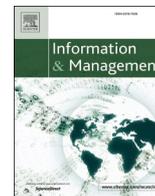




Contents lists available at ScienceDirect

Information & Management

journal homepage: www.elsevier.com/locate/im

The emancipatory potential of digital entrepreneurship: A study of financial technology-driven inclusive growth

Carmen Leong^{a,*}, Felix Ter Chian Tan^a, Barney Tan^b, Fithra Faisal^c^a UNSW Business School, UNSW Sydney, Australia^b The University of Sydney Business School, The University of Sydney, Sydney, Australia^c Faculty of Economics University of Indonesia, Indonesia

ARTICLE INFO

Keywords:

Digital entrepreneurship
Emancipation
Fintech
Case study

ABSTRACT

Digital entrepreneurship possesses immense societal implications beyond its commercial significance. Yet our knowledge of the emancipatory potential of digital entrepreneurship remains limited because few studies have gone beyond the conventional emphasis on profits and wealth creation. Drawing on the emancipatory perspective that views entrepreneurship as change creation through the removal of constraints, this article examines how emancipation can occur through the actions of digital entrepreneurs. Using an empirical investigation of entrepreneurial endeavours set against disadvantaged communities in Indonesia, we uncover constraints facing a developing economy and the role of digital technologies in ameliorating them. Through extensive fieldwork and in-depth case study analyses, we identify constraining societal norms and restrictive practices, as well as the three forms of digital enablement - to emulate services, aggregate capital and equalise opportunities - necessary for the enactment of digitally enabled emancipation. We present a framework to illustrate the enactment of emancipatory digital entrepreneurship for the inclusive development of businesses and communities.

1. Introduction

Entrepreneurship is a critical pillar of growth in modern economies [1,2]. The application of digital technologies to entrepreneurship, or *digital entrepreneurship*, plays a pivotal role in driving innovation and the entrepreneurial undertakings of individuals, contemporary businesses and government organisations [3,4]. Furthermore, the research on digital entrepreneurship holds broader implications because technology can potentially help developing and disadvantaged communities and non-profit organisations to discover social problems and, in turn, provide the setting for citizen entrepreneurs to discover new business opportunities.

Apart from being seen as a solution to revitalise global markets and create new jobs amid the sluggish recovery from the global financial crisis of 2008, the emancipatory potential of digital entrepreneurship is significant [5,6]. The examples of India's e-Choupal, Kenya's M-Pesa [7] and China's Taobao villages (see [8]) have demonstrated how digitalisation contributes to poverty alleviation, community empowerment and the promotion of inclusive development to the extent that digital entrepreneurship is now one of the key priorities advocated by many

countries and international bodies, including the European Commission, the World Bank and the Organisation for Economic Co-operation and Development (OECD). Similarly, the United Nations Development Programme (UNDP) sees inclusive development as an approach whereby all groups of people contribute to creating opportunities and share the benefits of development [9]. The development of inclusive growth is pivotal to economic growth that is broad-based and sustainable because it provides opportunities for all communities to contribute to opportunity creation and to share the benefits of development [10].

Despite the growing recognition of the emancipatory potential of digital entrepreneurship for inclusive development, our knowledge of the precise mechanisms through which emancipation occurs and the roles of digital technology remains thin. This lack of knowledge may be due to at least three gaps in the literature. First, the majority of studies on digital entrepreneurship tend to examine the phenomenon in the context of advanced economies characterised by a sophisticated business and technological landscape (e.g. [11]). Emancipation and inclusion are typically far less of a concern in these economies because there are fewer social constraints, which render these studies less appropriate for explaining how emancipation occurs in other economies.

* Corresponding author.

E-mail addresses: carmen.leong@unsw.edu.au (C. Leong), B.Tan@econ.usyd.edu.au (B. Tan), f.tan@unsw.edu.au (F. Faisal).

<https://doi.org/10.1016/j.im.2020.103384>

Received 30 August 2018; Received in revised form 19 September 2020; Accepted 29 September 2020

Available online 23 October 2020

0378-7206/© 2020 Published by Elsevier B.V.

Second, emancipation itself is rarely the focus of digital entrepreneurship studies. Most studies emphasise *wealth creation* through the exploitation of profitable opportunities [12]. While this is to be expected, given that digital entrepreneurship is inherently a commercial activity, these studies are limited in explaining the rise of phenomenally successful social enterprises in emerging economies, which are in essence entrepreneurial undertakings seeking to achieve both social good and financial gains through change creation [2].

Third, of the handful of studies that focus on the social implications of digital entrepreneurship (and consequently may shed light on its emancipatory potential), most are anecdotal (e.g. [13–15]). To the best of our knowledge, no systematic and empirically grounded studies exist that explore digital entrepreneurship for inclusive development. Such studies are needed to reveal the complex interactions among the role of information technology (IT), entrepreneurial motivation, social constraints and other contextual factors that come into play when digital entrepreneurship is applied towards a social cause [16].

To address these gaps, the research question for our study is: How does digital entrepreneurship lead to emancipation? We draw on an emancipatory perspective of entrepreneurship that sees ‘entrepreneurship as *change creation* through [the] removal of constraints’ ([12], p. 479) to uncover the role of digital technologies. One way to uncover the intricacies of emancipatory digital entrepreneurship is by examining how it facilitates microbusinesses in emerging economies towards the attainment of inclusive development (e.g. [17]). A microbusiness is typically defined as a business with less than five employees [18] and like all businesses requires resources to function [19]. In particular, we conducted an in-depth investigation into the role that financial technology (Fintech) plays in the growth of microbusinesses and subsequently financial inclusion across Indonesia, a nation where micro, small and medium businesses account for approximately 97 % of total employment [18]. The aim is to explore digital entrepreneurship and, more specifically, how it promotes the proliferation of microbusinesses in this specific setting. Our study offers insights into emancipatory digital entrepreneurship, which we define as a form of digitally enabled entrepreneurial actions that overcome social constraints, and sheds light on the role of technology in realising the social value of digital entrepreneurship.

This article is structured as follows. In the next section, we summarise the extant literature on digital entrepreneurship and discuss the notion of emancipation. In the third section, we describe the case research method adopted in the study, including how we collected and analysed the data. Then, we discuss the findings and observations from our study before presenting their implications in the concluding section of this article.

2. Literature review

In this literature review, we introduce the theoretical foundations of the study. We provide a synthesis of digital entrepreneurship research and present knowledge gaps in the extant literature. Next, we discuss emancipation and the concepts of entrepreneurial constraints – emancipation endeavours – which form the basis for our examination of emancipatory digital entrepreneurship.

2.1. Digital entrepreneurship

Digital entrepreneurship refers to the pursuit of business opportunities based on the use of digital technologies [20]. In recent years, the infusion of new technologies has underscored how digitalisation can create novel opportunities for innovation [21]. These new technologies include new types of digital infrastructures that represent technology tools and systems (e.g. crowdfunding systems and 3D printers) offering communication, collaboration and/or computing capabilities to support innovation and entrepreneurship [4]. This, in turn, leads to more collective ways of pursuing entrepreneurship and the democratisation of

entrepreneurship. By lowering information barriers, reducing entry cost and generating possibilities, the use of IT encourages experimentation and gives rise to new opportunities for entrepreneurship. Like conventional entrepreneurship, digital entrepreneurship involves risk-taking, typically with limited resources under control and within an uncertain environment [22,23].

Entrepreneurship is recognised as an economic and social phenomenon [15]. While IT has been widely acknowledged for its pivotal role in driving entrepreneurial development for economic performance in developed countries over the last 15 years [3], it is also gaining recognition for its emancipatory potential [24,25]. The facilitation of microbusinesses in emerging economies, in particular, can contribute to poverty alleviation, community empowerment and inclusive development, and it is one of the primary means through which the social value and emancipatory potential of digital entrepreneurship can be realised [26,27].

To illustrate, IT can facilitate the development of microbusinesses in several ways. It can serve as a *channel* for information distribution (e.g. digitised information sharing through India’s e-Choupal) or the *product/service* itself (e.g. electronic prepaid mobile calling cards). On a larger scale, IT can also manifest in the form of an online *platform* that enables the proliferation of online shops by lowering the entry barriers to starting a business (e.g. China’s Alibaba and Taobao platforms) [28]. More recently, we are witnessing the emergence of small-scale complementary service providers (e.g. Kenya’s Sindy couriers) due to the availability of these online platforms [14].

Given the myriad ways through which businesses develop, scholars have contended that the focus of research should move from forms of technology to the forms of entities that leverage technology to enable businesses. In this study, we refer to these entities as digital *enablers* [16] that hold the key to actualising the social value and emancipatory potential of digital entrepreneurship [16,29]. The premise is that even if a technology is available, there may be few entities with the knowledge or capability to leverage it towards the attainment of the desired outcomes, especially in the context of emerging economies [16].

