitality industry, only small number of hotels has implemented KM system, although they are likely to benefit from KM due to chain requirement of an overall quality standard of their geographically dispersed hotel (Hallin & Marnburg, 2008). Based on the diffusion channel theory, this study assumes that effective internalisation of KM infrastructure helps explain why few HI organisations are more diversified, innovative, and agile than others.

4.1.1 Knowledge-based culture

An organisation’s culture consists of artifacts, values and underlying assumptions that the members of the organisation share an appropriate behaviour related to shared things (objects), shared saying (talk), shared doing (behaviour) and shared feelings (emotion) (Sathe, 1983). This research conceptualise organisation culture regarding value. Various studies provide evidence to suggest that cultural values influence employees to understand the importance of facilitating knowledge growth and the benefits of sharing knowledge (Alavi, Kayworth, & Leidner, 2006). Organisational innovative working culture can influence member creativity, behaviour and commitment, and increase organization ability to achieve valued innovative goals due to the clear understanding of organizational objectives by employees and their commitment to achieving such objectives (Chen, 2011). Collaboration capability culture is considered a prerequisite for individuals (e.g. FLE and FLM) to leverage the shared collective knowledge of focused customer market intelligence corresponding to the organisation operations procedures (Bouncken & Pyo, 2002).

In order to improve on innovativeness of hotel’s responsiveness to customer needs for novel and unique services, hotels managers need to instill an organizational knowledge sharing culture -- conducive to listening to their employees, value individual employee expertise by giving rewards and recognition for their performance and caring for their welfare (Asree, Zain & Rizal Razalli, 2010). The HI management must walk on two related cultural practices simultaneously: (1) getting people to see the inherent worth of what they are being asked to do; (2) communicating new beliefs and values and getting people to adopt it (Sathe, 1983).

4.1.2 Knowledge-based structure

Knowledge-based structural dimension is an organization formal organizational structure and incentive systems make up an organization overall KM structure (Gold et al, 2001). The objective of structuring and mapping knowledge is to enhance service innovation. Drach-Zahavy and Somech (2001) have affirmed that research on team innovation often depicts tension between the desire for heterogeneous teams structure and the desire for more homogeneous teams structure to facilitate implementation of innovation (Nieves & Quintana, 2016) . This

study indicates the importance of having a balance between organic and mechanistic organisational structure to facilitate the discovery of new knowledge. Within the Asian HI organisation context, it would seem that organic structures tend to have a negative effect on performance, while mechanistic structures have a positive effect on performance (Jogarathnam & Tse, 2006). Nonaka and Takeuchi (1995) have argued that "hypertext" (Japanese organisation structure) which fosters middle-up-down management enable an organisation to create new knowledge efficiently and innovate continuously leading to competitive advantage. A continuously innovative organisation is strategically flexible and able to make rapid modifications and changes in response to how well customer expectations are met.

To prevent occurrences of knowledge depreciation and to enrich organizational competitiveness (Yang, 2010), it is necessary to have a "mechanistic" organisation structure to acquire information and knowledge from both internal and external sources and to share this knowledge throughout an entire organization (Nonaka & Takeuchi, 1995). Knowledge depreciation usually occurs when: first, employees quit a job without transferring their knowledge; second, existing organizational knowledge is obsolete (company temporarily loses its competitiveness); third, new creative products and services are rendered sub-standard by old know-how or unprofitable products; fourth, knowledge is incompletely transferred (selective individual knowledge is shared or sharing practices are only for some individuals); and fifth, organizational knowledge is difficult to access (Argote, 1999).

4.1.3 Knowledge-based people

Strategic service innovation theory describes innovation as a stream of incremental innovations that emerge from the service organisation frontline human capital as a result of their customer encounters or initiated by the top management team (Rubalcaba, Michel, Sundbo, Brown & Reynoso, 2012). Service/product innovation development capabilities are imbedded in the organizational systems and processes (Wright, Dunford & Snell, 2001). If FLM and FLE are specialists on their part, they can exploit and execute core competencies of sustainable organisation's system, tools and processes to develop new services.

To increase the competitiveness of HI organisation innovation, hotel managers should focus more on training and develop employees to change the way they work to their fullest potential or relate to customers (the client interface) according to improved new service concept (Hertog, 2000) rather than externally recruiting and selecting talented individuals which is a much riskier strategy that can lead to short-lived innovation performance (Nieves & Quintana, 2016). If a HI Organisation is capable of stimulating and improving selected individual specialists (FLM and FLE) with imbedded core task knowledge and additional strategic and technical know-how knowledge, it will be better positioned to address changing customer market environment and to innovate in the areas where HI organisation decides to invest and compete. As FLM and FLE are transferred to other positions or leave the company, their knowledge should be consistently transformed into "intellectual assets" (organisation knowledge) (Yang, 2010) via sustainable KM system, tools and processes (Carneiro, 2001).

HI organisations should introduce workplace policies (e.g. structured incentive system) that are actively endorsed by employees if talented employee retention rates are to be increased (Deery & Jago, 2015). Authors of this research posit that as employee's needs vary from one organisation to another, each HI organisation must engage with their FLM and FLE to identify the policies that are likely to have the most traction.

4.1.4 Knowledge-based technology

The use of ICT applications can assist in creating, storing, transferring and using tacit and explicit organisation knowledge (Okumus, 2013). If the alignment between the company's overall business strategy and IT practices is right, IT networks strengthen links between strategic and operations management. The use of ICT makes innovation development relatively more comfortable and more cost-effective and the effects derived from the use of ICTs can be a source of improvement in operating efficiency and better customer service levels (Sahadev, & Islam, 2005).

ICT can transform business processes and facilitate creativity in making new products/ services that are not operational and economically feasible without the use of ICTs (Arvanities & Loukis, 2016). ICT is helping HI organisations to keep up with the trends of customers, to monitor the actions of competitors and obtain feedback from users quickly, thereby helping them to seize opportunities for all different types of innovation (Arvanities & Loukis, 2016). The literature shows significant theoretical and empirical evidence about the critical

role of ICTs in facilitating innovation in HI organisations (Arvanities & Loukis,2016) . However, only a small number of empirical studies have been conducted concerning the effect of ICT on innovation performance in HI organisation (Arvanitis, & Loukis, 2016). Orfila-Sintesa, Crespi -Cladera and Martinez-Ros (2005) have revealed that 1-and-2-star hotels have a lag of ICT introduction compared to the average 3-4-and-5 star hotels.

4.2 Service Innovation performance (SIP)

SIP has been recognised as a key performance measurement of an organisation’s competitive advantage. SIP has been a seminal work of Hu, et al (2009) who have defined SIP as the ability of a company to integrate the multi-level performance measurement of “employee service innovation behaviour from Scott and Bruce (1994) and “new service development ” from Matear, Gray and Garrett (2004). Hu, et al (2009) have created a SIP construct which provides a broader set of perspectives on the competitiveness of service innovations. This study posits that a successful hotel service innovation implementation is through a collective innovation-decision process from related CFT members where the individual FLE and individual FLM specialists have a say in the decision provide new service offerings that meet customer needs and to provide solutions to customer problems. The new services offered should align with internal organisation operations capabilities, values and clear organisation performance objectives.

4.3 Customer Service experience quality (EXQ)

The validated EXQ research was initially conducted in the United Kingdom by Klaus and Maklan (2012) when they examined retail banking, mortgage, fuel and service station and luxury goods. Khan, Garg, and Rahman (2015) have adopted EXQ -- product experience, outcome focus, a moment of truth, and peace of mind -- scale measurements from Klaus and Maklan (2012). Research of Khan et al. (2015) titled “EXQ in Hotel Operations -- an Empirical Analysis” -- was conducted in India. The EXQ measurements are product experience, outcome focus, moments of truth and peace of mind (Khan et al, 2015) .The key to providing superior service is learning to understand and respond to the customer changing expectations (Parasuraman, Berry & Zeithaml, 1991). To do so, Hoteliers and researchers need to understand customers and respond to their problems by learning their changing expectations of “experience” and with the learned knowledge, attempt to continuously improve the EXQ via creating new service concepts and new innovative service delivery system.

5. Conceptual development and proposed theoretical framework

This paper posits that all the team leaders (managers) from the related departments/divisions gather together to form a CFT for solving common operation management problem (s) to reach a mutual organisation goal/vision. CFT acts as a group of liaison knowledge engineers to the stakeholders (e.g., frontline employees and customers) who are involved in the two major progressive collaborative team/organisation social system learning interactions which are discussed in the succeeding sections of 5.1 and 5.2.

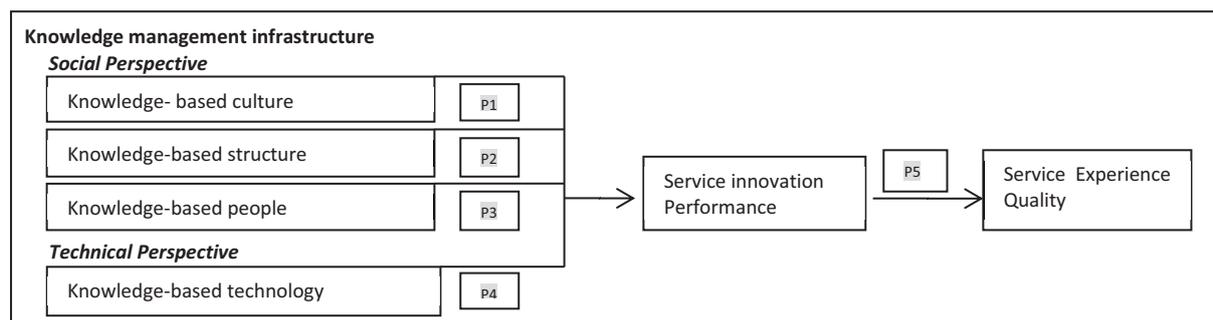


Figure 1: Theoretical framework developed for this study

5.1 Knowledge management infrastructure (KMI) and Service Innovation performance (SIP)

Management (e.g. CFT leaders) must ensure that innovation is woven into the organisational culture. According to Schein (1985), culture is ultimately about the control of behavior to achieve an organisation’s primary objectives. The higher the orientation of the firm towards a knowledge-centered culture, the higher the level of influence of knowledge exploration and exploitation on the results of innovation practices (Donate & Guadamillas, 2011). Employees in an organisation that practices culture values oriented towards openness and trust are more ready to share ideas and knowledge, which in turn implies they can be more innovative,

responding more easily and rapidly to changes and new market opportunities (Gold et al, 2001). From a practical perspective, the relationships among knowledge sharing enablers, processes, and firm innovation capability may provide a clue regarding how firms can promote knowledge sharing culture to sustain their innovation performance (Lin, 2007). Hence this study posits

