

EVALUATING THE IMPACT OF INNOVATION ON MOSQUE COOPERATIVES' ADAPTIVE CAPACITY IN THE AGE OF DISRUPTION

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Abstract: *The disruptions such as the pandemic Covid-19 driven Movement Control Order (MCO) and the Fourth Industrial Revolution (4IR) have delivered dynamism in the form of accelerated change, technological innovation, convergence, new sources of growth or disparities, and new technology costs and investments. These are expected to have an impact on the economy, society, and politics of the industry and its sub-sector. Nevertheless, the existing Dasar Koperasi Negara 2 (DKN 2), 2011-2020, and the most recent mid-term review report of DKN 2 did not specifically mentioned about preparing or building the country's co-operative sector based on those disruptions, though undeniably there are some elements in these two documents reflecting such move towards it. The silence and absence cast doubt on local mosque cooperatives' ability to adjust in the face of upheaval. It also creates concern on driving factors of mosque co-operatives' adaptive capacity. Thus, this proposed study aims to ascertain elements of mosque co-operatives' 4IR adaptive capacity, then to evaluate the interactions and relationships between organisational, product & process, and social innovation and adaptive capacity of mosque co-operatives. Employing survey method, this study will engage the Chairman of Board of mosque co-operatives in state of Selangor as a respondent. The feedback will be analysed using the Structural Equation Modelling technique via SmartPLS. Understanding the variables that drive innovation allows mosque cooperatives to strengthen their adaptive ability by concentrating efforts on improving specific competencies and boosting the sub-preparation sector's for future shocks. It also provides insights to key stakeholders viz. MEDAC, SKM, ANGKASA, and IKM in planning enhanced training moduls, standard operating procedures, action plan relating to a specific innovation process that can enhance mosque co-operatives' adaptive capacity, including in finalising the Dasar Koperasi Negara 3, 2021-2030. This proposed research aims to answer the following research questions:- 1. How organisational innovation affect mosque co-operatives' adaptive capacity? 2. How product and process innovation affect mosque co-operatives' adaptive capacity? 3. How social innovation affect mosque co-operatives' adaptive capacity?*

Keyword: *Mosque cooperative, adaptive capacity, pandemic, Fourth Industrial Revolution (4IR)*

Introduction

Co-operatives' adaptive capacity and challenges of disruption

According to Smit, Burton, Klein and Street (1999) there are multiple dimensions of describing organisations' adaptive capacity such as sensitivity, susceptibility, vulnerability, impact potential, stability, robustness, resilience, resistance, flexibility, coping ability, responsiveness, and adaptability. In addition, there are several definitions of organisational adaptive capacity. The truth is adaptive capacity is 'both a multifaceted and multidimensional concept' (Ponomarov and Holcomb, 2009). In order to ease discussion on organisational adaptive capacity, Burnard and Bhamra (2011) have underlined three epistemological propositions, which are '(1) an organisation is capable of a variety of responses to disruptions and discontinuities, (2) it is possible to create bounds for organisational systems, and (3) a higher level of thinking is required to develop adaptive systems capable of response'.

One of the examples of co-operatives' adaptive capacity was described by Harris et al. (1996) as 'co-op fever' in North Dakota and Minnesota that resulted in formation of new generation of co-operatives (NGC) in agricultural sector. While maintaining the core principles of co-operatives like one share one vote, and democratic control; significant improvements were observed through vertical business diversification (from producing agricultural raw materials only to manufacturing and converting inputs to value-added food products). It permitted co-operatives to tap into lucrative consumers' food markets. Besides, members experienced new source of income by connecting shares with trade rights. In this regards, shares to members and contractually binded with the promise to deliver certain unit of inputs for manufacturing and value-added processing facilities owned by those co-operatives. This adaptive capacity story of co-operative has resulted in new perspective of the co-operative theory regarding incentive structure, governance structure, and development process structure.