Our review of the literature indicates that research on digital entrepreneurship, while growing, has been limited mostly to the context of advanced economies. Situated against a backdrop characterised by high-speed technology development, rapid adoption of disruptive technologies and short-lived digital competitiveness [30], studies on digital entrepreneurship found in the extant literature have been interested primarily in the exploitation of opportunities generated by contemporary IT to create something new, including products or services, markets, production processes or raw materials, ways of organising and business models [31]. Consequently, the findings of these studies may have limited applicability in the context of emerging economies, where the factors required to support entrepreneurial activities, such as technological infrastructure, regulatory systems, the availability of financial support and a skilled workforce (e.g. [32]), are non-existent or scarce.

In addition to the focus on a single context, existing conceptualisations of digital entrepreneurship are largely limited to activities of wealth generation. Drawing on Aldrich’s [33] study of conventional entrepreneurship, we find that the majority of digital entrepreneurship studies tends to centre on one of the four archetypes of entrepreneurship. The first archetype regards entrepreneurship as the creation of new organisations. For example, Fisher [34] and Spiegel et al. [35] have focussed on examining internet start-ups and how IT gives rise to a competitive advantage leading to the inception of new businesses [36]. The second archetype views entrepreneurship as the transformation of existing firms or industries (e.g. [22]). This archetype is related to the intrapreneurial ventures that occur within large multinationals [3] or the upheaval of existing logics, habits, routines or practices within organisations (e.g. see [37,38]).

The third archetype views entrepreneurship as the creation of new products or markets. For example, Sitoh et al. [39] have examined the

entrepreneurial effort of the founder of a video game start-up in actualising the affordance of technology to develop a series of innovative market offerings. The fourth archetype regards entrepreneurship as the recognition and pursuit of profitable opportunities. Several digital entrepreneurship studies have aligned with this category and have been concerned with how opportunities can be identified through different mechanisms, including opportunity recognition, discovery and creation [40], as well as how, by whom, and with what effects opportunities are discovered, evaluated and exploited to create future goods and services [41]. These studies have included the evolution of a software company's business model amid conditions of uncertainty [42] and the mechanisms of opportunity appraisal stemming from technological and commercial considerations [43].

Notwithstanding the theoretical and practical contributions of these studies, digital entrepreneurship, being inherently a commercial activity, can have profound and far-reaching social implications as well [12]. Without a thorough understanding of its social implications, the immense potential of digital entrepreneurship to change established rules, norms and structures to alleviate the suffering and constraints of others may be difficult to realise. Moreover, of the handful of studies in the digital entrepreneurship literature that delves into its social implications, most are anecdotal. The few exceptions of empirical studies in the literature include the works of Avgerou and Li [44] and Tarafdar et al. [45], who explored the innovative use of IT for socio-economic value by facilitating micro-entrepreneurship among the marginalised at the *bottom of the pyramid* or the poorest socio-economic group of society [46,47]. These studies have placed such a strong emphasis on the social side of digital entrepreneurship, however, that they may have overlooked 'those entrepreneurs that seek to maximize both social change and profitability' ([13] p. 1206). In other words, an exclusive focus on the economic implications of digital entrepreneurship represents only half of the equation, but an overemphasis on its social aspects also neglects the mechanisms that sustain its development [2]. We posit that a balanced view of the economic and social implications of digital entrepreneurship is required.

In summary, the lack of attention to the context of emerging economies and the absence of systematic studies on the social implications of digital entrepreneurship limits our understanding of its emancipatory potential [48,49]. To address this lack of knowledge, this article examines how digital entrepreneurship can facilitate microbusinesses in an emerging economy, which is a key means for realising the emancipatory potential of digital entrepreneurship. Accordingly, we turn our attention to the literature review on emancipation to guide our enquiry [50,51].

2.2. An emancipatory perspective of digital entrepreneurship

The Marxist philosophy of human emancipation suggests a struggle against opposing forces and navigating rules of discourse at the community level, often through social production, work and practice. This philosophy provides deep insights into how humans develop themselves in production, transform themselves, develop new powers and ideas, and bring out new qualities in themselves through new modes of intercourse, new needs and new language [52]. Since Marx's dialogue in 1844, the term '*emancipation*' has been bestowed with different definitions depending on the questions in study. In this article, we refer to emancipation as when 'individuals and groups become freed from repressive social and ideological conditions' (adapted from [53], p. 432) as a starting point.

To realise the latent potential of the repressed groups, emancipation has been studied in fields as varied as psychology and organisational behaviour [54]. It has also been studied across the spectrum: from the micro-level, which focusses on addressing individual repression, to the macro-level, which focusses on the broader socio-structural issues affecting society at large [55]. Emancipation has also been studied to some extent in the field of information systems (IS), from the

incorporation of an emancipatory ideal in an IS development project (e.g. [54]) to the emancipatory effects of IT, such as the IT-enabled participation of local government in Egypt (e.g. [49]), the digital self-expression of Moroccan women (e.g. [48]) and social media-enabled participation in public discourse (e.g. [56,57]).

Across the various fields, levels of analysis and research contexts, the notion of emancipation has a similar meaning. Emancipation is enacted to resist and challenge the underlying restraining structures of power (Inglis, 1997, [27]) that subject people to socially unnecessary restrictions, exploitation, alienation and domination and that inhibit their pursuit of autonomy and self-direction [58]. In line with Inglis [59] and Somek [60], who distinguish between emancipation and empowerment (i.e. the former focusses on resisting power structures, while the latter emphasises capacity development), we contend there is a need for attention to these restraining structures in the context of digital entrepreneurship in emerging economies because, as indicated previously, digital entrepreneurship does not only occur in developed economies [61]. A better understanding of these restraining structures, including societal norms, restrictive practices and rules, could hold the key to unlocking the full social value of digital entrepreneurship.

Entrepreneurial constraint is a form of the restraining structures discussed in the literature on emancipation. Instead of acquiescing to the constraints imposed by the environment or other external factors (i.e. societal norms, restrictive practices and rules), entrepreneurs often react with creative solutions that "reconfigure[] that landscape of what can be seen and what can be thought" thereby "alter(ing) the field of the possible and the distribution of capacities and incapacities" ([55], p. 34). This generation of changes is a central tenet of the emancipatory perspective of entrepreneurship. More specifically, the changes would remove or mitigate entrepreneurial constraints by transforming pre-existing structures of power that control and limit resources and opportunities [12,17,60].

Although addressing constraints is a fundamental objective of emancipatory entrepreneurship, several researchers have noted a lack of research in this area (e.g. [62,63]). Most studies have treated the phenomenon either as a 'black box' by ignoring the ambiguity of the social structures from which emancipation is sought [64] or have focussed exclusively on subsets of individuals who are most in need of liberation from their existing social order (e.g. women in developing countries; see [62]). Even as Rindova et al. [12] have argued that entrepreneurial constraints can be 'of an intellectual, psychological, economic, social, institutional, or cultural nature' (p. 479), there is a lack of specificity. The 'limited understanding of the solidity of the structures they [entrepreneurs] seek to dislodge' ([12] p. 479) is perpetuated because the existing studies have expounded neither the nature nor, more importantly, how the constraints may be overcome to free individuals and groups from repressive conditions [53,63]. The key challenge to understanding these areas lies in the fact that constraints often depend upon the intricate nature of the socio-economic order and context in which they are embedded [62].

To overcome entrepreneurial constraints, researchers are urged to consider *emancipatory endeavours* [65], which represent practices that differ from pre-existing constrictive norms [62]. We argue that emancipatory endeavours are underpinned by the *seeking autonomy* aspect of emancipatory entrepreneurship because it emphasises the removal of constraints in one's environment during the pursuit of freedom and autonomy [12]. *Seeking autonomy* forms one of the core elements of emancipatory perspective on entrepreneurship, together with other two core elements: *authoring*, which refers to the acts of taking ownership in changing one's position of power in exchange relationships, and *making declarations*, which represents rhetorical acts about one's intentions to create change (ibid). Among the three, we posit that *seeking autonomy* is the action most unique to our context and research attention on entrepreneurial constraints because *authoring* and *making declarations* focus on the engagement of key stakeholders (exchange relationship) and mobilisation of support (investment), which also apply to other forms of

entrepreneurship.

