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Conceptual Model for Agro-Based Entrepreneur's ICT Engagement, Usage, and Economic Empowerment

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ABSTRACT

The strategic importance of the agro-based business to the Malaysian economy has informed the drive towards expanding information and communication technologies (ICTs) access in the rural communities and cultivating ICTs in agriculture. The major thrust of this initiative is to bridge the digital divide by facilitating access to, adoption and usage of ICTs by about 40 percent of the country's population living in the rural communities. Although, the increasing accessibility to ICTs in Malaysia has attracted investigations on the level of its usage and barriers to its usage empirically, yet the implications of its usage on productivity have been less debated. In response, this study proposes to explicate how Malaysian agro-based business entrepreneurs' engagement in ICT usage could support the government's initiative on inclusiveness, i.e., economic empowerment of the underserved. Further to constraining usage to ability, we posit an encompassing determinant regarding individual's engagement, which is conceptualized from the ability-motivation-opportunity (AMO) framework. Furthermore, ICTs usage is hypothesized as the link from entrepreneur's engagement to economic empowerment, i.e., inclusiveness. The hypothesized model will be tested with data to be collected from the survey of agro-based business entrepreneurs living in rural and underserved communities across Malaysia.

Keywords: Inclusive growth, ICT usage, Economic empowerment, Agro-based entrepreneur, Ability-motivation-opportunity.

Introduction

The concept of inclusive growth is an underlying factor for sustainable and effective economic development. Policy makers across the globe have augmented discourse on the pace and distribution of economic wealth in an attempt to respond to the increasing socioeconomic and political crisis (Anand et al., 2013). According to the commission on Growth and Development inclusiveness encompasses equity, equality of opportunity and protection in market and employment transitions. Asserting its inevitability for growth, extant studies on inequality (i.e., poverty reduction) have suggested the holistic measure of economic success based on individual members' capacity to generate income (Okun, 1975; Berg and Ostry, 2011; Anand et al., 2013). Thus, inclusive economic growth exists when individuals can access and use the resources and opportunities to enhance productive outcomes. Several structural causes have been advanced for the increasing inequality including

globalization, technological and financial disruptions. At the individual level, advancement in digital technology has widened the gap between the skilled and unskilled. While the latter is struggling to catch-up with the relentless pace of innovation, the former are better equipped to access, adopt and use the new technology, thereby deepening the disproportionate gain. This growing gap can be described as the digital divide.

The strategic importance of the agro-based business to the Malaysian economy has informed the drive towards expanding ICTs access in the rural communities and cultivating ICTs in agriculture (Hayrol et al., 2009; Zaremohzzabieh et al., 2016). The major thrust of this initiative is to bridge the digital divide by facilitating access to,



adoption and usage of ICTs by about 40 percent of the country's population living in the rural communities. Accordingly, the high-speed broadband(HSBB) project was launched in 2010, as a partnership between the Government and Telekom Malaysia to provide nationwide broadband connectivity as well as build telecentres in underserved communities. Five years after, the broadband penetration rate has reached 75%, and the eleventh Malaysian plan has proposed to reach 95% within the next five (5) years. Thus, the increasing accessibility to ICTs in Malaysia, has attracted investigations on the determinants of usage (Salleh et al.,2009) and barriers to usage (Hayrol et al., 2009; Hasan, 2009). However, the implications of technology usage on inclusiveness at the individual level has been less debated.

The usage of ICTs by the underserved communities(i.e., poor, less educated, rural dwellers) could have profound implications for specific dimensions of inclusive growth like empowerment in such communities (Baron and Gomez,2013). Majority of the B40s are micro-entrepreneurs, who are engaged in micro and small enterprises focused on agro-business, low-end activities in manufacturing, wholesale and retail, and transportation. These businesses are constrained by lack of managerial and technical skills, finance and markets, economies of scale and bargaining power, and access to technology and innovation. All of which could be mitigated through the innovative use of ICT. ICT offers a broad spectrum of people the platform to creatively expand their income or productive outcome. Following this trend, one of the most cited barriers to individual usage of ICTs is ability, which reflects the skill proficiency or educational level. Moreover, the low income and social status of the poor have also hindered their abilities to afford and effectively use digital technology(Hayrol et al.,2009; Hasan et al.,2009). Accordingly, the major barriers to inclusive usage of digital technology have started to receive adequate attention.Nevertheless, there is limited knowledge on how these influence individual inclusiveness. Specifically, despite the expanding access and usage of ICTs, the implication of user's where growth in GDP does not necessarily dovetail to improvement in the living standard. Economic growth has deepened through technological advancement,

level of engagement on the intended outcome of inclusive growth has been less evident.