P1: Knowledge-based culture positively influence service innovation performance

Organizational innovativeness is primarily influenced by structural determinants, especially size, functional differentiation (an internal division of labor), slack resources, and specialization (organization's "niche" in expertise and specialist resources) (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). This paper posits that CFT leaders should practice two distinct mechanisms -- network structure and network content -- associated with overall individual managerial performance and collective managerial innovation performance which have been used as a proxy for information and knowledge heterogeneity (Rodan & Galunic, 1998). Sparse social network structure provides managers (e.g CFT leaders) with higher status and prestige, lower constraint, and, more generally, higher political maneuverability. Network content of knowledge heterogeneity is referring to the variety of knowledge, know-how, and expertise to which a manager (e.g. CFT leader) has access to various networks (Rodan & Galunic, 1998). Bridging structural holes in the internal network and external network enable the actors (FLE and FLM) to access and share diverse knowledge with each other, resulting in higher creativity and innovation success, thereby improving the organisation's overall productivity (Zaheer & Bell, 2005). Organisation whose internal characteristics foster innovation will be better able to exploit fast access to knowledge of opportunities thereby develop new products/services responding to those opportunities (Cohen & Levinthal, 1990). Hence this study posits

P2: Knowledge-based structure positively influence service innovation performance

Managers (e.g. CFT leaders) should recognise that the skills of human resources and the motivation level make possible creative suggestions, different proposals, and research activities to build up innovations (Carneiro, 2001). There are three aspects -- selection methods, compensation strategies and career systems -- of HRM activity that are seen as particularly influential in shaping the flow of people and their impact on innovation development (Scarborough, 2003). To nurture a sustainable number of potential talented, diverse functional, innovative frontline specialists (e.g. FLE and FLM) in HI organisation, a structured incentive system to motivate and reward individuals or teams should be in place (Nieves & Quintana, 2016). They are also known as knowledge "gatekeepers" who are strongly connected to an external source of fine-grained information (tacit knowledge) and can gather and understand fine-grained external information (e.g., focused customers experience expectations), and then translate this fine-grained information into explicit knowledge or 'codified' knowledge that are meaningful and useful (Nonaka & Takeuchi, 1995). This explicit knowledge is shared among cross-functional diverse hospitality leaders and to be transformed into actual service innovation accordance with a common organisation goal/vision. Hence this study posits

P3: Knowledge-based people positively influence service innovation performance

Innovation in service firms often relies on the use and development of information and communication technologies (ICT) using it to launch new products or services as well as to improve or introduce new processes, which increase the level of competitiveness in the organisation (Ollo-López & Aramendía-Muneta, 2012). The ICT plays a pivotal role, both in generating opportunities and new service offerings, and in revolutionizing the ways -- to facilitate the management of relationships with customers through better and more accessible information exchange -- in which most of the "traditional" services are provided (Orfila-Sintes et al, 2005). Orfila-Sintesa et al. (2005) acknowledged that usually 3- 4-and-5 star hotels are well equipped with ICT in the innovation activities of tourist accommodation businesses: to reach the potential customers with information that helps them to get a deeper understanding of the service purchased; to reach the largest share of the demand; to obtain and process the information for a better business performance (Orfila-Sintesa et al, 2005). To ensure that ICT is well managed to support innovation, this study posits that CFT leaders should insist having consistent human capital training and education activities in ICT which are explicitly considered as one way to improve and upgrade the technological capabilities of HI organisation (Orfila-Sintesa et al, 2005). Hence this study posits

P4: Knowledge-based technology positively influence service innovation performance

5.2 Service Innovation performance (SIP) and Customer Service Experience Quality (EXQ)

The key element of service innovation is continuous improvement of EXQ, the cost of delivery of that customer experience or the ability to both anticipate and invent new ways of delighting customers in an economically sustainable manner (Verma, Anderson, Dixon, Enz, Thompson & Victorino, 2008). "Superior EXQ to competitors" is an example of the three categories of result measurement of service innovation proposed by Voss (1992). Experience is an effective tool for differentiation (Cetin & Dincer, 2014) and creating a sustainable competitive advantage is a new engine of economic growth for hotels (Rena, Qiu, Wang, & Lin, 2016). To be leaders in HI, it is important to have the support of specialists (individuals and collective individuals) to continuously "explore new innovative activities in making the organisation's system, tools and processes effective" (Du Plessis, 2007) in servicing these changing expectations of focused customers. As the customer expectations (potential service gaps) are evolving, related CFT leaders should have "continuous yearly analysis of customers reviews" (Choo & Tan, 2017a) via various identified mediums (e.g. social media, hotel survey questionnaire and customer relationship interactions), shortcomings should be rectified by introducing new service system design with new innovative solutions/ EXQ. SIP and EXQ do matter when guests are selecting a hotel, with the type of lodging having the most tremendous impact on a customer's hotel choice. Den Hertog, Van der Aa and De Jong (2010) have found the creation of new service experiences and service solutions are the ultimate goal of service innovation. Su (2011) has acknowledged that service innovation has significant effect upon customer experience. Hence this study posits

P5: Service innovation performance positively influence service experience quality

6. Future research

The propositions of this study have not been empirically tested quantitatively in a Malaysia HI organisation setting. It will be interesting for future research to include absorptive capacity introduced by Cohen and Levinthal (1990) as an intermediate construct between KM infrastructure and service innovation performance in the context of Malaysian Hotels. Thomas and Wood (2015) have suggested to adapt absorptive capacity process within tourism organisations (e.g. hotels) in future studies. They have acknowledged that limited past empirical studies were utilising absorptive capacity in tourism organisations (e.g. hotels) for competitive advantage despite the extensive "mainstream" (notable manufacturing) literature (Thomas & Wood, 2015). Absorptive capacity is largely underdeveloped in HI knowledge management (Choo & Tan, 2017b).

7. Conclusion

The effective execution of KM infrastructure is to engage service innovation as a tool for strategic economic growth. The tool creates a resilient HI organisation that can turn challenges of vulnerability -- identify and address related problems influencing poor EXQ (Choo & Tan, 2017a) -- into a competitive advantage.

Collective individuals (CFT leaders in room division) should understand targeted market segment of hotel guests' preferences, the "SIP" issue/challenge is prioritizing those preferences (external knowledge) that are beneficial (reduce costs) to the internal hotel operations (internal knowledge) and at the same time, having a positive impact on customer's choices. To stay resilient, the challenge of every HI organisation is to differentiate themselves on the basis of delivering their customised new service offerings (service innovation) that meet the inimitable value of "EXQ" without incurring greater costs.

Existing customer knowledge storage and hotel functional best practices embedded in the HI organisation knowledge infrastructure can become outdated /obsolete quickly. To create a resilient HI organisation, this study attempts to make contribution by fostering endless cycle of replenishing the outdated/obsolete knowledge -- through exploring and exploiting KM infrastructure and SIP -- as a creative potential for on-going capability of new service offerings which can meet increasing higher demand of EXQ. Hopefully, this study could help to create an innovative opportunity for managers/hotel industry players/ future researchers to consistently explore new method(s) to improve their new service offerings, avoid similar service failures, and reduce costs in hospitality firms. With the support of organisation KM infrastructure resources, the proposed new method is to design a "service blueprint" according to the EXQ of the targeted segment of customers. "Do it right the first time" service design concept should be incorporated in the service blueprint when delivering new service offerings. The ultimate objective is to attract more tourists and increase occupancy of hotels in Malaysia.

References

- ABDC (2017). Australia Business Dean Council 2016 master journal list [Online], Download master journal list [viewed 20 May 2017]. Available from <http://www.abdc.edu.au/master-journal-list.php>
- Argote, L. (1999). *Organizational Learning: Creating, Retaining and Transferring Knowledge*, Kluwer Academic Publishers, Boston.
- Arvanities, S., and Loukis, E.N. (2016). Investigating the effects of ICT on innovation and performance of European hospitals: an exploratory study, *European Journal of Health Economics*, Vol. 10, pp. 1-35.
- Alavi, M., Kayworth, T., and Leidner, D. (2006). An empirical examination of the influence of organisational culture on knowledge management practices, *Journal of Management Information System*, Vol. 22, No.3, pp. 191-224.
- Bouncken, R.B., and Pyo, S. (2002). Achieving Competitiveness Through Knowledge Management, *Journal of Quality Assurance in Hospitality & Tourism*, Vol. 3, No.3-4, pp. 1-4.
- Carneiro, A. (2001). The role of intelligent resources in knowledge management, *Journal of Knowledge Management*, Vol.5, No. 4, pp. 358 – 367.
- Cetin, G., and Dincer, F. I. (2014). Influence of customer experience on loyalty and word-of-mouth in hospitality operations, *Anatolia: An International Journal of Tourism and Hospitality Research*, Vol. 25, No.2, pp. 181-194.
- Chen, W.J. (2011). Innovation in hotel services: Culture and personality, *International Journal of Hospitality Management*, Vol.30, pp. 64-72.
- Choo, P.W., and Tan, C.L. (2017a). Factors Influencing Poor Experience Quality in 2-To- 5-Star Hotels: A Content Analysis of Guest Reviews on Trip Advisor, *Global Business and Management Research: An International Journal*, Vol. 9, No. 4s, pp. 409-425.
- Choo, P.W., and Tan, C.L. (2017b). The Effect of Absorptive Capacity on Team-level Innovativeness: Knowledge Sharing as Catalyst, *Proceedings of the 14th International Conference on Intellectual Capital, Knowledge Management & Organisation Learning*, The Hong Kong Polytechnic University China, 7-8 December 2017, Academic Conferences and Publishing International Limited, pp.55-62.
- Cohen, W.M., and Levinthal, D.A. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation, *ministrative Science Quarterly*, Vol.35, No.1, pp. 128-152.
- Curado, C., Oliveira, M., Macada, A.C.G., and Nodari, F. (2015). Teams' innovation: getting there through knowledge sharing and absorptive capacity, *Knowledge Management Research & Practice*, pp. 1-9.
- Deery, M., and Jago, L. (2015). Revisiting talent management, work-life balance and retention strategies, *International Journal of Contemporary Hospitality Management*, Vol. 27, No. 3, pp. 453-472.
- Den Hertog, P., Van Der Aa, W., and De Jong, W. (2010). Capabilities for managing service innovation: towards a conceptual framework, *Journal of Service Management*, Vol. 21. No.4, pp. 490-514.
- Donate, M.J., and Guadamillas, F. (2011). Organizational factors to support knowledge management and innovation, *Journal of Knowledge Management*, Vol. 15, No. 6, pp. 890-914.
- Du Plessis, M. (2007). The role of knowledge management in innovation, *Journal of Knowledge management*, Vol. 11, No. 4, pp. 20-29.
- Drach-Zahavy, A., and Somech, A. (2001). Understanding Team Innovation: The Role of Team Processes and Structures, *Group Dynamics: Theory, Research, and Practice*, Vol. 5, No. 2, pp.111-123.
- Gold, A.H., Malhotra, A., and Segars, A.H. (2001). Knowledge management: An Organizational Capabilities Perspective, *Journal of Management Information System*, Vol.18, No.10, pp. 185-214.
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., and Kyriakidou, O. (2004). Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations, *The Milbank Quarterly*, Vol. 82, No. 4, pp. 581–629.
- Hallin, C.A., and Marnburg, E. (2008). Knowledge management in the hospitality industry: a review of empirical research, *Tourism Management*, Vol.29, No.2, pp. 366-381.
- Hertog, P.D. (2000). Knowledge-intensive business services as co-producers of innovation, *International Journal of Innovation Management*, Vol. 4, No. 4, pp. 491–528
- Hu, M.L.M., Horng, J.S., and Sun, Y.H.C. (2009) Hospitality teams: Knowledge sharing and service innovation performance, *Tourism Management*, Vol.30, pp. 41-50.
- Jogaratanam, G., and Tse, E.C.Y. (2006). Entrepreneurial orientation and the structuring of organizations Performance evidence from the Asian hotel industry, *International Journal of Contemporary Hospitality Management*, Vol. 18, No. 6, pp. 454-468.
- Khan, I., Garg, R.J., and Rahman, Z. (2015). Customer service experience in hotel operations: an empirical analysis, *Procedia- Social and Behavioural Sciences*, Vol. 189, pp. 266 – 274.
- Klaus, P.P., and Maklan, S. (2012). EXQ: multiple-item scale for assessing service experience, *Journal of Service Management*, Vol.23, No.1, pp. 5-33.
- Lin, H.F. (2007). Knowledge sharing and firm innovation capability: an empirical study, *International Journal of Manpower*, Vol. 28 No. 3/4, pp. 315-332
- Lee, H., and Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: an integrative view and empirical examination. *Journal of Management Information System*, 20, pp. 179–228.
- López-Nicolás, C., and Merono-Cerdán, A.L. (2011). Strategic knowledge management, innovation and Performance, *International Journal of Information Management*, Vol. 31. No. 6, pp. 502-509.