The wake of disruption is expected to impact all facets of sectors. According to Schwab (2016), disruption like the fourth industrial revolution (4IR) offers potential to raise global income, improve quality of life, drive economic growth, open new market, drop in transportation and communication costs, offerings of new products and services that increase the pleasure of personal lives. As 4IR offers double edge sword (Schwab, 2016), the ability to shield the challenges or to reap the benefits depends on the adaptive capacity of organisations. Situation is worsening when pandemic Covid-19 hit the country in early 2020. Mosques were closed, number of congregation reduced, Friday and tarawih prayers were postponed, sadaqah collection dropped, and lesser knowledge based activities or Islamic teachings programmes were recorded due to social distancing order as the authority intended to stop the lethal virus transmission. In certain circumstances, social gathering activities were permitted at mosque; however, with a strict permission and stringent standard operating procedures. The pandemic driven Movement Control Order has resulted drop of

activities at mosques. This has also impacted the socioeconomic function of mosque cooperatives because congregation and public were not allowed to enter mosque compound. Without congregation, mosque cooperatives did not able to generate sufficient sales and incomes. Nevertheless, the disruption offers opportunities for reformation and revitalisation of mosque cooperatives.

Organisational innovation

Leadership of co-operative inclusive of board members and senior management members, (Othman et al., 2015). The leadership of co-operative plays significant roles in ensuring co-operatives' survival, charts future direction, and deals with uncertainties (Rajaratnam et al., 2009; 2010). In the wake of disruption, Oosthuizen (2017), for instance has proposed a 4IR leadership dimension consisting of ten attributes namely contextual intelligence, emotional intelligence, inspired intelligence, physical intelligence, entrepreneurial intelligence, strategic intelligence, transdisciplinary intelligence, ecosystem intelligence, socratic intelligence, and ethical intelligence. These proposed 4IR leadership attributes are expected to drive organisational adaptive capacity in dealing with the impact of disruption.

Additionally, Geissbauer, Vedso and Schrauf (2016) have proposed four broad dimension of organisational digital culture namely digital novice, vertical integrator, horizontal collaborator, and digital champion. The development of digital culture topology enables organisations to design the appropriate strategy in dealing with the impact of disruption. Furthermore, in identifying organisations' digital culture that support transformation and agile performance, Goran, Laberger and Srinivasan (2017) cited several indicators of digital culture, which include responsive, commercially focused, visionary, technology-literate, flexible, networked, exploring and curious, entrepreneurial and innovative, open and transparent, and collaboration and learning. Indeed, Goran et al. (2017) placed culture as the most significant self-reported barriers to organisational digital transformation.

Human capital in co-operatives involve board members, managers, supervisors, employees, and the most important – the members (Rajaratnam et al., 2009; 2010). In the wake of disruption, the creation of smart human capital for co-operatives lead to increased safety and enhanced efficiency. Besides, having smart human capital allows co-operative to experience agile assimilation and becoming customers in focus entity. According to the Future of Jobs Report by World Economic Forum (2016), in order to meet the demand of disruption, organisations have to reskilling and upskilling the members in terms of cognitive flexibility skill, negotiation skill, service orientation skill, judgement & decision making skill, emotional intelligence, co-ordinating with others skill, people management skill, critical thinking skill, and complex problem solving skill. Hence, co-operatives need to embark tremendous upskilling and reskilling the leaders, members, and employees in order to compete in the dawn of disruption.

Product and process innovation

The use of technologies among co-operatives is also essential to develop organisational adaptive capacity as it improves productivity, encourages knowledge sharing, or information exchange, and supports product differentiation initiatives (Borda-Rodriguez and Vicari, 2014;2015). Besides, Bidin (2007) also emphasized that future performance of co-operatives depends on the ability to acquire new technologies and systems that facilitate knowledge sharing within co-operatives' structure. Furthermore, use of modern technologies in co-operatives lead to a better efficiency in operational matters (Othman et al., 2014); thus, reduce the operational costs (Rajaratnam et al., 2010).

Furthermore, co-operatives need to consider offering intelligent products or services to members and customers. The new offerings like intelligent products and services provide new revenue stream for co-operatives (Mathuva, 2016). Consistent with the concept of product differentiation, intelligent products or services permit co-operatives to develop niche market (Borda-Rodriguez and Vicari, 2014;2015). Besides, access to niche market allows co-operatives to enjoy certain benefits such as premium price, shield from drop of price, and manage competition (Borda-Rodriguez and Vicari, 2014;2015). In the wake of disruption, more intelligent products or services are expected to assist consumers' daily routine and daily decision making (Meyer, Framling and Holmstrom, 2009). These intelligent products or services combine the element of physical, biological, and digital spheres.