Drawing insights from the above, we argue that the increasing accessibility to ICTs provide an opportunity for the micro entrepreneur to use the technology, but the actual usage and associated outcomes cannot be separated from the behavioural disposition underlying individual's action. Accordingly, the present study will attempt to clarify the nature of the relationships among entrepreneur's engagement, usage of digital technology and economic empowerment.

Literature Review

Technology has been largely instrumental to the organisations in the realization of value at the bottom of the pyramid(Walsh, Kress,&Beyerchen,2005). This advantage has enabled the entrepreneurship model for inclusive growth, wherein businesses are better equipped to reconfigure and target their offering at the vast, growing and largely underserved markets. Also, this model has deepened the opportunity for the co-creation of value. However, the potential outcome of technology has not been fully harnessed, most especially by those at the bottom of the pyramid. For example, at the individual level, advancement in technology has widened the gap between the skilled and unskilled, with the former better positioned to adopt and use the new technology in enhancing their skill. For instance, the disparity in the access to and usage of ICTs or digital technology has been empirically shown to account for productivity gaps among nations(Jorgenson et al.,2008).

Furthermore, the recent discourse has focused on the continued relevance of ICTs in the emerging landscape(Byrne et al., 2013). According to Byrne et al.(2013), the inclusive growth strategy could be fostered by keeping track of the ICTs growth trajectories. Earlier expositions on the role of ICTs associated changes in the economic growth measures like gross domestic product (GDP) with the advancement in ICTs(Teltscher and Korka,2005). However, such measure has proven not to be absolute, most especially in emerging economies, which accounts for gain in production efficiencies and labour productivity (Oliner andSichel,2000). Apparently, the underlying role of ICTs and the associated



determinants of its usage in supporting inclusive growth have been acknowledged. However, literature has prioritized the macro-level explanation, using aggregated data from the firm, country, and sub national-region, while the impact at the individual level remains underexplored (Mack and Faggian, 2013).

Given the widespread access to ICTs, driven by the public and private sector's involvement in the provision of telecentres, low cost, and usable computer, mobile phone, broadband Internet and other complimentary devices, the need to relate individual's level of ICT engagement with inclusive growth has become inevitable. The proliferation of ICT devices has offered access to even the poorest, thus necessitate discourse on how this access relate to poverty change and human capability development (Spence and Smith, 2010; Toyama, 2012). Although the increasing ICT accessibility has significantly transformed social relations and organisational activities, nevertheless, its impact on the general well-being of individuals have been highly debated (May and Diga, 2015). The usage of ICTs tools by the disadvantage (i.e., poor, less educated, rural dwellers) have been determined to influence specific dimensions of inclusive growth like empowerment and connectedness in the disadvantaged communities, mostly in the emerging economies (Baron and Gomez, 2013).

ICTs offer a broad spectrum of people the platform to creatively expand their income or productive outcome. For instance, the low cost and basic mobile phone can be used to access the Internet, enabling the owner to participate and navigate through the social media networking applications like Facebook or Twitter (May and Diga, 2015). The advent of innovative pricing regime, evident in the prepaid and micro payment service packages have enabled increasing accessibility and usability. Also, the public sector effort at providing ICT accessibility to the poor in rural and remote communities have been complemented by the private sector rapidly growing investment in some community-based ICT projects in

opportunity has on the completion of a given task. Thus, opportunity encompasses the situational factors,

emerging economies (Naik et al., 2012). While, there has been an increased accessibility to digital technology, yet, the divide persists most especially regarding usage. Therefore, the issue of digital inclusion has extended beyond accessibility and adoption to discourse on the implications of technology usage (van Dijk & Hacker 2003; Helsper et al. 2015). Following this trend, one of the most cited barriers to individual usage of ICTs is ability, which has been expressed regarding skill proficiency or educational level.