- Matear, S., Gray, B.J., and Garrett, T. (2004). Market orientation, brand investment, new service development, market position and performance for service organisation, *International Journal of Service Industry Management*, Vol.15, No.3, pp. 284-301.
- Mohamed, S.M., Stankosky, M., and Murray, A. (2004). Applying knowledge management principles to enhance cross-functional team performance, *Journal of Knowledge Management*, Vol. 8, No.3, pp. 127-142.
- Nieves, J., and Quintana, A. (2016). Human resource practices and innovation in the hotel industry: The mediating role of human capital, *Tourism and Hospitality Research*, pp. 1–12.
- Nonaka, I., and Takeuchi, H. (1995). *The Knowledge-Creating company*, Oxford University Press, New York.
- Okumus, F. (2013). Facilitating knowledge management through information technology in hospitality Organizations, *Journal of Hospitality and Tourism Technology*, Vol. 4 No. 1, pp. 64-80.
- Ollo-López, A., and Aramendía-Muneta, M.E. (2012). ICT impact on competitiveness, innovation and environment, *Telematics and Informatics*, Vol.29, pp. 204–210.
- Orfila-Sintesa, F., Crespi-Cladera, R., and Martinez-Ros, E. (2005). Innovation activity in the hotel industry: Evidence from Balearic Islands, *Tourism Management*, Vol. 26, pp.851–865.
- Parasuraman, A., Berry, L. L., and Zeithaml, V. A. (1991). Understanding customer expectations of service, *Sloan Management Review*, Vol.32, No.3, pp. 39-49.
- Rena, L. P., Qiu, H. Q., Wang, P. L., and Lin, P. M. C. (2016). Exploring customer experience with budget hotels: Dimensionality and satisfaction, *International Journal of Hospitality Management*, 52, pp. 13–23.
- Rodan, S., and Galunic, C. (1998). More than network structure: how knowledge heterogeneity influences managerial performance and innovativeness, *Strategic Management Journal*, Vol. 25, pp. 541–562.
- Rogers, E.M. (2003). *Diffusion of innovations* (5thed.) Free Press, New York.
- Rubalcaba, L., Michel, S., Sundbo, J., Brown, S.W., and Reynoso, J. (2012). Shaping, organizing, and rethinking service innovation: a multidimensional framework, *Journal of Service Management*, Vol.23, No.5, pp. 696-715.
- Salem, I.E.B. (2014). Toward better understanding of knowledge management: correlation to hotel performance and innovation in five-star chain hotels in Egypt, *Tourism and Hospitality Research*, Vol.14, No.4, pp. 176 – 196.
- Sathe, V. (1983). Implications of Corporate Culture: A Manager's Guide to Action, *Organizational Dynamics*, Vol.12, No.2, pp.5-23.
- Scott, S.G., and Bruce, R.A. (1994). Determinants of Innovative Behavior: A Path Model of Individual Innovation in the Workplace, *The Academy of Management Journal*, Vol.37, No.3, pp. 580-607.
- Su, C.S. (2011). The role of service innovation and customer experience in ethnic restaurants, *The Service Industries Journal*, Vol.31, No.3, pp. 425-440.
- Sahadev, S., and Islam, N. (2005). Why hotels adopt ICTs: a study on the ICT adoption propensity of hotels in Thailand", *International Journal of Contemporary Hospitality Management*, Vol. 17, No.5, pp. 391- 401.
- Scarborough, H. (2003). Knowledge management, HRM and the innovation process, *International Journal of Manpower*, Vol.24, No.5, pp. 501-516.
- Thomas, R., and Wood, E. (2015). The absorptive capacity of tourism organisations, *Annals of Tourism Research*, Vol. 54, pp. 84-99.
- Tourism Malaysia (2017). Malaysia's 2016 Tourist Arrival Grow 4.0% [viewed 21 Oct 2017]. Available from <http://www.tourism.gov.my/media/view/malaysia-s-2016-tourist-arrivals-grow-4-0>
- Verma, R., Anderson, C., Dixon, M., Enz, C., Thompson, G., and Victorino, L. (2008). Key elements in service innovation: Insights of the hospitality industry, *Cornell Hospitality Roundtable Proceedings No.1*, pp.6-12.
- Voss, C.A. (1992). Measurement of Innovation and Design Performance in Service, *Design Management Journal*, Vol.3, No.1, pp. 40-46.
- Wright, P.M., Dunford, B.B., and Snell, S.A. (2001). Human resources and the resource based view of the firm, *Journal of Management*, Vol. 27, pp. 701–721.
- Yang, J.T. (2010). Antecedents and consequences of knowledge sharing in international tourist hotels, *International Journal of Hospitality Management*, Vol. 29, pp. 42-52.
- Zaheer, A., and Bell, G.G. (2005). Benefiting from network position: firm capabilities, structural holes and performance, *Strategic Management Journal*, Vol. 26, pp. 809 – 825.

The Role of the Supply Chain as Decision-Factor for Online Cross-Border Trade-Expansion

Marja Exalto-Sijbrands, Guido Ongena, Pascal Ravesteijn and Benny de Waal
University of Applied Sciences Utrecht, The Netherlands

marja.exalto-sijbrands@hu.nl

guido.ongena@hu.nl

pascal.ravesteijn@hu.nl

benny.dewaal@hu.nl

Abstract: Web-shop entrepreneurs generally overlook success factors during the expansion process of applying cross-border trade, resulting in failure or even high financial losses. The solution to this issue may be a decision supporting model, that supports SME web-shop entrepreneurs in their cross border decision-making. Thuiswinkel.org, the industry organisation for web-shops in The Netherlands, actively supports the cross-border information requirements of these entrepreneurs by supporting knowledge on the marketing factors that influence the cross-border decision. This research focusses on identifying a decision supporting model answering the question: How does the supply chain as factor relate to other decisive factors used by web-shop entrepreneurs in their cross-border trade-expansion decision? The model has been developed through three research steps: semi-structured interviews to find the first indication for decision factors, literature research to develop contours of a decision supporting model, and an online survey to test the initial model found. To determine a weight to the factors, the KANO-model is used from a customer satisfaction viewpoint. The conceptual model shows that 'supply chain partner(s)', is a necessary basic factor to consider during the cross-border trade-expansion decision. However, customer satisfaction as operational logistics service determines the success of the cross-border trade-expansion.

Keywords: web-shop, cross-border, success factors, decisive factors, decision model, KANO-model

1. Introduction

The online sales channel experiences enormous growth rates in comparison with 5 to 10 years ago (MarketLine, 2015). In the Netherlands, the active number of registered web-shops had risen to 30.000 in 2015 (Olsem, 2015), and realized a 17% revenue growth during that same year in comparison with 2014 (CBS, 2016). This increase has particularly been triggered by the simplification of e-commerce platforms, ease and trust of payment methods and the improved logistics.

However, the online retail industry is also very competitive. Within two years after their start, 44% of the web-shops go bankrupt (Ecommerce News, 2014). In order to ensure continuity, web-shops must realize annual growth. Trade-expansion to foreign markets through cross-border market development could be an important step for management to ensure the desired growth and continuity. Therefore the urgency of successful cross-border expansion is high and favourable due to the future expectation of cross-border trade prospects representing an expected value of \$1 trillion in 2020 (Retailwatching, 2016).

For the coming years according to e-commerce expert Tomkins (2016) web-shops experience difficulties with cross-border trade-expansion. Web-shop management is confronted with surprising issues due to missing knowledge at the decision phase about expanding through cross-border-trade. The industry acknowledges unexpected setbacks and asked for a decision model based on success factors (Thuiswinkel.org, 2015). This provides the web-shop management necessary insights in elements of importance, when considering cross-border trade-expansion, such as: foreign language, logistics, and payment options. Although seemingly comparable to decision factors of offline cross-border trade-expansion decisions, Gomez-Herrera, Martens, and Turlea (2014) see an important difference between on- and offline trade-expansion. They compared both trade patterns for similar goods in a study to explain online cross-border trade-flows. Within the multilingual region of the EU they suspect that online payments facilities and cost-efficiency of parcel delivery-systems form important factors. Cosgun & Dogerlioglu (2012) present the first decision model showing independent and dependent variables affecting the success of e-commerce, including: technological, organizational, environment, and e-commerce factors. Follow-up research by Choshin & Ghaffari (2016) results in a model showing four categories of success factors being: customer satisfaction, awareness & knowledge, costs, and infrastructure. Both models are difficult in use and their applicability for decision-making is limited as these were not constructed for cross-border trade-expansion.

For webshop management this paper aims to contribute to the body of literature in understanding the logic behind cross-border trade-expansion decision. Prior models lack the inclusion of the logistics factor. Hence, this factor is the focal point of this study. It is juxtaposed to other factors to find its values for web-shops during the cross-border trade-expansion decision process. Therefore, the research question studied is:

How does the supply chain as factor relate to other decisive factors used by web-shop entrepreneurs in their cross-border trade-expansion decision?

The next chapter of this paper presents the research method, after which an initial cross-border trade-expansion model is drawn based on theory and interviews (chapter 3). This initial model is then validated via a survey (chapter 4) and analysed to weigh the factors from a customer satisfaction viewpoint (chapter 5). The paper closes with conclusions and discussion (chapter 6), and last with limitations (chapter 7).