Another concern in a mid-term review of DKN 2 is funding opportunities for co-operatives (SKM, 2016). Traditionally, co-operatives face difficulties to expand as the funding primarily depends on members' share capital contribution and membership fees. One of the recommendations put forward to overcome such dependency is through involvement in more corporate social responsibilities programmes and social entrepreneurship initiatives, which are expected to attract crowdfunding based financial supports from individuals and institutional donors in the forms of endowment, gifts, zakat, waqf, sadaqah, and donation arrangements. Hence, there is a need for new invention in co-operatives' funding accessibility.

Social innovation

According to Flora, Flora and Fey (2004), social capital is the networks, norms of reciprocity, and mutual trust within a community, which strengthens common identity and the sense of residents pursuing a common future and shared well-being. There are two distinct forms of social capital: bonding and bridging. Bonding social capital is the network of connections that exist within groups sharing similar backgrounds; bridging social capital consists of the linkages that a group or community shares with outside groups or communities (Flora et al. 2004). It is suggested that a healthy social capital as a favorable balance between bonding and bridging capital, or the internal linkages within a community and the external ties which communities can share (Flora et al., 2004). Hence, a central element to this model is the trust that may or may not exist within and between groups and communities. In the context of co-

operatives, internal group covers members, board members, managers, supervisors, and employees. The strong bonding between these internal groups and solid trust strongly influence the performance and development of a co-operative. Moreover, external group includes regulators, customers, other co-operatives and policy makers. The strong bridging with those external groups also significantly influence the performance and development of a co-operative.

A mid-term review of DKN 2 by SKM also indicated lack of women and youth participation in co-operatives, specifically at decision-making bodies (SKM, 2016). An analysis by Kontogeorgos et al. (2014) and Huang et al. (2015) showed that co-operatives with boards dominated by male did not significantly influence the performance. Work by Borda-Rodriguez and Vicari (2015) confirmed that women participation in rural co-operatives has resulted in improvement of quality product, more committed and loyal owners-members, improved funding access, and overcome barriers to access new markets that favour fair treatment to women.

Besides, youths are considered as successors or future leaders in co-operatives settings (Harries et al., 1996; Idris and Abdullah, 2011; Kontogeorgos et al., 2014; Harms et al., 2015). Additionally, Idris and Abdullah (2011) emphasized the requirement of co-operatives management to allocate more funds to enable them attracting new talents among younger generation; hence, ensuring survival of agricultural co-operatives at FELDA, FELCRA, and RISDA settlements. Besides, Idris and Abdullah (2011) also suggested more funds to train younger generation in co-operatives to learn new technologies, practices, and skills with regards to plantation activities and agro-based industries.

Research framework

This study proposes a research framework to evaluate the influence of innovation into mosque co-operatives' adaptive capacity. The research framework is inspired from the extended Co-operative Theory by Harris et al. (1996) and work of Borda-Rodriguez and Vicari (2014; 2015). Harris et al. (1996) conceptually discussed three innovation processes experienced by agricultural co-operatives in North Dakota and Minnesota in the United States, namely incentive structure, governance structure, and development process structure. Borda-Rodriguez and Vicari (2014; 2015) examined three types of innovation among rural co-operatives in Malawi namely organisational innovation, product and process innovation, and social innovation.

Organisational innovation refers to enhanced capabilities, features, and attributes by organisation and its members not only to continue business as usual but also to meet unexpected pressures internally or externally (Borda-Rodriguez and Vicari, 2014; 2015). In the wake of disruption, co-operatives' organisational innovation covers leadership intelligence, digital culture, and smart human capital.

Product and process innovation refers to improvised methods in carrying out operational routines or value added features to products or service rendered by organisations. In this perspectives, product and process innovation examines the co-

operatives' technology readiness, development of intelligent products or services, and financial accessibility.