Seeking autonomy comprises two mechanisms: *breaking free* and *breaking up* ([12] p. 480). *Breaking free* in the context of entrepreneurship involves *escaping* from forces that previously held power over the entrepreneur(s). It is the key to achieving *autonomy*. More importantly, however, entrepreneurs can remove constraints not only for themselves but also for others as they create new possibilities in their environments [12]. For example, Sitoh et al. [39] have shown how entrepreneurs of an e-commerce association have helped rural villagers in China break free from the supply chain limitations inherent within their community to give rise to a generation of entrepreneurs.

Breaking up, however, involves *leveraging* and potentially *amplifying* the transformational potential of a given entrepreneurial undertaking [12]. Several studies have revealed circumstances in which the emancipatory potential of entrepreneurial activities can be limited if the participatory competence of the emancipated groups is not maintained or enhanced. For example, displaced Palestinian women in Jordan remained low-cost, home-based producers of handicrafts because they were prevented by the restrictive practices of contracting with intermediary organisations [17].

3. Research method

This study adopted the interpretive case research method to address the research question and untangle the intricacies of emancipatory digital entrepreneurship. A qualitative approach was appropriate for the investigation, given that the phenomenon is complex and multi-faceted [50] and the existing knowledge surrounding it is limited [66]. Considering that emancipatory digital entrepreneurship is inherently complex and context-rich, given the multiplicity of stakeholders involved, the dynamics of their interaction and the diversity of practices, an objective approach was less appropriate [67]. The nature of our study, which is exploratory rather than confirmatory, suggested the need for an interpretive approach [68].

Based on the objectives of our study, two criteria informed the selection of our case study site. First, the site must have been based within a developing or emerging economy. Second, emancipation must have occurred through digital entrepreneurship or facilitation of micro-businesses through digital means. This allowed us to examine entrepreneurship constraints, emancipatory endeavours and the role of digital enablers. This also allowed us to examine the deep explanatory structures that underlied the sequence of events and were not directly observable [69]. The Indonesian Fintech sector was a particularly appropriate site because not only did it fulfil both criteria perfectly but also the development of the sector has led to several widely publicised success stories of digital entrepreneurship, inclusive development, social innovation and financial inclusion (e.g. [70]). This made the sector a revelatory case [71] for the purpose of studying emancipatory digital entrepreneurship.

3.1. Case background: the emergent Fintech sector in Indonesia

Indonesia, a developing country and emerging economy, has become the world's 10th largest economy by purchasing power parity according to the World Bank [72]. Since the Asian financial crisis in the late 1990s, there has been a steady growth in the country's national income per capita, from US\$560 in 2000 to US\$3374 in 2015 [73]. According to the World Bank [72], Indonesia is presently the largest market in South-east Asia and the world's fourth most populous nation at around 252 million. Microbusinesses have always been considered the backbone of the Indonesian economy [74]. Yet, despite the rapid growth of Indonesia's economy in recent years, numerous developmental challenges remain, including the uneven levels of development across the archipelago of over 17,000 islands and rising inequality. According to the World Bank [72] and based on March 2017 data, over 25.9 million Indonesians, or 20.78 % of the entire population, live below the poverty line.

Persistent gender inequalities, lack of access to vocational and technical training, and other socio-economic, ethnic and religious factors have often been cited as causes. For example, the majority of female entrepreneurs in Indonesia operate home-based microbusinesses that see very little growth. While more women are reported to run microbusinesses than men, women tend to lack basic vocational and technical skills, financial expertise and access to IT, so their businesses tend to be limited in scale and are confined to traditional craft sectors, such as artwork and clothes-making. Other inhibitors to the growth of many emerging economies like Indonesia include the lack of transport and communications infrastructure and poor urban planning.

In particular, lack of access to institutional finance has been cited as a key obstacle to the development and performance of microbusinesses in Indonesia [75,76]. The Financial Service Authority of Indonesia (OJK) estimates there are about 600,000 banks, credit unions, cooperatives and non-bank microfinance institutions in Indonesia, including informal organisations. Most are unregistered and unregulated [77], and collectively, they have been unable to meet the enormous demand for financial services within the country. It is against this backdrop that Fintech emerges as a potential solution.

Fintech is widely seen as an enabler of microbusinesses because it provides affordable and easier access to financial services [78]. As a reflection of the latent demand for financial services, since its emergence, the Fintech sector has grown explosively to the extent that the Central Bank of Indonesia has been forced to step in and establish a Financial Technology Office to monitor and regulate the sector. The Fintech Association of Indonesia (FAI) estimates that the demand for digital payments, business finance and personal finance via Fintech is around US\$15 billion. In one of our interviews, the president of the FAI explained the overarching aim of the Fintech sector: '*We seek disintermediation and aim to reduce the role of banks and financial institutions in providing financial services to the customers, changing the relations and interactions between financial institutions. This helps our members reduce financial risks, develop new markets and reach untapped customers.*'

3.2. Data collection

Data collection unfolded over a 13-month period, from early November 2015 to late December 2016. The research team comprised multiple investigators, which mitigated the potential influence of individual biases and increased our confidence in the interpretation of the data [79]. Interviews were our primary source of data [80]. In all, 44 interviews were conducted over two rounds of data collection. Eight interviews were later found to be less relevant to our investigation and were omitted from our analysis. Table 1 summarises the 36 interviews that were retained and used in our analysis. Our initial interviews, aimed at providing us with an overview of the Fintech sector, were conducted with several industry experts and government officials. Chain referral sampling [81] through our initial interviewees was then used to identify the rest of our informants because we did not have sufficient knowledge of the Fintech sector to identify them independently [82].

Representatives from various organisations consisting of technology platform owners, regulators, entrepreneurs, non-for-profit associations, small business owners and farming communities were approached for this study. As indicated in Table 1, the organisations featured in this investigation included (1) Kanopi Asia, a microfinancing solutions provider targeted at unbanked communities in rural villages; (2) iGrow, a crowdfunding platform that connected farmers to potential investors and (3) Xendit, a peer-to-peer (P2P) payment platform for small businesses. They were selected because our initial informants identified them as some of the strongest performers in terms of financial service offerings for inclusive development. More importantly, their entrepreneurial undertakings have facilitated the growth of microbusinesses in the country. Furthermore, we approached organisations such as the Central Bank and the FAI that provide overarching advice on regulatory compliance for microfinance and entrepreneurship across the country.

Table 1
Summary of Data Collection.

Organisation	Informant/Number of Interviews	Focal Themes
Kanopi Asia Provides mobile microfinancing for micro-entrepreneurs and digital solutions for microfinancing institutions	Co-founder 1 × 2 interviews	Constraints of unbanked community in villages Financial services Role of Fintech in community Impact on entrepreneurs
	Co-founder 2 × 2 interviews	
	General Manager x 2 interviews	
	Senior System Administrator	
Xendit Provides B2B and P2P payment transfer for e-commerce micro-entrepreneurs	Account and Partnership Officer	Constraints of merchants Financial products and services Role of Fintech Impact on entrepreneurs and small businesses Consumer feedback and impact on entrepreneurs and small businesses
	Micro-entrepreneur and Community Arisan leader (<i>Ketua Arisan</i>), Benhil <i>kampong</i> (village)	
	Micro-entrepreneur and Community Arisan member (<i>Ketua Arisan</i>), Benhil <i>kampong</i>	
	Founder x 2 interviews	
iGrow Online crowdfunding platform for agrarian entrepreneurs, farmers and land owners	Executive, Business Development	Constraints of farming community Financial products and services Role of Fintech in farming community Impact on farming community
	Executive, Business Development	
	Software Engineer (IT) 1	
	Software Engineer (IT) 2	
Central Bank and FAI Ensures regulatory compliance and provides advice on microfinancing and entrepreneurship	Online reviews and user testimonials	Role of Fintech for Indonesia Role of financial services authority Impact of Fintech on communities
	Co-founder & CEO x 2 interviews	
	Business Development Manager	
	Finance Officer	
Central Bank and FAI Ensures regulatory compliance and provides advice on microfinancing and entrepreneurship	Land Owner/Investor	Role of Fintech for Indonesia Role of financial services authority Impact of Fintech on communities
	Farm Surveyor	
	Farmer Co-ordinator (<i>Jonggol Farm</i>)	
	Farmers at <i>Jonggol Farm</i> x 8	
Central Bank and FAI Ensures regulatory compliance and provides advice on microfinancing and entrepreneurship	Fintech Director/Head of Office	Role of Fintech for Indonesia Role of financial services authority Impact of Fintech on communities
	Fintech Assistant Director/Legal	
	Fintech Manager/Senior Analyst	
	Fintech Manager/Senior Analyst	
Central Bank and FAI Ensures regulatory compliance and provides advice on microfinancing and entrepreneurship	Fintech Entrepreneur Association President	Role of Fintech for Indonesia Role of financial services authority Impact of Fintech on communities
	Fintech Entrepreneur Association President	

From our observations, interviews and subsequent analysis, we identified three distinct forms of enablement (which we will elaborate in the findings section) that underpin the functioning of the Indonesian Fintech sector platforms: (1) to emulate financial services, (2) to aggregate capital or sources of funding and (3) to equalise opportunities for entrepreneurial undertaking among entities. Consequently, our later interviews and analyses centred on entities operating within the sector that represented these forms.