2. Research method

For this research the initial Web-shop cross-border trade-expansion decision-model is determined within three steps. Step one a literature review and step two the practitioner interviews were parallel processes. Based on this the initial model was created, that was validated via a survey in step three. Next, to understand the effect of the supply chain on the trade-expansion decision, the factors found needed weighing. This is performed by utilizing the KANO-model as is presented in the last paragraph of this chapter.

2.1 Literature research approach

The descriptive research is an extension of the initial literature research. Full-text articles were searched in a combination of 28 databases, including Academic Search Premier, Business Source Elite, Cochrane Database of Systematic Reviews, Communication & Mass Media Complete, Directory of Open Access Journals, EBSCOhost, ScienceDirect, and Web of Science. Topic-related keywords as 'web-shops, cross-border, success factors, model, and e-commerce' were used. Although online sales started over 20 years ago, with the latest developments the selection of articles published, was limited to the most recent 10 years, presenting the booming online initiatives. The selection of scientific work was judged based on the provided summary, and when applicable was studied in detail. Additional to academic literature, practitioner literature was utilized and books about logistics and marketing were consulted. Practical sources were consulted, such as the website of 'Thuiswinkel.org' (the e-commerce industry association of the Netherlands). With a variety of expert-groups 'Thuiswinkel.org' supports developments for their web-shop members. The cross-border expert-group (hence expert-group) practitioners and project manager delivered the first input, resulting in an invalidated model with general valid factors for cross-border trade-expansion from mainly a marketing and sales viewpoint. All gathered information (literature and practical) was used to firstly confirm the initial theoretical model and secondly to theoretically and practically motivate the factors selected.

2.2 Practitioner Interviews approach

To identify cross-border trade issues, three interviews were conducted. To refrain from influencing the outcome, the interviews were semi-structured, without providing specific direction. The questions for these interviews were derived from an open unstructured interview with the project manager of the expert-group. Examples of questions derived are: *How did you prepare before applying cross-border expansion? What did you change during cross-border expansion? What would you do differently adding a new country?* Prior to the interviews, these questions were validated within the research team, existing of three students and four fellow researchers.

The three participating web-shops were selected based on the criteria: 'cross-border trade' and 'based in the Netherlands'. The interviews were conducted with employees who were involved and/or aware of the cross-border decision-process. The face-to-face interviews were recorded and fully transcribed (Patton, 2002). Based on the controlled setting, reliability was considered sufficient. Categorization for data analyses required research domains, which were formulated based on gained insights from the interviews, and additionally from the first two models found in literature.

2.3 Online survey approach

An online survey, which was sent to 87 random selected cross-border web-shops validated the initial model. The web-shops were selected based on: 'located in the Netherlands', 'holding the Thuiswinkel.org logo' and

‘presenting cross-border trade’. A reminder to complete the online survey was send after three days, resulting in 27 usefully completed surveys (30% response rate).

2.4 KANO-model approach

Kano (1984) classified three categories of ‘factors with effect on customer satisfaction’, being: ‘Basic factors’ (Must-be’s) with an indirect effect on decision-making; ‘Performance factors’ with direct effect and the ‘Wow factors’, which are not necessarily needed, and are only seen as extra service to the customer (attractive quality) (Kano, Seraku, Takahashi, & Tsuji, 1984). To give weight to the factors found at the initial cross-border decision-model, the KANO-model (named after Noriaki Kano) was adopted. The KANO-model originally focusses on decision-making at production processes. Due to the importance of customer satisfaction for web-shops, the KANO-model was transformed for cross-border trade-expansion decision-making, using the same classification.

3. Developing a decision support model for online cross-border trade-expansion

Based on the insights gained from theory and practitioner interviews an initial model was developed which can be summarized as follows by Figure 1:

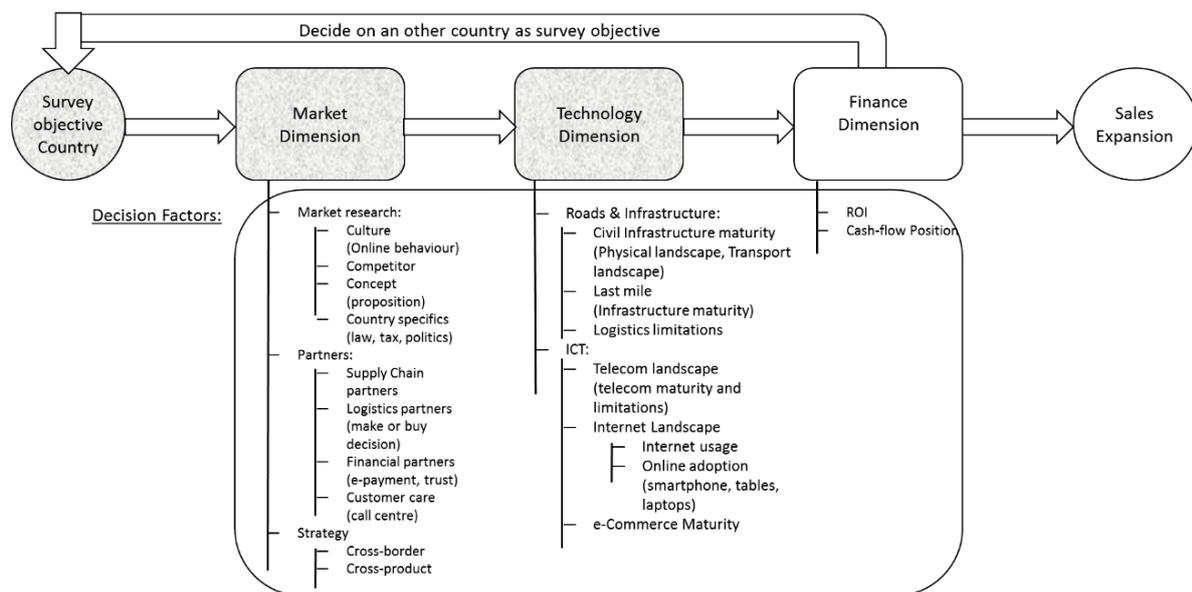


Figure 1: Initial decision-making model for web-shop cross-border trade-expansion

A web-shop normally firstly chooses a country as object to study its potential product offering. This object-country is then the focus for the next steps, performing a market entry research, determining the technical maturity and finally calculating the financial aspects. Due to the fact, that the financial dimension is a common part of the trade-expansion, this study only covers the dimensions ‘market’ and ‘technology’, and their related factors.

3.1 The market dimension

The market dimension exists of the following factors: ‘Market research’, consisting of *Culture*, *Competitors*, *Concept*, *Country specifics*, and the factors ‘Partners’ representing all services in *logistics* and ‘Strategy’s design’ representing long term management goals.

Individual shopping behaviour at web-shops is influenced by *Culture*. As revealed by the conducted interviews, organizations who trade products with foreign countries (cross-border) encounter conflicting cultural backgrounds. This causes organizations to make wrong judgements in how products are being consumed, supplied and traded in the foreign country. Important elements of culture are: language, religion, behaviour, hierarchical relationships and trade ethics (Leeman, 2015a). Scientific research shows that integration of local language into the website and customer service results in higher levels of success (Gibbs, Kraemer, & Dedrick, 2003). Equal important are: transparency in costs, local payment solutions, and ‘convincingly coming across’ as reliable web-shop (Nöthlich, van Lent, & Brand, 2016). Other cultural elements of importance are: consumer habits, web-shop quality marks, and customer care (Welink, 2015). In addition to those Zhu (2016) finds four

different consumer groups preferring a different type of online experience: the individual's online behaviour is 'deal focused' versus 'relationship focused', and prefers 'formal' versus 'informal' conflict handling.

Having insights into *Competition* is also of importance. Based on the competition, management determines whether a country is attractive for expansion. The more dynamic the market, the less attractive it is to keep persuading international expansion. Additionally, differentiation can be realized by taking into account the 4P's (Product, Price, Promotion and Place). This could be critical for successfully positioning the Web-shop' strategy.

Where small and medium sized enterprises (SME) web-shops fear large players, next to active multinationals in a certain market, a more powerful differentiation offers options at niche-level (Leeman, 2015b). Kotler states that large organizations with dominant positions can apply strategies, that cannot be applied by SME. However, SME in niche markets can achieve higher margins in comparison with large players (Kotler, Armstrong, Harris & Piercy, 2013a). This positive relationship between competition and performance was also found by scientific research within an e-commerce surrounding (Cosgun & Dogerlioglu, 2012).

Literature stipulates the elements '*country specifics*', which are: legislation, taxes, and political landscape. These three elements all influence the attractiveness of a market. The political landscape with legislation, governmental institutions, and interest groups influence organisations (and individuals) within a society (Kotler, Armstrong, Harris, & Piercy, 2013b). The element taxes is for instance within the EU still handled at country level with different product categories and tax values per country. The integration of these tax rates forms a bottleneck for web-shops and makes knowledge necessary (Nöthlichs, van Lent, & Brand, 2016). Other 'country specific' elements are: product safety, truth in advertising, consumer privacy, product packaging, labels, and pricing. Furthermore, the products that are being sold by the web-shop must meet the right country specific (regulation) criteria, such as product standards, liability, and commercial transaction procedures (Kotler, Armstrong, Harris, & Piercy, 2013b). The downside of politics regarding e-commerce is the local legislation, that shapes the e-commerce surroundings. Some countries fall behind in online protection and privacy, resulting in a lack of trust with consumers and with low protection, online trade will not be preferred (Gibbs, Kraemer, & Dedrick, 2003).

When management has gained insight into the above-mentioned factors, the strategy's design (existing of culture, competition, and country specifics) requires to influence consumer's online behaviour. The insight forms valuable information for web-shop management to value the proposition. Having one global *Concept* (one international web-page) is the easiest solution, however not the most effective one. Having your concept 'as local as possible' causes better conversion rates. Elements as language, payment, online help, advertisement, mobile, etc. are part of the local approach (Shen, 2015). In this sense 'strategy design' and 'web-shop concept' are seen as similar.

Each web-shop product follows a supply chain from raw material to end-user not necessarily owned by one organisation (Hoekstra, 1993). The web-shop, its suppliers and partners form together the supply chain (Visser, 2011). Supply chain management tries to connect and integrate the required organizations within one supply chain. The options for sharing value across the organizations are via pie-sharing (maximizing profit across the supply chain), and pie-growing (total collaboration of the supply chain links to extend profit). The extra generated profit will be equally shared among the supply chain partners (Visser, 2011). The supply chain opportunity for collaboration means, that multiple parties combine competencies and resources to jointly achieve a higher revenue or market level. This can be realized via a vertical (players within one supply chain) or horizontal (players from different supply chains) collaboration (Wilbers, 2015). This makes having insight in network partners to collaborate with, important. The success factor '*supply chain partner*' is the overarching factor including different logistic partners. According to Köster, Matt, and Hess (2015) a partnership with a well-known payment provider is beneficial for web-shops' sales levels, due to the existing reliable image of that financial partner. This increases the reliability factor of the web-shop, and therefore complements its commercial potential.