Social innovation refers to improved social practices regarding conduct or context by organisation and its members, in order to address individual and collective needs (Borda-Rodriguez and Vicari, 2014; 2015). In this regard, social innovation evaluates the social capital mobility, women involvement, and youth participation in co-operatives movement. In addition, measuring organisational adaptive capacity could be difficult due to multiple measurement indicators (Vogus and Sutcliffe, 2007). Nevertheless, in this study, co-operatives' adaptive capacity is based on the earlier works of Gundason and Holling (2002), and Holling (2001; 1986).

From the above analysis, the following Figure 1 illustrates the research framework of this proposed study.

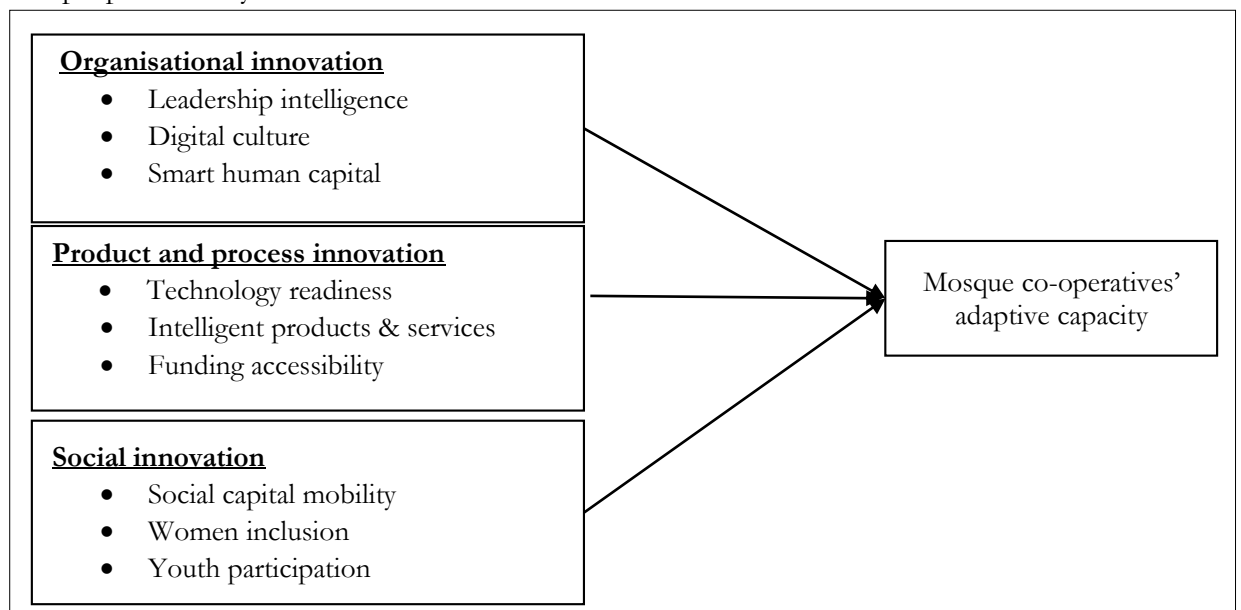


Figure 1 Research framework

Objective(s) of the Research

This proposed research aims to answer the following research questions:-

1. How organisational innovation affect mosque co-operatives' adaptive capacity?
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Methodology

In order to achieve the research objectives, this study will adopt quantitative research design. According to the Pelan Strategik Pembangunan Koperasi Masjid 2017-2020 by the Malaysian Co-operatives Societies Commission, there are 33 mosque co-operatives in Selangor. The project plan to include all 66 mosque co-operatives' Chairman of Board and managers in the final sample. From the aspect of time horizon, this study shall employ cross-sectional research, where data will be collected once. For data

collection purpose, this study intends to utilise a survey form or questionnaires, which to be distributed through face-to-face engagement. The questionnaire will be distributed among the Chairman of Board and managers of mosque co-operatives in the state of Selangor, as the potential respondents are expected to have wide and sound knowledge on mosque co-operative's disruption experience and the state of readiness in facing disruption. The feedback of questionnaire distribution will be keyed in and analysed by SmartPLS. The analysis techniques include measurement model i.e. to determine the reliability and validity of variables under study, then followed with structural model i.e. to test the interaction between variables under study. The structural model analysis also aims to test the formulated hypotheses.

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