The interviews, conducted by authors of this article, consisted of face-to-face interviews during fieldwork and follow-up telephone interviews. Most interviews were conducted in English, while some interviews were conducted in the native Bahasa language and later translated to English. Each interview lasted between 45 and 90 min, and an interview guide [83] was used to facilitate each interview [84]. A sample interview protocol and further details from the fieldwork are presented in Appendix A. The interview guides were not used rigidly [85] and included several open-ended, probing questions [86] because we sought to retain openness and variability during the interviews [87].

For instance, whenever new themes were uncovered, new questions would be added to the interview guide, often in real time during the interviews, to explore the emergent themes more deeply. All interviews were recorded and transcribed to ensure that a complete and accurate record was maintained [88,89].

Besides interview data, secondary data sought for analysis included newspaper articles, media releases, World Bank reports, company websites, online user reviews and testimonials. Furthermore, the researchers attended a series of Fintech workshops throughout 2017 across Indonesia for the purposes of networking and knowledge exchange. Secondary data strengthened our case description and provided further evidence of the impact of the organisations and their services on the communities.

3.3. Data analysis

Data analysis occurred concurrently with data collection, allowing us to adapt our interviews based on the insights we were uncovering [90]. The process unfolded through a mix of open, axial and selective coding (see [51]) based on our interview transcripts and secondary-data sources.

We first constructed a theoretical lens consisting of several theoretical dimensions (e.g. ‘Emancipatory Endeavours’) and second-order themes (e.g. ‘Breaking Up’ and ‘Breaking Free’) based on the literature on digital entrepreneurship and emancipation. Open coding was then used to assign conceptual labels to our primary and secondary data to form first-order concepts [91]. The first-order concepts were then categorised into the second-order themes of our theoretical lens via axial coding (Table 2 illustrates our coding process), while selective coding was used to group our second-order themes into several theoretical dimensions [51]. If the first-order concepts did not fit our existing second-order themes in axial coding, or if our second-order themes could not be easily categorised into our theoretical dimensions in selective coding, our coding schema would be refined with the addition, modification or deletion of conceptual categories (e.g. ‘emulate’, ‘aggregate’

Table 2
Representative Coding.

Data Extracts	Open Codes	Second-Order Codes
‘Banks <u>right now don’t have the infrastructure</u> to give anyone anything [referring to information]. It’s everything from a bank transaction itself, to like transaction balances. . . . We can’t get transaction history in an automated way. Banks here don’t store transaction history past 30 days, so you can’t actually do an audit.’ [Systems Developer, Xendit]	‘immature institutional structures and finance system’	Underdevelopment of financial sector as ‘restrictive practice’
‘It costs <u>money to send money to anyone</u> , so if I live in a reliantly cash world, why would I want to lose money? <u>Why store money in a machine that I have to travel to rather than under my pillow?</u> These were some of the sentiments we were hearing.’ [CEO, Xendit]	‘conventional means’ of transaction	

and ‘equalise’ were three second-order themes that were classified as part of a new ‘digital enabler’ dimension). When this happened, coding would be restarted accordingly. In recursively iterating between the extant literature and our data in this way [66], an emergent framework illustrating the enactment of emancipatory digital entrepreneurship was inductively derived and gradually shaped. This preliminary framework summarised the mechanisms that underlie the sequence of events during emancipatory digital entrepreneurship.

When the incremental additions or modifications of our emergent framework were particularly significant, summary devices such as tables and diagrams (e.g. Table 3 in the discussion section) were used to capture our theoretical ideas [92]. These devices were then verified with the relevant informants to ensure the validity of our interpretation [50]. This process continued until each finding was supported by multiple sources of data, and the state of theoretical saturation was reached [82]. Theoretical saturation is the state in which the framework under development can adequately account for all case findings, and no additional data can be collected, refined or added to improve the emergent framework [93].

4. Findings and discussion

In this section, we discuss our case findings. We present entrepreneurial constraints, emancipatory endeavours of entities and the impact on the communities they serve, and the role of digital enablers. We pay attention to evidence of entrepreneurial constraints, including societal norms (SN), restricting practices and business rules (RP), and emancipatory endeavours and mechanisms, including break-free (BF) and break-up (BU). In doing so, we seek to address the research question set forth at the beginning of this article to uncover how digital entrepreneurship – in the context of emergent financial technology in a developing country – can lead to emancipation. These findings help derive a summary framework (see Table 3) that illustrates the enactment of emancipatory digital entrepreneurship in this study.

4.1. Kanopi Asia platform: delivering microfinancing to unbanked communities

Many entrepreneurs across Indonesia running microbusinesses are unbanked often due to the role in the family and dominant values in society. For example, religious and family norms dictate that family members should contribute a significant proportion of what they earn to supporting the family household [70]. Furthermore, the religion of Islam suggests a more traditional patriarchal family structure, often leaving men to be the main breadwinners in a community. These societal norms are a form of entrepreneurial constraint [94]. They manifest in the form of family or peer pressure, driving many entrepreneurs to divert their income to the household instead of re-investing it to grow their business (SN). In addition, the existing rules of borrowing do not favour potential entrepreneurs in a family. For example, most lenders, not only in Indonesia but also around the globe, require a borrower to

put up collateral for their loans (RP). This industry rule, although basic and widely adopted, represents yet another significant entrepreneurial constraint because in Indonesia, only a very small percentage (21 %, [70]) of entrepreneurs, particularly women, have family assets registered in their name. One of the co-founders of Kanopi Asia explained:

‘When we arrived in the villages, we realised that most of the people that we were approaching weren’t formally employed. . . large households with variable incomes. Nobody had a savings account, [but] everyone was always able to borrow, pay back, there was no problem paying back. Only 27 % [of the people spoken to] saved in a financial institution.’

One of the co-founders of Kanopi Asia described how many villagers saved amidst the administration and deposit fees (RP) associated with typical financial institutions, such as banks.

‘Many women relied on microsavings systems (arisan) established in villages, so rather than earning a very small amount of interest on a savings account, you would instead go into a sort of lottery style system where all of the interest is pooled, and then someone is selected to win a prize each month.’

Arisan is a form of microfinance practised in Indonesia for many years. It is a social activity and an informal credit association such that typically its members put money in a collective pot regularly, and every month the group holds a drawing, and the winners take the pot [95,96]. The community Arisan leader of Benhil kampong (village) explained the concept of Arisan:

‘Not all of our people understand why we need to use bank, purpose of saving, deposit. For them, joining “arisan” is a form of saving. Arisan encourages people to consistently save money, and when they reached specific amount, they will get some gift or souvenir. It’s similar to a bank when you have to reach hundreds of thousands of rupiah to get some gift. Every end of month, they will be randomly chosen to get gift and depends on your luck. When it is the time to draw the lottery, the news spread to everyone. The news about people getting a rice cooker and fan after they deposited their money spread, and as a result they interested to join.’

Recognising rural entrepreneurs as an untapped and profitable market segment, Kanopi Asia was established as a digital microfinancing solutions provider, emulating a community savings and lending model to help villagers start home-based businesses and, ultimately, achieve security in personal finances and autonomy (BF) (see I in Table 3). One of the co-founders of Kanopi Asia explained its value proposition:

‘Kanopi is really one of the only accounts that we know of that you could save, deposit and withdraw cash with no [transaction] fees or no administration fees, [and] deposit fees. So our first product was designed for the unbanked...’

Conducted through its unique service model, Kanopi’s

Table 3
A Framework of Emancipatory Digital Entrepreneurship.