Logistics and transport can be performed in-house by the web-shop itself, or can be outsourced to specialized partners. SME Web-shops mostly outsource their logistics, once going cross-border. The logistics partner has experience and takes full responsibility for the order distribution. In both cases (in-house or outsourced logistics) it is important to take the civil infrastructure of the respected foreign country into account, from a responsibility viewpoint (Visser, 2011). The search for finding the most suitable carrier can be realized through a selection

procedure. However, factors as civil infrastructure and 'return of goods expenses' should be taken into account upfront, as this could turn the desired foreign expansion into a showstopper (Wilbers, 2015). Lastly, when a web-shop sells its own branded products, the production plant location may also need to be taken into account, when selecting a logistics partner (Wilbers, 2015).

3.2 Technology dimension

To analyse the e-Commerce Landscape maturity of a specific country, the essential variables, that need to be considered are: Technical Digital Infrastructure; e-Commerce Maturity; and Demographic Digital Adoption.

The Technical Digital Infrastructure (TDI) can be described as the foundation on which e-commerce is built. The TDI exists of internet connectivity, and housing & hosting. Internet connectivity represents the core internet and local connection to the world-wide-web. Whilst housing & hosting refers to the locations of required hardware (where the web-shop server is hosted). Peters (2014) shows, that the internet economy itself enables more jobs and higher economic growth. This means that the TDI has a responsible role for the e-commerce landscape.

'e-Commerce Maturity' (eCM) represents the knowledge level of the e-commerce sector in a specific country. The conducted interviews show a relationship of eCM with technique maturity. Thus, when a country has a high eCM-level, it also has a high technical maturity level. Due to the popularity of e-commerce, developments occur at a rapid pace. However, country specific factors such as legislation can stimulate or counteract the pace of development. The same counts for conflicting tax rates and liabilities within Europe that can counteract the pace of technical developments in general and therefore can reduce a country's technical maturity level (Meulen, 2013).

The importance of Demographic Digital Adoption (DDA) lies in predicting future e-commerce developments. Prensky (2001) explains, that digital adoptions differ between 'Digital Natives'¹ and 'Digital Immigrants'. The theory developed, states that due to the rapid developments, the technical surrounding completely changes every generation. Persons born in and after 1980 are labelled as 'digital natives', and are part of the digital revolution being raised with the new digital technology, unlike the 'digital immigrants', who were born before 1980. The consequence of this development is, that the latter use technology differently than the digital natives, despite the fact, that digital immigrants improved their technology skill over the decades. Two criteria were used for identifying digital natives: the population of a country between the age of 15 and 24 years, and the online activity of the population over the past 5 years. Based on these criteria (Best & Sanou, 2013), countries with a large digital immigrants population may be considered less attractive markets, then those with a large percentage of digital natives. The relevance of the number digital natives in a specific country can be referred to as Online Adoption. According to Best and Sanou (2013) the future depends on digital natives and technology. The countries with the largest percentages of online active young people, will define the technology of tomorrow. The International Telecommunication Union states, that the worldwide digital native population will double in size in 2017 and therefore the online adoption will extend (Traxler, 2017).

The consumer and shopping behaviour analyst Hughes, predicts that the digital natives will have a major impact on the current e-commerce landscape due to the concept 'hyper connectivity' (everyone always online). Within this group interest will increase in the 'sharing economy' where ownership of goods will be replaced by sharing experiences (Hughes, 2015). Companies as Airbnb and Snappcar are leading organizations in this matter.

4. Survey results

The initial model and factors presented above were validated via an online survey (questionnaire) of which the results are presented by Table 1. For the measure 'Decisiveness' the survey used the Likert 5 scale (Likert, 1932). Score 1 represented 'Not Decisive', and score 5 presented 'Highly Decisive'. The analyses were made on the split between 'Decisive' (scores 4 and 5), and 'Not Decisive' (score 1 through 3). This split was made, due to the fact that the scores 1 through 3 all represented 'Not agreeing with being decisive'. Therefore only scores 4 and 5 are of value to find decisive factors. Based on these scores Table 1 shows, that all factors except Financial partners (44,4%) and Customer Care (33,3%) are of 'certain significance' for a cross-border web-shop trade-expansion decision. The participating web-shops scored *Customer Care* as lowest decisive factor during the decision-making process. Only factors with a result higher than 60% on 'Decisive' (score 4 plus 5) were adopted as 'of significance' and analysed in detail.

Table 1: Results of 27 fully answered online surveys

Decision Factors	% Not Decisive			% Decisive			
	1	2	3	1 - 3	4	5	4 - 5
Culture	0,0%	3,7%	18,5%	22,2%	59,30%	18,50%	77,8%
Competition	0,0%	29,6%	18,5%	48,1%	44,40%	7,40%	51,8%
Country Specifics	0,0%	3,7%	33,3%	37,0%	40,70%	22,20%	62,9%
Concept	0,0%	11,1%	37,0%	48,1%	48,10%	3,70%	51,8%
Supply Chain (Logistics) partners	7,4%	7,4%	18,5%	33,3%	59,30%	7,40%	66,7%
Financial partners	25,9%	7,4%	22,2%	55,5%	25,90%	18,50%	44,4%
Maturity e-commerce landscape	0,0%	33,3%	14,8%	48,1%	37,00%	14,80%	51,8%
Online adoption	0,0%	22,2%	11,1%	33,3%	22,20%	44,40%	66,6%
Customer care	0,0%	7,4%	59,3%	66,7%	29,60%	3,70%	33,3%

Culture (77,8% as total on Decisive) can be stated as a decisive factor during the cross-border web-shop trade-expansion decision. Culture influences the way how individuals behave concerning online navigation, online payment, online presence, etcetera. Seen from the foreign customer’s viewpoint, the ‘cultural needs’ have to be integrated into the web-shop, in order to achieve high customer satisfaction levels. Missing this integration is interpreted as ‘a lack of optimization’ and results in a lower satisfaction level of the foreign customer. Therefore, the success factor ‘Culture’ is seen as a decisive factor of significance.

Likewise, the following factors are seen as important decisive factors: *Country specifics* (with a decisive total of 62,9%) on how a country handles taxes and law around connectivity and bandwidths; *Supply Chain partners* (with a decisive total of 66,7%) that determine the operational order fulfilment success; *Online adoption* (with a decisive total of 66,6%) that presents the ability of the nation to shop online. Based on the survey results, Table 2 shows the Decisive and Not Decisive factors and their level.

Table 2: Factors and their level as decisive factor according the survey outcome

Not Decisive	score	Decisive	score
Financial partners	55,5%	Culture	77,8%
Competition	48,1%	Supply Chain (logistics) partners	66,7%
Concept	48,1%	Online Adoption	66,6%
Maturity e-Commerce landscape	48,1%	Country Specifics	62,9%

5. Analysing the factors found with KANO

The factors seen as decisive by the respondents of the survey, are analysed towards their importance for customer satisfaction. The KANO-model determines whether a factor is directly or indirectly decisive for success. It is therefore KANO is used in the analyses of the factors presented above starting with the decisive factors.

One of the most important aspects of *Culture* is ‘payment behaviour’ which is directly linked to customer satisfaction: offering the right payment method fitting the payment behaviour of the country. Therefore, the decisive factor Culture is seen by KANO as performance factor.

Supply chain and logistics partner(s) are a decisive factor for the success of a cross-border web-shop. As a decisive factor the partners are necessary to execute daily operations. The partners themselves do not help a web-shop in realizing a higher customer satisfaction. Their support in daily operations is at detail level where differentiation can only be achieved through extensive collaboration. Web-shop management do not see partners as a strong differentiator and especially SME web-shops depend on ‘regular’ logistics services. Therefore, these partners are seen as a basic factor for success within the KANO-model.

The level of *Online adoption*, or presence of digital natives, must meet a certain level for a useful expansion and can also be a showstopper. Therefore, Online Adoption must represent a certain level. It however, does not directly contribute to a satisfaction level of the customers, which makes it a basic factor according the KANO-model. Also the *Country specifics*, which are necessary for web-shop operations and to legally trade goods or services are not the differentiators for improving the overall customer satisfaction level. This makes *Country specifics* also a basic factor.

Having a *Financial partner* enables a web-shop to securely execute its daily operations. The payment method itself is not a differentiator, which would make this a basic factor. However, research has shown, that well-known financial partners complement the web-shop image. Besides this, working with certain payment methods is also linked to the *Culture* factor. Therefore, according to the KANO-model *Financial partner* belongs to the performance factors.

Competition does not directly influence customers' satisfaction. Investigating competition will support product differentiation, when entering the market. Additionally, by analysing the competition 'wow-factors' may be identified, which in itself is acknowledged to help to increase customers' satisfaction. According to the KANO-model and due to its indirect effect, the factor competition belongs to the basic factors.

The chosen *Concept* of the Web-shop trade refers to the value proposition and the total experience of offering optimised consumers' preferences. Both increase the customers' satisfaction level. This makes *Concept* according to the KANO-model a performance factor.

The last decisive factor to present is the *Maturity e-commerce landscape* which delivers the insights on the expansions, that can be classified as worthwhile (or as a showstopper) e.g. for finding sufficient number of qualified resources. Since customer satisfaction indirectly depends on the resources, this factor is a basic factor according to the KANO-model.

The low decisive factor *Customer care* is both necessary for the daily operations, as well as for determination of the satisfaction level. The faster a customer is assisted, the higher the satisfaction level. Due to this and in spite of the low decisive score, *Customer care* belongs to the performance factors in terms of the KANO-model.

The results of the KANO-model analyses are presented by the following overview (see Table 3). Unique wow-factors have not been identified. The number of interviews may have been too less to find such unique factor. Or within the survey a potential wow-factor, may have shifted to one of the other categories (basic, or performance factor) due to repetition within the sample.

Table 3: Summary (success) factors

Basic factors	Performance factors	Wow-factors
<i>Competition</i>	<i>Culture</i>	
<i>Country specifics</i>	<i>Concept (value proposition)</i>	
<i>Supply chain partner(s)</i>	<i>Financial partner(s)</i>	
<i>Logistics partner(s)</i>	<i>Customer care</i>	
<i>Financial partner(s)</i>		
<i>E-commerce landscape</i>		
<i>Online adoption</i>		

6. Conclusions and discussion

This research started with: How does the supply chain as factor relates to other decisive factors used by web-shop entrepreneurs in their cross-border trade-expansion decision?

Important factors found under the KANO-model are 'performance factors' and 'decisive factors'. Confronting both factors results in Figure 2. Basic factors on which the cross-border decision is made in practice are Country specifics, Logistics and Supply Chain partners and the level of Online adoption. From a customer satisfaction viewpoint Culture is the most important decisive factor.

The interviews, survey and literature showed that web-shop management often outsource their supply chain needs. Trying to find the supply chain' share within the cross-border sales-expansion decision is therefore limited to a 'partners' contribution in the cross-border activity. According to the KANO-model, supply chain partners are Not Decisive for the success of a cross-border web-shop, when seen from a customers' satisfaction level. The contribution of the supply chain partner to the success of cross-border web-shops, is supportive via performance indicators. Once operational, 'operational excellence', is measured by delivery performance indicators. This makes web-shop management depending on the supply chain's partner decision for its cross-border decision

instead of concentrating on the performance itself. Additional research is needed to understand the effect on decision-making when web-shop management's interest shifts to the operational perspective.

