

# Empowering Cooperatives and Small and Medium Enterprises through E-business

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**Abstract:-** For many countries, their economic sustainability often chiefly relies on the growth of their small and medium enterprises (SMEs). For the proponents of “people’s economy” concept among those countries, especially the developing ones such as Indonesia, cooperative enterprises (cooperatives) have similarly been regarded as the cornerstone of economic resilience. Confronted with rapid and unprecedented shift towards preference for digital commercial activities, cooperatives and SMEs seem to be caught off guard catching up with the global market that has, to an increasing extent, gone digital. The lack of adoption of information and communication technology and the Internet to conduct business or so-called e-business among cooperatives and SMEs is despite e-business’ self-evident potentials. E-business could facilitate, among others, access to larger markets, cost reduction in supply chain through disintermediation, increased productivity and potentially a competitive advantage. These potentials may also be applicable to cooperatives and SMEs as already demonstrated in large enterprises. This study presents the current understanding surrounding the e-business phenomenon in the context of cooperatives and SMEs. As competitive pressures scrape away cooperatives and SMEs’ scarce resources, our analysis suggests the need for them to be empowered by e-business in order increase their ability to grow in today’s e-business-dependent environment. As cooperatives share several common characteristics with SMEs such as mainly in their limitation of readily available resources and enterprise diversity, the analysis further suggests a potential approach to the lack of adoption problem and spur uptake by adapting and extending a particular e-business framework used by SMEs. Finally, given the importance of cooperatives and their limited use of e-business, the analysis also implores scholars to address the currently minimal research in this area.

**Keywords:-** Cooperatives; Co-op; Small and Medium Enterprises; SMEs; E-business Information and Communication Technology; ICT; Internet; People’s Economy.

## I. INTRODUCTION

It is widely acknowledged that small and medium enterprises (SMEs) contribute significantly to employment, gross domestic products (GDP) and exports [1]. This is no surprise given the majority of all enterprises in the world are categorized as SMEs. Governments have paid close attention

to SMEs given their importance to economic growth. There is a relationship between SMEs sector size and economic growth of a country [2]. In many cases, usually in conjunction with their SMEs development efforts, governments have promoted cooperatives as an alternative ownership model compared to the common privately owned corporations. This is due the significance of cooperatives to the economy; cooperatives contribute at least 12 per cent to G20 countries’ employment and in some countries such as Nigeria, the number reaches 63 per cent of the total population [3].

Many countries including our own Indonesian government, as evidenced by the regulatory products regarding cooperatives, hold cooperatives in high regard as it promotes the so-called “people’s economy”. In other words, cooperative’s principles dictate that enterprises are owned and run democratically by their members serving their own needs. This helps explain how cooperatives create and maintain stable employment especially in rural areas to potentially reduce poverty and increase quality of life [4]. With the advent of the Internet and their increased use for commercial activities, the economic environment in which cooperatives and SMEs operate have changed dramatically in the last two decades. The market has largely gone online preferring business transactions to be conducted on the Internet. At global level, Internet user penetration has reached an average of 43% as while in developing countries the average is at 35% [5]. According to various reports, many of these Internet users have increasingly shopped online, especially in developed countries [6].

Using the Internet-based applications to conduct business activities, also known as e-business [7], can potentially provide enterprises with increased productivity and other financial and non-financial advantages. While the market is rapidly moving online, SMEs – including cooperatives among them – are known to be slow to adopt e-business despite all the advantages it promises. In Indonesia for instance, according to the Ministry of Cooperatives and SME, e-business adoption among SMEs is at 0.15% as of 2012 [8].

The objective of this study is to present the current understanding of e-business phenomenon in the context of cooperatives and SMEs. This is expected to provide policy makers and practitioners with insights into the issues at hand. Correspondingly, this study suggests future research directions in cooperatives, SMEs and e-business research area.

## II. RELATED WORK

This section reviews the current literature concerning cooperatives, SMEs and their e-business use. It starts by defining the cooperatives and SMEs and briefly discuss their characteristics. This is then followed by sub-sections that describing potentials of e-business, its relevance and adoption among cooperatives and SMEs.