Entrepreneurial Constraints		Emancipatory Endeavours and Role of Digital Enablers				
<i>Societal Norms (SN)</i>	<i>Restrictive Practices and Rules (RP)</i>	<i>Seeking Autonomy</i>	<i>(a) Break free (BF)</i>	<i>(b) Break up (BU)</i>	<i>Technology Impact and Representing Platforms</i>	
Traditional and religious rules and habits	Lending practice Institution rules	Capacitating community finance model	Enhance community financing (I)	Secured entrepreneurial credit (II)	Emulate existing savings and lending practices of community	Kanopi Asia
Work-based social hierarchy	Level of sophistication in traditional farming	Enhancing activity (farming) production	Capital acquisition and redistribution (III)	Development of expertise and legitimising roles (IV)	Aggregate crowdfunding capital for community	iGrow
Gendered entrepreneurial norm	Underdevelopment of industry	Bridging institutional transactions	Access to alternative financial services (V)	Expansion of flexible services (VI)	Equalise opportunities for entrepreneurial undertaking	Xendit

entrepreneurial actions had the effect of an emancipatory endeavour [62]. More specifically, Kanopi allowed entrepreneurs from rural communities in Indonesia to break free [12] of the societal norms (BF) that discouraged the re-investment of profits into business development by providing them with a means to save without the knowledge of family or the community [70]. An entrepreneur and member of the arisan community in Benhil village explained the benefits:

'They are able to check their balance. Every time they deposit money, they also receive SMS from Kanopi. Kanopi also informed the customer when they are entitled for any gift. This kind of unbanked system is not complicated. After joining Kanopi, people have the money to fund their business. It changed their habit, it was not uncomfortable for them.'

For the entrepreneurs, they use the platform to run the lottery system and purchase goods for the community. For the community, the platform emulates the arisan system, bringing about not only collective and trusted practices of savings in the community but also an alternative means of income and financing for the community (BF).

In addition, the Kanopi IT platform enabled entrepreneurs to break up [12] the restrictive practice and industry rules that made it difficult for them to obtain loans by allowing them to build a credit history (BU) (see II in Table 3). An account and partnership officer at Kanopi Asia explained:

'These people have no data [credit history]. But all those people eventually had saved up enough money that they can open up an account. So we are just helping them with their very first pieces of data, showing them the savings program and helping them reach that first hurdle in the financial inclusion space.'

4.2. iGrowPlatform: online crowdfunding for sustainable farming

The second company presents a different set of challenges that the community faced. The problem for many microbusinesses in Indonesia is not the lack of providers or owners of the resources they require but a lack of knowledge and ability to connect to them [97]. In the farming sector, for example, arable land and labour are abundant, but farmers tend to face enormous challenges in acquiring the capital necessary to develop the land into fields suited for agriculture. A farm surveyor from Jonggol Farm, located on the outskirts of Jakarta, the capital of Indonesia, described the situation:

'Before [iGrow], there was so much uncultivated land. It was such a waste. We don't want [to plant] palm trees, as they have a bad impact with the palm oil industry and on the environment, making the land difficult to plant [referring to recultivating] again [(RP)]. So the priority is fruit trees, so we can sustain [the land] longer. On the other hand, there are many farmers who want to plant, but they don't have any capital.'

A key factor that contributes to the difficulty in acquiring capital is that societal norms tend to place farmers low on the social hierarchy (SN). These norms are once again a form of entrepreneurial constraint [94,97] because they fuel the perception that farmers are poor labourers who may be unreliable or unable to service their loans. Another factor that impedes capital acquisition stems from the lack of sophistication in the existing business (farming) practices (RP). In Indonesian society, farming traditionally has been a subsistence activity [97]. Consequently, most farmers do not feel the need or desire to optimise production, improve their farming techniques or expand their farms to make a profit. The primitive state of the existing business practices presents another form of entrepreneurial constraint because they limit the farmers' incomes and, consequently, their ability to acquire or service loans.

Viewing the challenges of capital acquisition within the farming sector as a significant unmet need, iGrow, an online crowdfunding platform that has been dubbed 'Farmville for real life' by *Forbes*

magazine [98], was established to connect farmers, landowners, customers and investors. In addition to crowdfunding the capital from investors, iGrow acts as an 'agent' that help landowners to manage the farmers, as well as a middleman to help the farmers to resolve the problem of sales. The farm surveyor of Jonggol Farm described iGrow's business model:

'Now [with iGrow], farmers are connected to investors, [allowing] harvests like organic bananas, durians, longans, avocados [that] are sent directly to buyers, cutting out the tengkulak [middleman].'

The CEO of iGrow elaborated the role of the platform to support the growth of land and ultimately acquire capital for the community:

'Through the technology, investors can see the progress of the farm. For four months, I maintain more than 200 [plants]...the amount of money they invest depends on the commodity. For an olive tree, it is around Rp3,000,000 (approximately US\$225) each person, each plant. A guava tree is Rp1,500,000 (approximately US\$113).'

Through its operating model, iGrow has become an emancipatory endeavour [62] that has impacted the farming sector in Indonesia in two ways. First, iGrow allowed farmers to break free [12] of the societal norms that cast them as unreliable debtors by transforming the perception of farmers from subsistence labourers to business owners who subsequently can acquire capital (BF) (see III in Table 3). The farmer co-ordinator of Jonggol farm described this transformation:

'They [farmers] were [seen as] casual labourers in their hometown, their income is not stable. . . a farmer was paid Rp50,000 (approximately US\$3.75) for a day of work. There are huge differences before and after iGrow. Now here [at Jonggol farm], there are 30 [farmers]. . . and they can earn Rp1,500,000 (approximately US\$113).'

Second, iGrow allowed farmers to break up [12] the existing farming practices by sharing and disseminating knowledge and expertise, with landowners and other farmers on sustainable farming through their IT platform (BU) (see IV in Table 3). A farmer based at Jonggol farm explained:

'In this farm, we are doing all the farming using organic techniques. . . We can adapt what we learn here [on the iGrow platform] back in our hometown. There are so many benefits for our hometown. The more we use the organic fertilizer, the better the soil condition. Also, the production result will be better.'

From the above statements, farmers bring organic farming techniques back to their communities. This knowledge is integral to enhancing production capacity and improving the farmers' income, which, in turn, improves their legitimacy and credibility to potential lenders, including microfinancing institutions and rural banks.

4.3. Xendit platform: staging peer-to-peer payment

As mentioned, entrepreneurs in Indonesia running microbusinesses, particularly women without a credit history and property ownership, face inherent challenges in accessing institutionalised banking, networks and financial services [99]. Especially in rural areas where Islamic-based norms have a stronger influence, women are not free to go far from home, and they are encouraged to start their own businesses or take up jobs that involve contact with or managing man [99]. Such a socially and culturally embedded gendered norm influences perceptions that disregard women as entrepreneurs and prevent equal access to financial services that entrepreneurship demands, especially in emerging economies ([100,101,102]) (SN). The challenge of matching microbusiness owners to other resource owners is not limited to establishing a connection and aggregating resources. After a connection is made, a means of transacting (i.e. exchanging resources) is required as well. However, establishing the means of transaction may present yet

another challenge because of the underdevelopment of existing business practices (**RP**). This is manifested in our case study in an immature institutional finance system and represents an entrepreneurial constraint that prevents microbusinesses from exchanging resources with digital service providers and other resource owners in an effective and cost-efficient manner. A systems developer from Xendit offered an illustration:

‘Banks right now don’t have the infrastructure to give anyone anything [referring to information] [(**RP**)]. It’s everything from a bank transaction itself, to like transaction balances – our own bank account balances we can’t get in an automated way. We can’t get transaction history in an automated way. Banks here don’t store transaction history past 30 days, so you can’t actually do an audit.’

In addition, the existing industry rules on transactions tend to be restrictive, cumbersome and expensive amid the lack of established structures and systems that characterise an emerging economy [32]. In the context of our case study, these rules are manifested in ineffective interbank payments, which are associated with exorbitant service fees and represent another entrepreneurial constraint for microbusinesses. The CEO of Xendit described the situation that provided the motivation for the founding of the organisation:

‘Communities were questioning the value of being part of the bank’s world [(**SN**)]. . . It costs money to send money to anyone, so if I live in a reliantly cash world, why would I want to lose money? Why store money in a machine that I have to travel to rather than under my pillow? These were some of the sentiments we were hearing.’

In response to the limitations of the conventional means of transaction (**RP**), Xendit was established as a P2P payment platform based on the WhatsApp instant messenger. Describing the business of Xendit as providing ‘digital plumbing’ (for payments), a business manager at Xendit explained how the business works:

‘We’re going to give you a platform whereby you can transact from WhatsApp. . . . When it’s time to close a deal, you can send them [the customers] a link and all the information is [automatically] filled in. After that, everything else is also automated. There’s a notification to the merchants on when there’s an order being made, there’s one to the merchant when a payment has been made. There’s no longer all this manual stuff of trying to log into your account, trying to figure out who’s transferred what, which can take hours or days.’