		Basic factors	Performance factors
Survey factor analyses	Not Decisive (1 - 3)	Competition Financial partners e-Commerce Maturity	Concept Financial partner(s) Customer care
	Decisive (4, 5)	Country specifics Supply chain partner(s) Logistics partner(s) Online adoption	Culture

Figure 2: Factors compared to their type and decisiveness

7. Limitations

Limitations of this research involve the number semi-structured interviews (3) and online survey respondents (27) resulting in an indicative research for the respondents only. The additional input from the expert group of Thuiswinkel.com was helpful for validation. A large-scale survey will result in a more generic model, representative for web-shops in general or when performed for sectors, a distinct type of cross-border model. This depends on the product group to study to improve the reliability level of the cross-border decisions.

For this research the KANO model was used, with the satisfaction level of the customer as focal point. The reason behind this is the fact that a high satisfaction leads to more web-shop business. However, this is an assumption made to create this first conceptual model. Financial factors were abstract from this first model. Additional research is needed to also categorize the factors found differently and to take financial factors into the study.

Acknowledgements

The authors would like to thank students Lars Hallie, Niels Ruven, Swier Possel for their valuable research.

End note

¹ Other terms for digital natives are internet generation and Google generation.

References

- Best, M., & Sanou, B. (2013). *Measuring Information Society*. Geneva: International Telecommunication Union.
- CBS. (2016, January 20). *Development online sales*. Retrieved October 11, 2016, from Central Agency Statistics: <https://www.cbs.nl/nl-nl/nieuws/2016/03/stormachtige-ontwikkeling-webverkoop>
- Choshin, M., & Ghaffari, A. (2016). An investigation of the impact of effective factors on the success of e-commerce in small- and medium-sized companies. *Computers in Human Behavior*, 66. Elsevier.
- Cosgun, V., & Dogerlioglu, O. (2012). Critical Success Factors Affecting e-commerce Activities of Small and Medium Enterprises. *Information Technology Journal*, 11, pp. 1664-1676. Asian Network for Scientific Information.
- Ecommerce News. (2014, October 24). *Half of the webshops stop within two years*. Retrieved October 11, 2016, from Ecommerce News: <http://www.ecommercenews.nl/helft-webwinkels-stopt-binnen-twee-jaar/>
- Gibbs, J., Kraemer, K. L., & Dedrick, J. (2003). Environment and Policy Factors Shaping Global E-Commerce Diffusion: A Cross-Country Comparison. *The Information Science*, 1. Taylor & Francis.
- Gomez-Herrera, E., Martens, B., & Turlea, G. (2013, January). The Drivers and Impediments for Cross-border e-Commerce in the EU. (I. f. Studies, Ed.) p. pp 34. Retrieved from <ftp://s-jrcsvqpx102p.jrc.es/pub/EURdoc/EURdoc/JRC78588.pdf>
- Hoekstra, S. R. (1993). *Op weg naar integrale logistieke structuren*. Wolters Kluwer.
- Hughes, K. (2015). *How digital natives and Amazon change the e-commerce landscape*. Retrieved from Frankwatching: <https://www.frankwatching.com/archive/2015/09/28/ho-digital-natives-en-amazon-e-commerce-landschap-veranderen/>
- Kano, N., Seraku, N., Takahashi, F., & Tsujii, S. (1984). Attractive quality and must-be quality. *The Journal of the Japanese Society for Quality Control*, 14, pp. 39-48.
- Köster, A., Matt, C., & Hess, T. (2015, November 25). Carefully choose your (payment) partner: How payment provider. *Electronic Commerce Research and Applications; Elsevier*, p. 37.

- Kotler, P., Armstrong, G., Harris, L. C., & Piercy, N. (2013). Competitors. In P. Kotler, G. Armstrong, L. C. Harris, & N. Piercy, *Principles of Marketing* (6e editie ed., pp. 76-77). Pearson.
- Kotler, P., Armstrong, G., Harris, L. C., & Piercy, N. (2013). Political Environment. In P. Kotler, G. Armstrong, L. C. Harris, & N. Piercy, *Principles of Marketing* (6th edition ed., pp. 93-95). Pearson.
- Leeman, J. (2015a). Country analysis and selection. In *Export Planning* (4 ed., p. 88). Netherlands: Pearson.
- Leeman, J. (2015b). Competition. In Leeman, *Country analysis and selection*; (4 ed., p. 92). Netherlands: Pearson.
- Likert, R. (1932). "A Technique for the Measurement of Attitudes". *Archives of Psychology*, 140, 1–55.
- MarketLine. (2015). *Online Retail in Europe*. Industrie profiel, MarketLine.
- Meulen, S. v. (2013). *Fulfilment van online verkoop*. ING.
- Nöthlichs, J., van Lent, J., & Brand, R. (2016). *What are the challenges of cross-border e-commerce*. Retrieved December 23, 2016, from E-commercewiki: https://www.ecommercewiki.org/Cross-border_Ecommerce/Cross-border_Ecommerce_Basic/What_are_the_challenges_of_Cross-border_Ecommerce
- Olsen, D. R. (2015). *Twinkle 100*. Woerden: BBP Media BV.
- Patton, M. (2002). *Qualitative research and evaluation methods*.
- Peters, M. (2014). *Digital Infrastructure in the Netherlands*. Retrieved from Deloitte: https://www.surf.nl/binaries/content/assets/surf/nl/2014/digital_infrastructure_driver_for_the_online_ecosystem_nov_2014.pdf
- Prensky, M. (2001, October). Digital Natives, Digital Immigrants. *On the Horizon*, 9(5), .
- Retailwatching. (2016, June 13). *The how and why of cross-border e-commerce*. Retrieved October 11, 2016, from Retailwatching: <http://www.retailwatching.nl/etail/artikel/vlvSb7gHTVu4pBf8iXYDPg-3/het-hoe-en-waarom-van-crossborder-e-commerce.html>
- Shen, S. (2015). *How to capture cross-border digital commerce opportunities*. Gartner. Gartner.
- Thuiswinkel.org. (2015). *internationaal-ondernemen*. Ede: Thuiswinkel.org. Retrieved from <https://www.thuiswinkel.org/kennis/internationaal-ondernemen>
- Tompkins, J. (2016, January). E-commerce success depends on three factors. *Industrial Engineer*, 1(48).
- Traxler, J. (2017). *Capacity Building in a Changing ICT Environment*. ITU. Retrieved from https://www.itu.int/dms_pub/itu-d/opb/phcb/D-PHCB-CAP_BLD.01-2017-PDF-E.pdf
- Visser, H. G. (2011). *Working with logistics*. Groningen/Houten: Noordhoff Uitgevers.
- Welink, B. (2015, May 12). *Important when expanding abroad*. Retrieved December 15, 2016, from Thuiswinkel: <https://www.thuiswinkel.org/nieuws/2771/waar-moet-je-aan-denken-als-je-eeen-webshop-in-het-buitenland-start>
- Wilbers, M. (2015). *Supply Chain Innovation*. Den Haag: BIM Media.
- Zhu, P. (2016). Impact of Business Cultural Values on Web Homepage Design That May Hinder International Business. *Journal of Technical Writing and Communication*, 1(46)

Sustainability Initiatives in the Shadow of Rigid Measures: Insights From the MENA and Indo-Pacific Region

Amol Gore

a/f UAE Government HCT ADMC, Abu Dhabi

India

dr.amolgore@yahoo.com

Abstract: In this decade, the deliberations on sustainability have accelerated significantly due to growing demands from all stakeholders to redefine long-term success in a modern business environment. Specifically, the competitive, regulatory and societal pressures have made it imperative to demonstrate substantial progress in environmental and social dimensions apart from economic factors. Hence, companies are taking greater efforts to organize their sustainable capabilities into more mature models that encompass sustainable operations leads of the firm, as well as the supply chain transcending the corporate boundaries. At the same time business organizations are keen to evaluate their success with sustainability metrics and desire to know the financial impact on a year-on-year basis or otherwise. This paper examines several companies, particularly those that factor in the supply chain from the so-called MENA and Indo-Pacific region in order to comprehend the sustainability initiatives and their impact on conservative performance measures. Both qualitative and quantitative approaches have been utilized in the multi-method research with integration norms. Early research work indicates that the goal should be to embed sustainability considerations into a company's strategy and operations in such a way as to enhance business value and derive a competitive advantage. As existing theoretical models only offer a piecemeal exposition, companies are assessing in their own way, many times grappling to produce acceptable outcomes.

Keywords: sustainability, performance measures, operations, MENA, Indo-Pacific, multi-method research

1. Introduction

Sustainable operations has become the focus and stakeholders are demanding that the companies address the sustainability issues sooner rather than later and elucidate the concerned policies. Today, with increasing awareness and strengthening media, the themes of global warming, oil slicks, sinking cargo in international waters, haze pollution and public health are reverberating across the globe. Consequently, efforts are being taken to make sustainability reporting at par with financial reporting and designing standards to ensure that businesses follow sustainable practices and accept the responsibility (Maas, Schaltegger and Crutzen, 2016; Velte and Stawinoga, 2017). Indeed the budding concept of sustainability, meeting the needs of the present without compromising the ability of future generations to meet their own needs, that can be positively traced from the Brundtland Report of 1987 and formative research (Kleindorfer, Singhal and Wassenhove, 2005), has come a long way to encompass entire operations network covering multiple supply chains. As companies are outsourcing substantially to reliable manufacturing and logistics partners or emphasizing on strategic sourcing in order to remain competitive, the sustainability demands now extends to the upstream and downstream entities. In other words, companies that experience offshoring, nearshoring, or even backshoring (Johansson and Olhager, 2017) realize the significance of deepening the sustainable development when managing global supply chains. Aras and Crowther (2008) have argued that sustainability is actually based upon efficiency in the transformation process and equity in the distributive effects. In this light it is noteworthy to indicate that 'sustainability divide' exists between the developed and less developed countries when considering the approach, state-of-the-art facilities and implementation level. Therefore when exploring the options of connecting sustainability across the supply chain operations (Winter and Knemeyer, 2013), established strategies have to be reassessed for their viability. Moreover, causality and reverse causality contentions (Seijas-Nogareda and Ziegler, 2006; Wagner and Blom, 2011) in research between profitability and sustainability needs empiricism that is entrenched in supply chain units. Further, the motivation and competitive dynamics for supply chain partners could be unique and might unravel within the financial interests.

This paper aims to bridge the gap by incorporating channel members in the discourse and contributing toward a better understanding of the phenomenon through link between sustainability initiatives and conservative performance measures. Specifically, the empirical work has examined the small cap and mid cap firms from MENA (Middle East and North Africa) and Indo-Pacific region that are part of bigger supply chains involving global giant companies. The findings of this investigation aims to provide insights that would enrich the existing literature and enable theory building.