Moreover, the low income and social status of the poor have also hindered their abilities to afford and effectively use ICTs (Hasan et al., 2009). Accordingly, the major barriers to inclusive ICTs usage have started to receive adequate attention. Nevertheless, there is limited knowledge on how these factors influence individual inclusiveness. Specifically, despite the expanding access and usage of ICTs, the implications of user's level of engagement on the intended outcome of inclusive growth have been less evident.

Theoretical Framework

The ability, motivation and opportunity framework explains the underlying factors for individual's engagement in information processing (MacInnis and Jaworski, 1989). Thus, further to ability, i.e., skills and training, variation in individual's engagement in performing a given task can also be explained by the motivational and opportunity component. Ability refers to the knowledge, skills, and experience that underlie the completion of a given task. As compared to those with lesser ability, individuals with greater ability are more likely to process information completely. Motivation relates to individual's willingness, drive and desire to behave in a certain way. Thus, motivation can be expressed in terms of the direction of one's effort, its intensity and how persistent its. Opportunity is an essential factor, which captures one's awareness of the possible adverse effect, which lack of

which are the facilitating conditions to perform the behaviour of interest.



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The ability, motivation and opportunity framework was originally suggested to explain consumer's response to the advertisement, however, its emphasis on both the internal and external factors underlying information processing has made it appropriate in different contexts (Bigne et al., 2015; Hughes, 2007). The framework is a meta-theory, which posits a high-level generalization/abstraction about the antecedents of human behaviour (Hughes, 2007; Gregor, 2006). Therefore, the nature of the relationships among the variables is subject to the context of the investigation.

One of the key elements of modern citizenship is digital inclusion (Park and Kim, 2015). Digital citizenship is the ability to participate effectively online (Mossberger et al., 2008). This is possible when an individual can access the Internet and use it for the meaningful purpose (Ito et al., 2008). The meaningful use of the Internet is measured by the beneficial outcomes generated by the user (Gurstein, 2003; Kim and Park, 2015). According to Gurstein (2003), the effective use of digital technology requires "the capacity and opportunity to successfully integrate ICTs into the accomplishment of self or collaboratively identified goals". While the capacity relates to the internal factors within individual's control, the opportunity entails the situational factors that could influence usage. Social cognitive theory corroborates on the role of the internal and external antecedents in shaping individual's behaviour (Bandura, 2001). For instance, through human agency, individual exhibit their power of choice over outcomes and leverage on their awareness to continually regulate their behaviour in tandem with the desired outcome (Bandura, 2001). This regulatory influence is called self-efficacy, which is enacted through the belief in one's capability to successfully control actions or outcomes. According to Wood and Bandura (1989), these beliefs are based on the awareness that one possesses the requisite cognitive abilities, motivation, and resources to complete the task. While the significance of ability on usage behaviour has been widely acknowledged in the Some users have leveraged its capabilities in enhancing individual or collective productivity, while others have recorded the little or negative impact. Thus, in attempt to explicate the underlying

digital divide, yet the implications of the other factors have not been fully investigated. Despite the expanding access and usage of ICTs, the implications of user's level of engagement on the intended outcome have been less evident. Thus, in attempt to explicate the underlying cause, we posit that the ICTs usage is determined by the individual's ability, motivation and the opportunity provided in terms of the support provided for effective usage.

The presence of an opportunity to access digital technology might not directly impact on individual's engagement with the technology. Nevertheless, the opportunity could be a situational determinant of how one's competence and disposition relate to individual's engagement. Therefore, the effect that individual's ability or motivation has on her engagement with digital technology could be contingent on the opportunity to access the technology. For instance, an individual with the requisite digital skills might not be able to engage with digital technology, due to impediments to poor Internet access, unreliable or lack of devices as well as other information infrastructure. On the hand, the presence of opportunity might encourage an unwilling individual to engage with digital technology. An individual might be driven to use digital technology because of the need to conform to group behaviour. When everyone around is using the technology, individual's might unwillingly engage with the technology to conform to group identity. Likewise, individual's willingness to engage with digital technology might be enhanced because of the support of those within her network, who are using similar technology.