Enacted through the services it provides, Xendit’s entrepreneurial actions similarly had the impact of an emancipatory endeavour [62]. More specifically, through automation and its integration with an already widely adopted instant messaging platform (i.e. WhatsApp), Xendit allowed small business owners and entrepreneurs to break free [12] from the ineffective business practices that were restricting their ability to conduct business and access financial services (**BF**) (see V in Table 3). The systems developer from Xendit explained:

‘Think about a housewife, a stay-at-home mom, who is at home, doing informal commerce. They make handbags, and they’re selling them. We’re helping those guys accept payments, accepting people’s credit cards [(**BF**)]. There’s no way a bank would ever talk to that merchant. That merchant could never get a virtual account from a bank. We go to banks, and we say, “We represent thousands of those guys plus businesses plus ourselves”. We negotiate to make our services available, and then we make these services available to more informal sectors.’

In addition, Xendit enabled microbusinesses to break up [12] the existing rules of the transaction by not only creating but also encouraging more affordable and more flexible services for receiving and sending money (**BU**) (see VI in Table 3). According to user testimonies online, microbusinesses and individuals are positive towards Xendit, its

IT platform and the payment services it provides, which enables them to conduct their businesses and complete P2P exchanges.

‘It [Xendit] is simply the best payment gateway in Indonesia right now. Amazing customer support and teams that make you and your needs feel heard. Keep doing what you’re doing.’

4.4. Enactment and forms of digital entrepreneurship

In this section, we discuss the enactment of emancipatory digital entrepreneurship derived from our findings. We reveal that digital enablers – entities that possess the knowledge and capabilities to leverage digital technologies to deliver change – enact entrepreneur endeavours intended to overcome constraints and facilitate microbusinesses in developing communities. From our case analysis, we contend digital enablers can be considered in tandem (i.e. demonstrate capabilities of emulating, aggregating and equalising) and thereby pose similarities in their effects on microbusinesses that require resources to function. However, the varying platform business models suggest that a form is more apparent in some cases than others. This constitutes clear forms of digital enablers in the enactment of emancipatory digital entrepreneurship. We reveal and delineate three such forms: to emulate services, aggregate resources and equalise opportunities.

First, digital enablers can emulate essential services required by entrepreneurs and microbusinesses through technology. For example, platforms such as Kanopi Asia emulate savings and financing solutions for unbanked rural communities in Indonesia constrained by traditional rules. Second, microbusinesses may be unable to locate the appropriate resources without help, due to worked-based social hierarchy, limited knowledge and poor infrastructure. As such, there is also a need for digital enablers to aggregate and match microbusinesses that are looking for resources to those that own them. For example, iGrow connects farmers to potential investors through its crowdfunding platform. Third, gendered entrepreneurial norms and the underdevelopment of industry determine unequal access to capital, resources and infrastructure in certain communities. This requires a digital enabler to equalise or create equal opportunities across genders and microbusinesses. For example, Xendit’s platform is a gateway that provides payment infrastructure across the country that underpins entrepreneurial undertakings, thereby creating equitable opportunities for all entities in the communities.

4.5. A framework of emancipatory digital entrepreneurship

From our empirical investigation, a framework of emancipatory digital entrepreneurship is derived and presented in Table 3. The framework posits that the enactment of emancipatory digital entrepreneurship embodies *change creation* through the removal of entrepreneurial constraints and digital enablers.

Deriving from the empirical data analysis presented in the previous section and using corresponding labels, our framework presents the entrepreneurial constraints and the digitally enabled emancipatory endeavours. To overcome salient entrepreneurial constraints that are determined by circumstantial societal norms (**SN**) and restrictive practices and rules (**RP**) that exist, emancipatory digital entrepreneurship enactment can be realised through three distinct types of emancipatory endeavours to capacitate, enhance and bridge entrepreneurs and microbusinesses. Each emancipatory endeavour comprises both break-free (**BF**) and break-up (**BU**) mechanisms. Building on the work of Srivastava and Shainesh [16], our framework further highlights the important role of digital enablers within each endeavour.

Although the entrepreneurship constraints are identified from our empirical analysis, we agree that these constraints of societal norms, restrictive practices and industry rules are deep-seated and long-standing [12]. Even though the three digital enablers are conceptualised from three distinct organisations, an organisation can adopt

multiple business models, so it is plausible that all forms of digital enablers be present in the actions of a single-platform organisation. Building on our inferences in Table 3, we next elaborate the roles of digital enablers in the enactment of emancipatory digital entrepreneurship.

The development of microbusinesses can be constrained by traditional and religious rules and habits, as well as restrictive lending practice and institution rules. As seen in our study, the platform *emulates* existing savings and lending practices of the community, allowing microbusinesses to overcome the constraining societal norms and restrictive practices that prevent or impede them from accessing those resources in the first place [17,103]. Our framework suggests that in this circumstance, the emancipatory endeavour of the digital enabler capacitates a community finance model. This endeavour involves the enhancement of financing within a community and the security of entrepreneurial credit.

Our analysis also reveals that the emancipatory endeavour of a digital enabler that aggregates capital and resources allows microbusinesses to change the view of social hierarchy and the level of sophistication in traditional production techniques. As seen in our study, this stems from the increased access to the capital required by the microbusinesses for their production, as it becomes easier to connect with other resource owners. The latter arises from the critical mass of microbusinesses participating on the digital enabler's platform. The increased number of participating microbusinesses can lead to accumulated knowledge sharing [104] and resource pooling [105], which can fundamentally transform the business practices of the microbusinesses. Our framework suggests that in this circumstance, the emancipatory endeavour of the digital enabler enhances the production of resources and activities.

Finally, the emancipatory endeavour of a digital enabler to equalise opportunities allows microbusinesses to address constraints brought about by a gendered entrepreneurial norm ([100,101,102]), in which normative assumptions of entrepreneurship as a male activity prevail, and an underdevelopment of industry. As seen in our study, a new payment gateway for the community provided by a platform allows microbusinesses to overcome the constraining societal norms and restrictive practices to create equal opportunities among both men and women for entrepreneurial undertakings. Specifically, this new mode facilitates easier transactions and enhanced means of exchanging resources among resource owners [17], inevitably entailing changes to how a microbusiness operates and the industry conventions for transacting [12]. Our framework suggests that in this circumstance, the emancipatory endeavour of the digital enabler enhances the bridging of institutional transactions. This endeavour involves enhanced access to alternative financial services and expansion of flexible services for communities.

In summarising, our empirical investigation and analysis reveal the development of emancipatory digital entrepreneurship. The derived framework illustrates that the enactment of emancipatory digital entrepreneurship in a developing country embodies *change creation*, in which the removal of entrepreneurial constraints by digital enablers yields social value. Our analysis uncovers forms of digital enablers and specific mechanisms through which emancipation occurs, contributing to the extant literature on how the social value of digital entrepreneurship [106] may be achieved. The implications of our study are discussed next.

5. Theoretical and practical implications

In this section, we discuss the implications of our empirical investigation and the application of our research findings to theory and practice. At the outset of this article, we noted that there was a lack of knowledge on the precise mechanisms through which digital entrepreneurship influences emancipation. We further suggested that this lack of knowledge stems from three gaps in the literature. As one of the earliest

studies targeting these gaps, this study has made several theoretical contributions to digital entrepreneurship research.

First, this study broadens the context of digital entrepreneurship research, which predominantly focusses on advanced economies, by contextualising and theorising on digital entrepreneurship in an emerging economy. More specifically, our findings shed light on the relationship between contextual factors and the opportunities for digital entrepreneurship from an emancipatory perspective. The literature review shows that studies of digital entrepreneurship are conducted under the assumptions of an established institutional system, a mature business environment and a dynamic technological landscape (e.g. [11]). These conditions, however, may be lacking or non-existent in emerging economies where digital entrepreneurship is both present and rapidly growing. In other words, digital entrepreneurship in emerging economies could be fundamentally different, but the differences have not been explicitly recognised or examined to date in the literature.

Considering the significance of emerging economies to the global economy [107] and the uniqueness of the context, which both portend distinctive challenges and present business opportunities, our study contributes to a more nuanced understanding of digital entrepreneurship. The entrepreneurial constraints that impede inclusive development (i.e. the establishment of microbusinesses by disadvantaged groups and communities) include societal norms and restrictive practices. These are deep-seated institutions [108,109] that have developed over time and would require the actions of the digital enablers with the knowledge or capabilities to emulate services, aggregate capital and equalise opportunities, as identified in our study, to overcome.

Second, this article expands the current conceptualisation of digital entrepreneurship as an activity of wealth creation to change creation by examining the phenomenon from an emancipatory perspective [12]. A significant majority of prior studies on digital entrepreneurship have focussed on its economic and commercial implications; hence, the recognition of value creation as the key mechanism of entrepreneurial efforts (e.g. [14,110]). However, researchers focussing on the social implications of digital entrepreneurship have often cast social change as the ultimate purpose, sometimes even at the expense of economic gains [44,45,111]. In other words, there is a polarised view of the economic and social aspects of digital entrepreneurship.