2. Literature review and hypotheses development

As sustainability has become an important theme in the 21st century with deliberations taking place at the highest levels in government and international bodies, a number of studies have been undertaken to comprehend sustainable operations, development, impact, approach, implementation, and reporting (Epstein and Roy, 2001; Schaltegger and Wagner, 2006; Eccles, Perkins and Serafeim, 2012; Schrettle et al., 2014; Dumay et al., 2016; Goel and Misra, 2017). Moreover, since businesses exist on financial performance, there is abundance of theoretical work attempting to conceptualize financial payoff of sustainability actions (Fredrick, 2006; Ameer and Othman, 2012; Kiron et al., 2012). Most of such theory and greater portion of practice has predominantly emanated in the developed economies that perceive corporate sustainability as a way to differentiate or justify price premium for goods and services, also hoping for onshoring, in an evolving and rather churning world order of multi-polarity, skewed toward emerging and often unexpected countries. Consequently, the extant literature covers large companies, advanced economies, industry captains, and large surveys involving major group enterprises across continents. Further, environmental issues dominate within the sustainability research community (Seuring and Muller, 2008; Taticchi, Tonelli and Pasqualino 2013). The arguments have been for and against link between environmental performance, social performance, and financial performance, and additionally causality. However, the trends in supply chain necessitate that entities in supply chain both upstream and downstream deserve attention, since much success or otherwise of prospective sustainability depends on them.

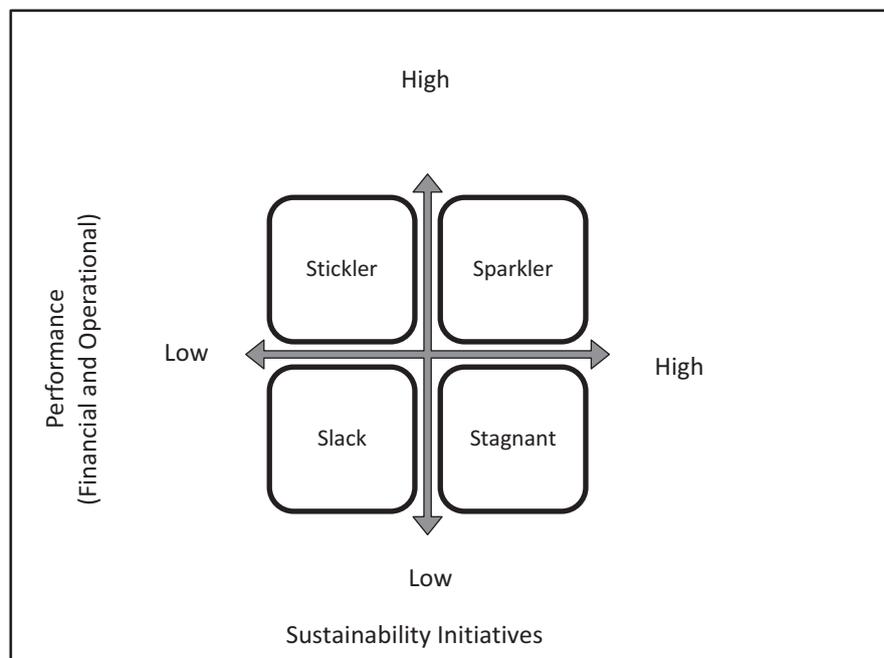


Figure 1: Matrix for propositions between sustainability initiatives and performance

In this paper, MENA and Indo-Pacific region firms have been included in the research and for these companies, continuing to remain in the larger supply chain network could be the inducement for sustainability initiatives or in other words, giant companies active on world stage coerce the tiers who are then bound to comply systematically. According to Handy (2002), many companies see concepts of sustainability as pursuits that only the rich can afford and for these organizations, the business of business is business, and should remain so. Therefore, it is even more interesting to investigate whether the sustainability initiatives in these companies are significantly associated with financial and operational measures, and few empirical studies currently have explored this space. Moreover, instead of focusing on one aspect or a single facet of sustainability, an overall sustainability quantification could provide a more accurate picture. Figure 1 provides the matrix that splits companies into four quadrants designated as sparkler, stickler, slack and stagnant based on the dynamics between sustainability initiatives and performance.

The first hypothesis follows:

H1: The sustainability initiatives of companies that factor in the supply chain, a part of bigger supply chain network, are significantly associated with the conservative performance measures.

Additional propositions can be derived from whether the firms that are financially performing before sustainability programmes continue to be achievers, and the same is depicted in Figure 2. The two zones namely, achiever and loser, specify the status and suggest areas for inquiry.

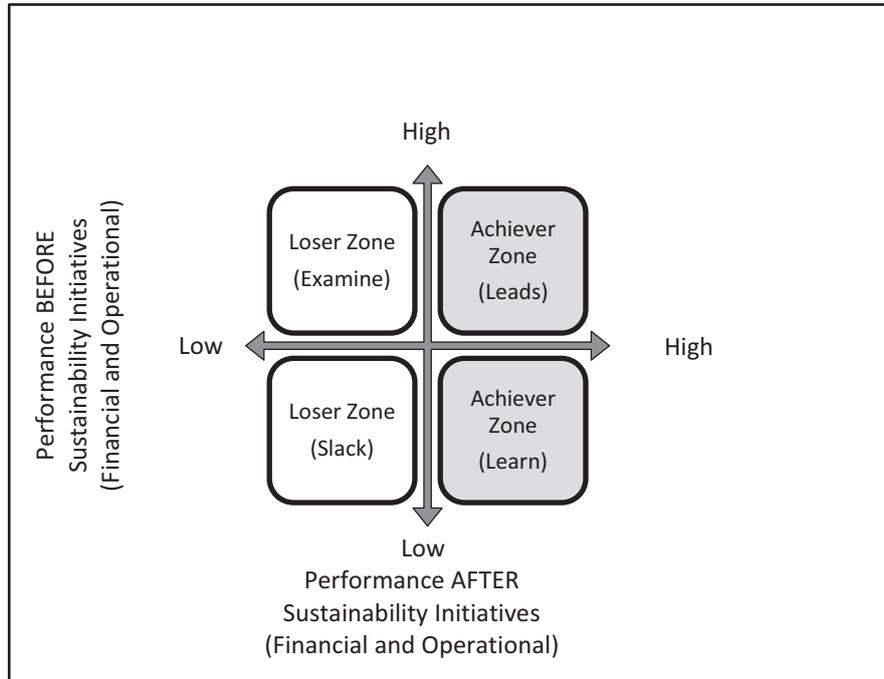


Figure 2: Matrix for propositions about *Performance before and after* Sustainability Initiatives

3. Methodology

The multi-method research strategy was deployed in order to increase the possibility of getting varied and extensive results from which rich insights could be derived. Basically, the qualitative and quantitative methods can be combined in the empirical data analysis. According to Brady, Collier and Seawright (2006), the integration of qualitative and quantitative methods is another way of generating causal inference that is supposedly superior to utilizing the respective methods alone. Many researchers articulate it as ‘triangulation’ or a notion that qualitative and quantitative methods be viewed as complementary rather than as rival camps (Modell, 2010). While triangulation has a long history since the time Denzin (1978) broadly defined it as the combination of methodologies in the study of the same phenomenon, this paper prefers the language of integration than triangulation in accordance with the developments in the paradigm (Fetters and Molina-Azorin, 2017). Particularly, multi-method research can suggest different combinations of methods that include in a substantive manner more than one data collection procedure viz. two or more exclusively qualitative approaches, two or more quantitative approaches, or a combination of qualitative and quantitative approaches. In this paper the latter approach is favoured and data collection has involved semi-structured interviews and ‘on the field’ survey. Even the financial data has been collected ‘on the field’ and then processed with data available in the public domain. Since availability of data was a major concern, the ‘limitation of having only 31 companies’ in the final analysis is still gratifying considering the insights. The small cap and mid cap companies pursued were from the MENA and Indo-Pacific region. The companies are from four sectors or categories and grouped as steel, auto / vehicle parts, equipment / engineering / manufacturing related, and metals / other. It is to be noted that these companies do not fall within the definition of small and medium-sized companies (SME) as per European Commission (<250 employees, <€50 million turnover) and certainly not within the definition of SME in this region and hence the small cap and mid cap expression indicating less than USD 1 billion market capitalization has been utilized. All these companies are ‘small’ entities in the bigger supply chains involving renowned global enterprises. The sustainability score (SC) was computed from the one to ten scale for each of the ten sustainability initiative elements and evidences thereof. The managers of the companies were asked to rate on

a ten-point scale followed by open questions in order to receive further response. Implicit confidentiality is in accordance with the international research norms.

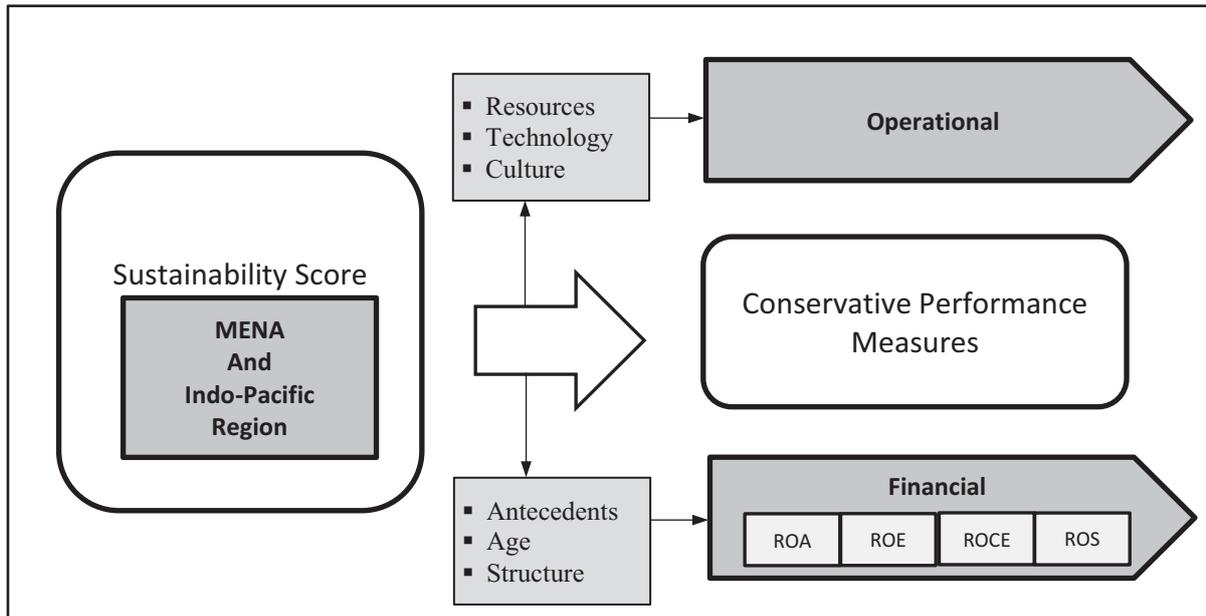


Figure 3: Outline for research

The operationalization of performance took form of the following: return on assets (ROA), return on equity (ROE), return on capital employed (ROCE), and return on sales (ROS). As shown in Figure 3, sustainability and performance were tied in a holistic framework. Sustainability initiatives encompass energy conservation, water conservation, recycling, reducing GHG (greenhouse gas) emissions and air emissions, reducing hazardous waste generated or transported, environmental management system implementation, GRI or reporting record, occupational health and safety, social factors or socially responsible, and compliance, governance and risk management. The data gathered for performance measures, mainly financial data, was collected from 2000 to 2017 since time factor from implementation of sustainability initiatives to results could be substantial and related analysis might address the issues. Most of the companies examined have undertaken sustainability initiatives in the last ten years (2007-2017) and the actual time periods were duly recorded. Finally, variables such as ownership structure and year of establishment of the company could influence the analysis however; they are restricted in this paper.