### A. Cooperatives and SMEs: Definitions and Characteristics

According to the International Cooperative Alliance [9], the term cooperative is defined as “an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise”. In other words, cooperatives are enterprises that are owned and operated by members to serve their own needs. The ICA also states that cooperatives are typically formed around seven internationally recognized principles, namely 1) voluntary and open membership, 2) democratic member control, 3) member economic participation, 4) autonomy and independence, 5) education, training, and information, 6) cooperation among cooperatives, and 7) concern for community. The Indonesian Ministry of Cooperatives and Small Medium Enterprises, as outlined in Cooperative Act number 25 of 1995, recognize at least the first six of the international principles.

Through these principles, cooperatives are unique compared to common privately owned corporations. For instance, in cooperatives, dividends are distributed equitably to members who have equal voting rights on the basis of patronage, resulting in direct of income for members. This is in contrast to corporations whose dividends are distributed based on the number shares owned. As highlighted by The United States National Cooperative Business Association [10], cooperatives are unique in several other ways such as their existence and motivation in the market is to only serve their members with quality and affordable products or services.

Cooperatives have been established in various types across sectors, from farmer-owned agricultural enterprises to fan-owned football clubs, giving members control over things that matter to them. Historically, the most extensive and successful cooperatives in the world have been in Western Europe and North America [10]. Cooperatives are particularly popular in agricultural sector as 50% of agricultural product marketed through cooperatives [4]. In Indonesia, around 15% of total population are cooperatives members. 70% of these are in rural areas serving the agriculture sector [4].

As many of cooperatives happen to be SMEs, strong SMEs policy helps cooperatives. SMEs on the other hand are defined commonly by their small workforce and turnover compared to large enterprises. Definitions of SMEs vary across countries and regions. In Indonesia, for instance, SMEs are defined as enterprises that possess assets worth between Rp.200 million-Rp.10 billion, with annual turnover less than Rp.1 billion and employ 5-99 employees, while in

the European Union SMEs are defined as enterprises that have annual turnover less than € 50 million and employ 50-200 employees.

Beyond the formal definitions, SMEs also have their own unique characteristics when compared large enterprises. SMEs tend to have small and centralized management, be typically strongly influenced by owners/managers, have few resources, and be risk averse [11]. In addition, SMEs objectives for striving as an enterprise vary and are not always about economic gains as they may focus on others such as lifestyle, family, or simply survival [12]. Similar to cooperatives, SMEs have been established in various sectors. Taking into account their unique characteristics makes SMEs a diverse set of enterprises. According to the United Nations Report of the Secretary General, there are two further characteristics and issues that cooperatives share with SMEs, namely lack of finance and quality training [13]. As SMEs tend to be more adaptive than large enterprises, they are suitable candidate for adopting e-business [14].

### B. The Promised Potentials of E-business

The E-business provides efficient ways to communicate and trade, transforming the way enterprises do activities along value chain such as procurement, production, delivering goods and services, and supporting activities such as finance and human resources [15].

For merchants, e-business enables higher visibility and global reach for their products beyond the confinement of local physical markets. This access to global market is provided to SMEs and cooperatives efficiently given the ever-decreasing costs of setting up e-business channel on the Internet, thereby reducing the overall marketing and operational costs. This in turn also enables them to bypass intermediaries and sell directly to wider pool of potential customers. This disintermediation enabled by e-business is likely to provide positive impact for SMEs and cooperatives as their goods and services tend to be sold through intermediaries, giving them lesser command on the revenue stream. It is also potentially beneficial for consumers as e-business provides them more options in transparent manner, enabling them to compare and receive better or even customized offers. The application of this potential is best illustrated by a case of a cooperative in Guyana who sold their cultural products directly to end consumers, significantly increased their sales and empowered the women who make the products [16].

In a similar highly documented case in India, farmers use e-business application named eChoupal as a marketplace in lieu of traditional agricultural market [17]. With eChoupal, farmers can get a quote and paid on their produce within two hours. In addition to being a marketplace for their produce, farmers can purchase agricultural supplies, and receive information such as real-time crop prices, farming best practices, weather, and other agricultural data, information and services that may be useful for them [18].