Our study presents a contribution in a conceptual sense in proposing the notion of emancipatory digital entrepreneurship and elaborates on the underlying change creation mechanisms [12]. We develop a framework that uncovers the intricacies of emancipatory digital entrepreneurship development. The framework presented (in Table 3) summarises the changes observed, which are underpinned by the digitally enabled emancipatory endeavours in a developing economy. It is noted that contemporary platforms can display traits of all three forms of digital enablers through their operations. In doing so, our study reconciles the opposing economic and social perspectives of digital entrepreneurship by revealing how digital enablers can achieve commercial gains while simultaneously delivering social value. Our research, therefore, hints at a new stream of enquiry on digital social entrepreneurship, from which insights may be generated to inform public policies and practices in this area [4].

Third, the studies on the social implications of digital entrepreneurship are mostly conceptual (e.g. [13,110]). While providing plenty of invaluable insights, they tend to be supported by little, or only anecdotal, evidence. In addition, although it is widely acknowledged that IT can facilitate risk-taking and experimentation by lowering costs and generating digital options [20,112], the role of technology in unlocking the social value of digital entrepreneurship has not been sufficiently explored. Our study not only has contributed a framework that is empirically grounded in the reality of the Indonesian Fintech sector but also has complemented the conceptual works by revealing how a specific form of IT (i.e. Fintech in the context of our study) can be leveraged for the attainment of socio-economic benefits.

Furthermore, and building on prior work (e.g. [4]), our study

provides an empirical account of how digital infrastructures, such as crowdfunding systems, can support the end-to-end entrepreneurial activities of a diverse set of people, thereby leading to more collective ways of pursuing entrepreneurship. In doing so, we extend the view of IT as a mere artefact (serving as a channel, a product/service or a platform) to a fundamental enabler of macro-level outcomes (i.e. emancipation). Our broader perspective supports the assertion that value creation tends to arise from the interactions among service providers, consumers and technology, rather than from the mere presence of tangible resources [16]. Technology is not just an object in our study; it is evident how the *generativity* of technology – the ability of a self-contained system to create, generate or produce new content, structure or behaviour without input from the original creators of the system [113,114] – has allowed digital enablers to integrate their entrepreneurial undertakings with a broader social purpose, thus contributing to liberating the micro-businesses they serve from constraining conditions.

Our study also contributes to the research on emancipation. Our study is one of the earliest that explores emancipation in the specific context of digital entrepreneurship, and in doing so, presents a framework comprising restraining structures (i.e. entrepreneurial constraints), key actors (i.e. digital enablers) and their actions (i.e. emancipatory endeavours) that affect emancipation. Moreover, beyond revealing how the emancipatory mechanisms described in the literature (i.e. breaking free and breaking up – [12]) are activated by digital entrepreneurship, our study also suggests that different actors can affect different restraining structures. This represents a more nuanced view of the range of an actor's actions (see [64]) and suggests the need to explore the relationship between the role of actors and the restraining structures over which they can exercise influence.

Finally, our study has some practical implications. For philanthropists, we expect our findings and our framework to be useful in guiding digital entrepreneurship undertakings, particularly those aimed at effecting social change (e.g. a digital social enterprise). Microbusinesses can be important drivers of growth and innovation [115], and our framework and observations have provided several prescriptions on how the proliferation of microbusinesses can be supported via the establishment and emancipatory endeavours of a variety of digital enablers. For policymakers such as governmental and non-governmental organisation officials, who may be seeking economic growth or social inclusion, our study reveals that a critical task is to identify the key constraints imposed on individuals and communities.

While previous studies may have shed some light on several constraints that are expected to apply invariably across countries (e.g. [26]), our study reveals that many of them are, in fact, deeply intertwined in the local context. For example, while microbusinesses in India and Indonesia face a common issue of financial accessibility, the underlying reason in India could be the geographical distance between the micro-businesses and microfinance institutions [76], whereas the barriers for Indonesian microbusinesses could be more socio-cultural (e.g. the societal norms against specific groups revealed in our study). By pointing out that there are distinct constraints and each of them can stem from a different aspect of the environment in which the microbusinesses operate, our study underscores the need for policymakers to be contextually sensitive, so that IT-based development initiatives and policies can be better designed.

6. Limitations and conclusion

Our study is not without limitations. First, it focusses on only one form of emancipatory digital entrepreneurship (i.e. the facilitation of microbusinesses). Consequently, our results should be interpreted with caution, particularly when other aspects of development, such as education, health care, safety, political freedom and participation, human rights [116], and their psychological and relational aspects [59], are under investigation.

Second, our findings have been derived from a singular context (i.e.

the Indonesian Fintech sector). While we are invoking the principles of 'analytic generalization' ([117], p. 32) in 'generalizing from description to theory' ([118], p. 235), we would urge caution, especially when replicating our study or applying our prescriptions in a different context, even if the context is that of another emerging economy. This is because the level of maturity may differ across the emerging economies and an emerging economy is characterised as fluid and transitional [12]. For instance, while South Africa is similarly in need of external technological expertise and entrepreneurs such as Indonesia, its policies that mandate local ownership [27] may not be as conducive to the form of digital entrepreneurship we observed in our case study. Relatedly, we note that a large, unregulated and informal self-employed sector that may arise through the facilitation of microbusinesses may not be desirable for legislators and policymakers.

Third, although beyond the scope of our study, we should also be mindful of the emancipation-oppression dualism of local entrepreneurship (see [119]). The effects of entrepreneurship on the community can be both transformative and exploitative due in part to the dominant and opportunistic traits of capitalist entrepreneurs [120]. Scholars also discover that microfinance, as a form of entrepreneurial solution to poverty, can negatively impact the community, such as the stigmatisation of failed entrepreneurs [121]. This dualist view of entrepreneurship, when applied, allows researchers to understand better the contradictions and unintended consequences of emancipatory digital entrepreneurship. This may be a fruitful avenue for future research as we, as a research community, work towards gaining a more holistic understanding of the societal impacts of digital entrepreneurship.

Despite the limitations, we believe our study will nevertheless be of interest to entrepreneurs, philanthropists and policymakers, particularly those operating within an emerging economy. For entrepreneurs, our study has identified several constraints that could be unfavourable to their businesses and provided some insights into how these constraints might be removed or mitigated. A McKinsey (2016) report that documents how digital financial inclusion can drive inclusive growth has shown how the provision of digital payment services can serve as an important foundation for a broader array of economic activities. Our study has taken this further by revealing how various financial technologies can stimulate the growth of micro-entrepreneurship, as specific constraints are targeted and lifted to create business opportunities and, subsequently, social change.

In summary, entrepreneurship holds the promise of meeting some of the grand social challenges of our time, such as poverty alleviation and inclusive development [2]. Because our study presents a case of digital entrepreneurship in an emerging economy, we are effectively examining how addressing local constraints can unleash the emancipatory potential of entrepreneurial actions, which, in turn, could motivate digital entrepreneurs to consider, if not act to alleviate, the sufferings of others. In addition, our study has provided several concrete examples and prescriptions to liberating individuals from their environmental constraints and explained how this form of emancipation can be achieved through the application of IT in digital entrepreneurship. The focal IT artefact of our analysis (i.e. Fintech), in particular, has not only contributed directly to digital financial inclusion but also evolved into an enabling factor that offers a new set of entrepreneurial opportunities for individuals, regardless of their socio-economic backgrounds.

CRedit authorship contribution statement

Carmen Leong: Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing. **Felix Ter Chian Tan:** Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing. **Barney Tan:** Conceptualization, Methodology, Writing - original draft, Writing - review & editing. **Fithra Faisal:** Conceptualization, Methodology, Investigation, Writing - original draft.

Acknowledgements

Department of Foreign Affairs and Trade, Australian Government (Grant number: AAC198).