4. Results and discussion

The results of Pearson correlation between financial performance ratios and sustainability score (SC) is presented in the Table 1. All the ratios are significantly correlated. Hence, certainly sustainability initiatives seem to stimulate financial performance. Companies that are exhibiting sparkler or slack characteristics are moving as predicted however, it is more interesting to examine the cases in which performance has suffered after sustainability initiatives or has unexpectedly increased. The qualitative study in MENA and Indo-Pacific region alludes to even the level of transparency, honest reporting and achievability of targets set by the management. Considering in the first place that many of these firms have been pulled toward sustainability implementation under the directives of the bigger link in the chain or in some instances, directly by focal company with global stakes, willingness is obviously questionable. Given that in the realm of sustainability, intangibles are in abundance, not every initiative can be asserted to yield gains numerically within the financial or operational domain. Then, in MENA and Indo-Pacific region, the conservative performance measures dominate and sustainability remains confined and overshadowed. Interestingly, the regions have often claimed to promote sustainability values as a way of life. However, the changes in the business environment seem to make an impact. Both regions are emerging corridors and viewed together for recent economic integration proposals. Moreover, the trade relations in the regions date back to centuries and these ties have grown stronger out of exchange of culture, commodities and ideas.

Table 1: Correlation results

Financial Performance Indicators	SC
ROA	0.821
ROE	0.684
ROCE	0.662
ROS	0.507

Table 2: Regression results

Coefficients	ROA	ROE	ROCE	ROS
Intercept	-1.87	-4.647	-5.262	1.032
Significance	0	0.0007	0.0027	0.636
SC	0.0539	0.1202	0.147	0.1324
Significance	0	0	0	0.0035
R ²	0.674	0.469	0.4386	0.2578
F-Stat	60.15	25.62	22.65	10.07
Significance	0	0	0	0.003

Table 3: Before and after sustainability initiatives - paired two sample for means t-Test

	ROA	ROE	ROCE	ROS
t Stat	-1.0575	-0.7372	-1.652	-1.319
p-value one-tail	0.1493	0.2333	0.054	0.0984

Table 4: Sector-wise statistics

	SD ₁	SD ₂	SD ₃	SD ₄
Steel	0.281	9.001	7.400	4.147
Auto / vehicle parts	1.491	3.006	6.568	5.178
Equipment / Engineering / Mfg. related	1.312	7.232	9.615	7.057
Metals / other	1.722	7.266	10.161	2.490
Sustainability SD: 24.857				

The regression analysis attempts to assess further the relationship, with sustainability score as an independent variable and financial performance as dependent variable, expressed as ratios ROA, ROE, ROCE and ROS. As is customary for modeling n data points, there is an independent variable x_i , and $y_i = \beta_0 + \beta_1 x_i + \epsilon_i$, $i = 1, 2, 3, \dots, n$, where, ϵ_i is an error term. In this model, ROA, ROE, ROCE or ROS = $\beta_0 + \beta_1 SC + \epsilon$.

In the Table 2, the results of regression analysis have been indicated and it can be observed that the sustainability score is significantly associated with the ratios. Generally, higher R² means the model fits the data better which is the case but residual plots were also used to verify the assumptions. The points fall randomly on both the sides of zero and there are no specific patterns in the points. In addition, the normal probability plot of the residuals is approximated to be a straight line and therefore the assumption that the residuals are normally distributed is confirmed. Some multicollinearity issues were experienced during the analysis. F-statistic reveals that at common significance level of 0.05, null hypothesis can be rejected. It means that H1 is vindicated and the sustainability initiatives of companies that factor in the supply chain, a part of bigger supply chain network, are significantly associated with the conservative performance measures. The companies in this research exhibit similar characteristics although different regions are under consideration and comparison. MENA region’s focus on sustainability might lead to more and quicker benefits from financial perspective. Nevertheless, creating awareness in this region is in itself a challenge. On the other hand, the Indo-Pacific region is growing but issues are intricate still. Table 3 provides the t-statistic for ‘before and after sustainability initiatives’ and Table 4

presents the sector-wise statistics for field data collected namely, steel, auto / vehicle parts, equipment / engineering / manufacturing related, and metals / other. The financial results before and after sustainability implementations do not essentially show big jumps and are only modestly high in some cases. Since there are only 31, companies in the analysis, any bifurcations would be undesirable and it would be prudent to widen the research base. Nevertheless, vital evidence has been presented that highlights the sustainability realities across the supply chain.

5. Conclusion

The companies examined from MENA and Indo-Pacific region have accepted sustainability initiatives not because they want to be great corporate citizens but out of concerns about penalties, loss of goodwill, disengagement, and reputational damage. The mindset rooted in conservative performance measures creates an isolated space for sustainability but denies sustainability at the core. Thus, sustainability remains in the shadow of rigid measures, often financial, and lacks focus on issues such as product responsibility, environment, and social sensitivity, deemed important by stakeholders. Transparency is elusive as well and the challenge is to effectively collect and use sustainability information integral with accounting, control and reporting. Since the key today is to bring diverse entities of the supply chain into the sustainability fold and not just the top of the line focal firms, this research assumes significance.

Regardless of sustainability motivation at the inception for companies in MENA and Indo-Pacific region, this paper shows that sustainability initiatives are steering companies toward progress and hence it is worthwhile for businesses to deeply embed and set sustainability in the core with a clear vision. So, policy makers can continue on the path of standards and guidelines. If the sustainable operations strategy were aligned with business strategy then it would be feasible to even differentiate from competitors and develop capabilities that rivals are unable to match. Having said that it must be appreciated such a transformation would be in the conditions prevailing in the region along with specific social and cultural thrusts.

References

- Ameer, R. and Othman, R. (2012) "Sustainability practices and corporate financial performance: A study based on the top global corporations," *Journal of Business Ethics*, Vol. 108, No. 1, pp 61-79.
- Aras, G. and Crowther, D. (2008) "Evaluating sustainability: Need for standards," *Issues in Social and Environmental Accounting*, Vol. 2, No. 1, pp 19-35.
- Brady, H., Collier, D. and Seawright, J. (2006) "Toward a pluralistic vision of methodology," *Political Analysis*, Vol. 14, No. 3, pp 353-368.
- Brundtland, G. (1987) *Our Common Future*, Oxford University Press, Oxford.
- Denzin, N. (1978) *The Research Act*, 2nd Edition, McGraw-Hill, New York.
- Dumay, J., Bernardi, C., Guthrie, J. and Demartini, P. (2016) "Integrated reporting: A structured literature review," *Accounting Forum*, Vol. 40, No. 3, pp 166-185.
- Eccles, R., Perkins, K. and Serafeim, G. (2012) "How to become a sustainable company," *MIT Sloan Management Review*, Vol. 53, No. 4, pp 43-50.
- Epstein, M. and Roy, M. (2001) "Sustainability in action: Identifying and measuring the key performance drivers," *Long Range Planning*, Vol. 34, pp 585-604.
- Fetters, M.D. and Molina-Azorin, J. (2017) "Principles for bringing in the new and divesting of the old language of the field," *Journal of Mixed Methods Research*, Vol. 11, No. 1, pp 3-10.
- Fredrick, W.C. (2006) *Corporations, be good! The story of corporate social responsibility*, Dogear Publishing, Indianapolis, IN.
- Goel, P. and Misra, R. (2017) "Sustainability reporting in India: Exploring sectoral differences and linkages with financial performance," *Vision*, Vol. 21, No. 2, pp 214-224.
- Handy, C. (2002) "What's a business for?" *Harvard Business Review*, Vol. 80, No. 12, December, pp 49-55.
- Johansson, M. and Olhager, J. (2017) "Manufacturing relocation through offshoring and backshoring: the case of Sweden," *Journal of Manufacturing Technology Management*, Early cite.
- Kiron, D., Kruschwitz, N., Haanaes, K. and Velken, I. (2012) "Sustainability nears a tipping point," *MIT Sloan Management Review*, Vol. 53, No. 2, pp 69-74.
- Kleindorfer, P.R., Singhal, K. and Wassenhove, L. (2005) "Sustainable operations management," *Production and Operations Management*, Vol. 14, No. 4, pp 482-492.
- Maas, K., Schaltegger, S. and Crutzen, N. (2016) "Integrating corporate sustainability assessment, management accounting, control, and reporting," *Journal of Cleaner Production*, Vol. 136, November, pp 237-248.
- Modell, S. (2010) "Bridging the paradigm divide in management accounting research: The role of mixed methods approaches," *Management Accounting Research*, Vol. 21, No. 2, pp 124-129.
- Schaltegger, S. and Wagner, M. (2006) "Integrative management of sustainable performance, measurement and reporting," *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 3, No. 1, pp 1-19.

Amol Gore

- Schrettle, S., Hinz, A., Scherrer-Rathje, M. and Friedli, T. (2014) "Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance," *International Journal of Production Economics*, Vol. 147, pp 73-84.
- Seijas-Nogareda, J.S. and Ziegler, A. (2006) *Green Management and Green Technology: Exploring the Causal Relationship*, Mannheim: Centre for European Economic Research.
- Seuring, S. and Muller, M. (2008) "From a literature review to a conceptual framework for sustainable supply chain management," *Journal of Cleaner Production*, Vol. 16, No. 15, pp 1699-1710.
- Taticchi, P., Tonelli, F. and Pasqualino, R. (2013) "Performance measurement of sustainable supply chains: A literature review and a research agenda," *International Journal of Productivity and Performance Management*, Vol. 62, No. 8, pp 782-804.
- Velte, P. and Stawinoga, M. (2017) "Integrated reporting: The current state of empirical research, limitations and future research implications," *Journal of Management Control*, Vol. 28, No. 3, pp 275-320.
- Wagner, M. and Blom, J. (2011) "The reciprocity and non-linear relationship of sustainability and financial performance," *Business Ethics: A European Review*, Vol. 20, No. 4, pp 418-432.
- Winter, M. and Knemeyer, A. (2013) "Exploring the integration of sustainability and supply chain management," *International Journal of Physical Distribution & Logistics Management*, Vol. 43, No. 1, pp 18-38.