This particular digital marketplace model of e-business empowerment for SMEs and cooperatives has been

rigorously studied by information system scholars. In a study published in MIS Quarterly, it is found that the use digital e-business platforms enabled farmers or producers to obtain significantly higher prices [19]. In the same study, it is also found that the participants or consumers of the agricultural digital market receive better prices.

As e-business permits automation of supply chain activities, time to market and operational costs can be reduced as illustrated by the e-business application of just-in-time production. Indeed, in a large study of multi-country SMEs, adopting e-business has been proven to provide tangible financial benefits, though they were not evenly distributed across industries, regions, and technologies [20]. If used strategically, e-business can also be used to wield competitive advantage in the market [21]. As demonstrated by a US-based cotton cooperative, the use of e-business saw the transformation of their enterprise from a small cotton merchant with \$50 million revenue to a major cotton brokerage \$500 million revenue in 15 years [22], [23].

In addition to the ones already mentioned, previous studies have pointed out other potential benefits of e-business adoption, including improved customer service, enhanced enterprise brand, increased market share, better scalability and interoperability, improved business processes, integrated supply chain, customer loyalty, which all could contribute to potentially reducing poverty in developing countries [15], [19].

### C. E-business Adoption among Cooperatives and SMEs

The template is used to format your paper and style the text. Despite all the opportunities for growth that SMEs could seize from e-business, the adoption has been slow. This may help explain the motivation behind many interests in studying the drivers and barriers to adoption of e-business among SMEs [12] as doing so is crucial in realizing the potentials described in the previous section.

Scholars have noted that certain factors tend to drive adoption of e-business among SMEs. These include perceived benefits of e-business, knowledge and expertise of e-business, management attitude towards innovation, and e-business perceived compatibility [24]. Correspondingly, the factors that tend to act as barriers to adoption are lack of knowledge of e-business and its benefits, perceived high costs, perceived complexity, and perceived risks associated with implementation of e-business [24]. The applicability and significance of these factors vary across business environments, which is contributed by the diverse nature of SMEs beyond their demographical attributes [12]. For instance, while high implementation cost is found to be highest barrier in Iran, perceived risks is found to be highest barrier in Malaysia [15].

The diversity calls for more personalized approach to the issue of lack of adoption of e-business among SMEs, as one-size-fits-all approach may limit the potential for success of measures for the issue. A common example of such measures is financial aid given to SMEs to foster adoption. Previous studies report that such financial assistance might

not always work and could produce even unintended results. In a study of Indonesian manufacturing SMEs, it is found that financial assistance might not necessarily correlate with higher adoption of e-business [25]. This is supported by a study of Malaysian SMEs suggesting that SMEs who had received financial assistance were not more likely to adopt e-business [26]. These reports imply the opposite of what the literature commonly suggest, namely high cost associated with e-business being one of the top barriers.

Following this enterprise diversity's train of thought, an intervention strategy of recommending a universal e-business application for SMEs in order to spur adoption is becoming increasingly moot. Likewise, recommending a standard "adoption ladder" of e-business applications to be adopted by SMEs in sequential fashion is also met with criticism [27]. We introduced potential solution to this with a non-linear approach to e-business application selection through the concept of e-business capability [24]. E-business capability is defined as the use of e-business to support value chain activities e.g. communication with customers, order tracking, and procurement [28]. Instead of following the prescribed "ladder" of e-business applications, the approach based on e-business capability recognizes the enterprise diversity and facilitates selection of e-business capability and corresponding application that may suit SMEs' needs and priorities. This approach was introduced as part of an integrated framework of e-business for SMEs that take into account the e-business adoption factors, SMEs readiness profiles, and e-business implementation (see Fig. 1).

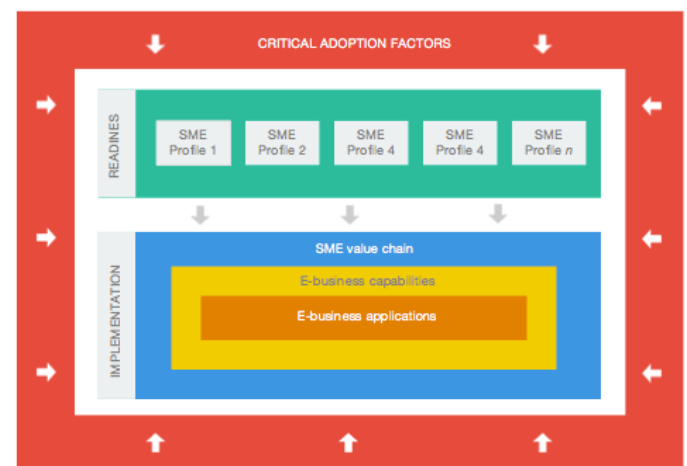


Fig. 1. The integrated e-business for SMEs framework [24]