Consequently, further to the existing conceptualization of ability has the underlying factor of ICTs usage, we posit an encompassing determinant regarding individual's engagement. Specifically, we argued that the increasing accessibility of ICTs has triggered major changes in user behaviour in terms of their engagement with the tools.

cause, we posit that an entrepreneur's ICTs usage is determined by his/her ability, motivation and the opportunity provided in terms of the supporting mechanism for ICTs usage. Furthermore, ICTs usage is



hypothesized as the link from entrepreneur’s engagement to economic empowerment, i.e.,

inclusiveness. The conceptual model is represented in figure 1

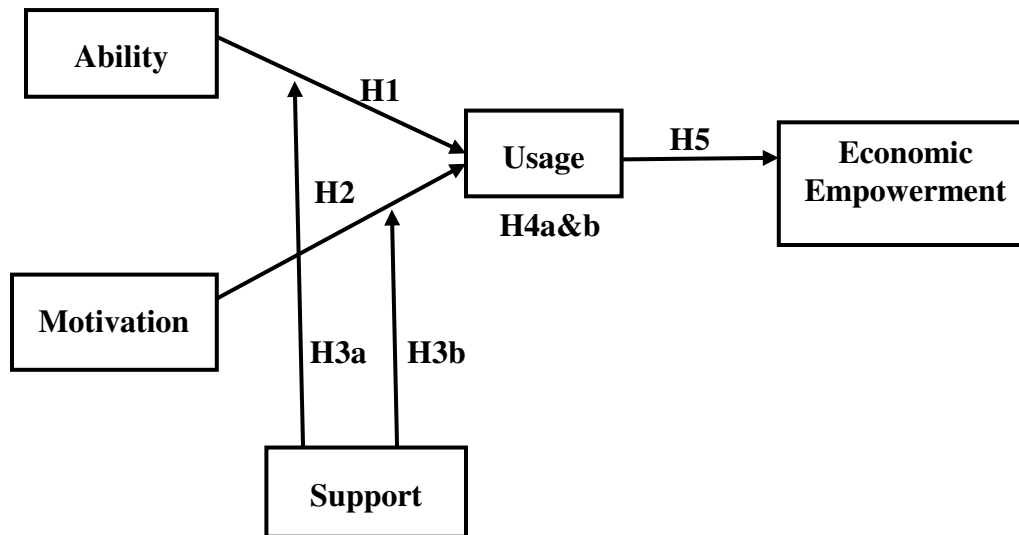


Figure 1. Conceptual model

Hypotheses

H1. Entrepreneur’s ability is positively related to ICTs usage.

H5. Entrepreneur’s usage of ICTs is positively related to economic empowerment.

H2. Entrepreneur’s motivation for ICTs is positively related to ICTs usage.

H3a. The level of support determines the strength of the relationship between entrepreneur’s ICTs ability and ICT usage.

H3b. The level of support determines the strength of the relationship between entrepreneur’s motivation and ICT usage.

H4a. Entrepreneur’s ICT usage mediates the relationship between ability and economic empowerment.

H4b. Entrepreneur’s ICT usage mediates the relationship between motivation and economic empowerment.

policy makers on the pertinent attributes of the B40 entrepreneurs that can be considered in creating the enabling environment, where technological capabilities can be harnessed to support inclusive growth. This

Conclusion

The present study extends extant focus on the role of ability in technology adoption, by integrating the motivational and opportunity components, to conceptualize the impact of individual’s engagement on inclusiveness. Specifically, it deepens understanding on the implications of individual’s engagement in ICT on economic empowerment. The hypothesized model will be tested with data to be collected from the survey of agro-based business entrepreneurs living in rural and underserved communities across West Malaysia. Furthermore, the expected findings will contribute to the Eleventh Malaysia plan on inclusive growth by demonstrating the dimensions of the underserved population, i.e., B40 that are significant to their engagement with digital technology and how this could deepen economic empowerment. Furthermore, this study will offer insights to

is expected to have implications for policy implementations on the enhancement of the quality of life of B40 entrepreneurs and wealth creation in the rural communities in Malaysia.



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