Unlike the burgeoning interests from the research community to study e-business in SMEs context, research on e-business within cooperatives are not as prevalent. Searches of the keywords "cooperatives" and "cooperative" as the unit of analysis or subject of interest in Association for Information Systems' Senior Scholar's Basket of Journals for the last 26 years (1990-2015) on Google Scholar yielded minimal results. The search of the keywords from the aforementioned journals resulted in one research article on use of e-business in cotton cooperative as we discussed in the previous section.

Outside the basket of journals, the literature on cooperatives and e-business is limited to a few articles, mostly highlighting the factors affecting adoption of e-business or information technology in general. In a study of cooperatives in Spain, it is revealed that top barriers to adoption include ignorance of the medium, lack of financing, and consumer habits, while drivers include new markets and greater profits [29]. On the other hand, in the case of Thai agricultural cooperatives, the driving factors include positive attitude towards innovation, knowledgeable manager or employee about information technology, and awareness of economical, political, social, cultural and technological issues [30]. These findings correspond to much of what have been reported in the e-business for SMEs literature.

### III. RESEARCH DIRECTIONS

As pointed out by previous research, given SMEs diversity, current research lacks the necessary practicality to spur adoption of e-business [24]. Research on drivers and barriers to adoption is useful in setting the necessary environment for successful adoption. However, to take into account SMEs diversity, intervention strategies need to be personalized for different profiles of SMEs. To accomplish this, future research in this area includes defining the available readiness spectrums or e-business readiness profiles of SMEs as basis for personalized intervention strategies.

Though cooperatives exhibit different units of analysis compared to SMEs, they both share similarities in terms of resource limitations and enterprise diversity. For this reason, an integrated framework for SMEs could be extended to include cooperatives as additional units of analysis. As, in many cases, cooperatives are largely SMEs e.g. in Europe [31], extending the use of the integrated e-business for SMEs framework to cooperatives becomes more reasonable and could prove to be useful.

Given the economic significance of cooperatives and e-business and lack of related scientific contribution, it beckons more research in this area. The agenda for future research should not only cover discovery and validation of factors affecting adoption and strategies to increase adoption, but also practical use cases of e-business for cooperatives and their measurement of their impact at both organizational and national levels.

The diversity aspect of SMEs and cooperatives especially surrounding the nature of each unit of analysis invites research into unexplored factors that can potentially affect adoption. Other potential factors and issues worth exploring are with regard to SMEs business motivation and objectives. As demonstrated by a particular study, a factor of internationalization of SMEs might have more influence on adoption than financial assistance [25]. Other issues worth exploring include SMEs entrepreneurial objectives, which as discussed previously vary beyond common economic pursuits and may have inherent effect on adoption.

### IV. CONCLUSIONS

This study made an effort to offer understanding of current research on cooperatives and SMEs with regard to their e-business adoption. Our analysis suggests that competitive pressures in today's e-business-dependent environment necessitate SMEs and cooperatives to be empowered by e-business to continue growing. Much of the rationale behind adopting e-business for SMEs is the promised increased productivity. SMEs tend to be less productive and pay lower wages than their larger counterparts; being more productive is key to unlocking further growth. To address the lack of adoption issue among the diverse SMEs and cooperatives, our analysis suggests a more practical research agenda and solution to be devised. It is then suggested that a personalization approach to intervention strategies to the issues be utilized. As SMEs and cooperatives share similarities in terms of limitation of resources and enterprise diversity, we also suggest to extend the use of the integrated e-business for SMEs framework to cooperatives. However, more research needs to be done in order to shape these future research ideas into sound research propositions. Finally, as research on cooperatives and e-business are limited, the study implores scholars to consider contribute more to this research area.

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