This research is supported by the Australia-ASEAN Council of the

Appendix A. Sample interview protocol

Aim: To elicit informant profiles	
Aspect of Theme sought	Sample Questions What do you do for work or to earn a living? How/why did you get involved with the business or organization? Can you briefly describe your role in the community, business or organization? How long have you been working in the current organisation?
Employment status, role and level	
Aim: To elicit entrepreneurial constraints	
Aspect of Theme sought	Sample Questions Describe the challenges and difficulties facing you and your community regarding employment and finances. How are your financial and banking needs met previously? How do you manage your finances presently?
Societal norms and Socio-cultural constraints facing entrepreneurs and their communities	
Restrictive practices, rules and structural constraints facing entrepreneurs, businesses and communities	
	
Photo with permission: Field work interviews to elicit constraints	
Aim: To elicit emancipatory potential and mechanisms of digital enablers	
Aspect of Theme sought	Questions What is the role of financial technologies for your business/organization? Can you describe the information generated from and put into the financial technologies and the systems? How do you engage with other businesses and the community on financial needs? How did you work towards cooperation/partnership with other businesses/organizations? What mechanisms allow people to interact and collaborate with each other? How did the business/organization start and how did it change over time? What is your organization's role in growing financial services for the community? How does the technology or organization support new ways of doing business? How does the technology or organization gain legitimacy in the eyes of the public, political (e.g., government officials), economic (e.g., investors), and social (e.g., NGOs) actors?
Business model and strategy of entrepreneurs	
Emancipatory strategy of Fintech platforms and organizations	
Aim: To elicit the impacts (if any) that digital enablers brought for the businesses and communities, in emancipation, supporting innovation and entrepreneurship	
Aspect of Theme sought	Questions What is the impact of financial technologies on financial services? How did the practices and identity of platform participants change after they joined? What is the impact of the technology on your work practices? How have financial needs change after using the technology and platform? What is the impact of financial technologies on micro-entrepreneurs and micro businesses? How does the technology platform help its participants change their economic/social conditions? How has financial technologies changed your communities?
The impact of Fintech on services and businesses	
The impact of Fintech on micro-entrepreneurs and community practice.	
Overall community and individual impact	
	
Photo with permission: Fieldwork interviews to understand impact	Do all the others feel the same way about these systems as the way you do? In what other ways have the technology help you in your work and daily living? Do you think you were better or worse off with the introduction of the product/service?

References

[1] V. Vial, Micro-entrepreneurship in a hostile environment: evidence from Indonesia, *Bull. Indones. Econ. Stud.* 47 (2011) 233–262.

[2] D. Shepherd, Party on! A call for entrepreneurship research that is more interactive, activity based, cognitively hot, compassionate, and prosocial, *J. Bus. Ventur.* 30 (2015) 489–507.

[3] M. Del Giudice, D. Straub, IT and entrepreneurship: an on-again, off-again love affair or a marriage? *Mis Q.* 35 (2011) III–VII.

[4] S. Nambisan, Digital entrepreneurship: toward a digital technology perspective of entrepreneurship, *Entrep. Theory Pract.* 41 (2017) 1029–1055.

[5] World Bank, *Entrepreneurs and Small Businesses Spur Economic Growth and Create Jobs*, 2016.

[6] W. Shen, Y.J. Hu, J.R. Ulmer, Competing for attention: an empirical study of online reviewers' strategic behavior, *Mis Q.* 39 (2015) 683–696.

- [7] World Bank, World Development Report 2016: Digital Dividends, World Bank, Washington, DC, 2016.
- [8] C.M.L. Leong, S.L. Pan, S. Newell, L. Cui, The emergence of self-organizing e-commerce ecosystems in remote villages of China: a tale of digital empowerment for rural development, *Mis Q.* 40 (2016) 475–484.
- [9] S.M. Haque, A. Shyaka, G.M. Mudacumura, Democratizing Public Governance in Developing Nations: With Special Reference to Africa, Taylor & Francis, 2017.
- [10] L. Abruzzese, S. Grenville, K. Stewart, M. Paterra, Inclusive Growth Opportunities Index 2017: Navigating In-Country Opportunities for Technology-Enabled Sustainable Investing, in: INVESTING, I. F. S (Ed.), Morgan Stanley, 2017.
- [11] M. Reeves, S. Levin, D. Ueda, The biology of corporate survival, *Harv. Bus. Rev.* 94 (2016) 46–55.
- [12] V. Rindova, D. Barry, D.J. Ketchen, Entrepreneurship as emancipation, *Acad. Manag. Rev.* 34 (2009) 477–491.
- [13] M. Dacin, P. Dacin, P. Tracey, Social entrepreneurship: a critique and future directions, *Organ. Sci.* 22 (2011) 1203–1213.
- [14] C. Richter, S. Kraus, P. Syrjä, The shareconomy as a precursor for digital entrepreneurship business models, *Int. J. Entrep. Small Bus.* 25 (2015) 18–35.
- [15] C. Steyaert, J. Katz, Reclaiming the Space of Entrepreneurship in Society: Geographical, Discursive and Social, Dimensions, *Entrep. Reg. Dev.* 16 (2004) 179–196.
- [16] S.C. Srivastava, G. Shainesh, Bridging the service divide through digitally enabled service innovations: evidence from Indian healthcare service providers, *Mis Q.* 39 (2015) 245–267.
- [17] H. Al-Dajani, S. Carter, E. Shaw, S. Marlow, Entrepreneurship among the displaced and dispossessed: exploring the limits of emancipatory entrepreneurship, *Br. J. Manag.* 26 (2015) 713–730.
- [18] N. Burger, C. Chazali, A. Gaduh, A.D. Rothenberg, I. Tjandraningsih, S. Weiland, Reforming policies for small and medium-sized enterprises in Indonesia. RAND Research Reports [Online], 2015. Available: https://www.rand.org/pubs/research_reports/RR1096.html [Accessed January 26, 2018].
- [19] J.B. Barney, Firm resources and sustained competitive advantage, *J. Manage.* 17 (1991) 99–120.
- [20] E. Davidson, E. Vaast, Digital entrepreneurship and its sociomaterial enactment, Proceedings of the 43rd Hawaii International Conference on System Sciences [Online] (2010). Available: <http://ieeexplore.ieee.org/document/5428439/> [Accessed January 26, 2018].
- [21] Y. Yoo, O. Henfridsson, K. Lyytinen, Research commentary-The new organizing logic of digital innovation: an agenda for information systems research, *Inf. Syst. Res.* 21 (2010) 724–735.
- [22] S. Shane, S. Venkataraman, The promise of entrepreneurship as a field of research, *Acad. Manag. Rev.* 25 (2000) 217–226.
- [23] H. Stevenson, D. Gumpert, The heart of entrepreneurship, *Harv. Bus. Rev.* 63 (1985) 85–94.
- [24] Y. Zheng, B.C. Stahl, Technology, capabilities and critical perspectives: What can critical theory contribute to Sen's capability approach? *Ethics Inf. Technol.* 13 (2011) 69–80.
- [25] B.N. Hague, B. Loader, Digital Democracy: Discourse and Decision Making in The Information Age, Routledge, New York, NY, 1999.
- [26] S. Madon, N. Reinhard, D. Roode, G. Walsham, Digital inclusion projects in developing countries: processes of institutionalization, *Inf. Technol. Dev.* 15 (2009) 95–107.
- [27] L. De Haan, A. Lakwo, Rethinking the impact of microfinance in Africa: 'Business change' or social emancipation, *Eur. J. Dev. Res.* 22 (2010) 529–545.
- [28] F.T. Tan, B. Tan, S. Pan, Developing a leading digital multi-sided platform: examining IT affordances and competitive actions in Alibaba.com, *Commun. Assoc. Inf. Syst.* 38 (2016) 738–760.
- [29] World Bank, World Development Report 2016: Digital Dividends, 2016.
- [30] M. Wade, J. Hulland, The resource-based view and information systems research: review, extension, and suggestions for future research, *Mis Q.* 28 (2004) 107–142.
- [31] S. Shane, Reflections on the 2010 AMR decade award: delivering on the promise of entrepreneurship as a field of research, *Acad. Manag. Rev.* 37 (2012) 10–20.
- [32] A. Banejee, E. Duflo, The economic lives of the poor, *J. Econ. Perspect.* 21 (2007) 141–167.
- [33] H.E. Aldrich, Entrepreneurship, in: N. S. R. SWEDBERG (Eds.), Handbook of Economic Sociology, Princeton University Press, Princeton, NJ, 2005.
- [34] G. Fisher, Effectuation, causation, and bricolage: a behavioral comparison of emerging theories in entrepreneurship research, *Entrep. Theory Pract.* 36 (2012) 1019–1051.
- [35] O. Spiegel, P. Abbassi, M.P. Zylka, D. Schlagwein, K. Fischbach, D. Schoder, Business model development, founders' social capital and the success of early stage internet start-ups: a mixed-method study, *Inf. Syst. J.* 26 (2016) 421–449.
- [36] V. Grover, K.A. Saeed, Strategic orientation and performance of internet-based businesses, *Inf. Syst. J.* 14 (2004) 23–42.
- [37] Y.A. Argyris, S. Ransbotham, Knowledge entrepreneurship: institutionalising wiki-based knowledge-management processes in competitive and hierarchical organisations, *J. Inf. Technol.* 31 (2016) 226–239.
- [38] R. Garud, S. Jain, A. Kumaraswamy, Institutional entrepreneurship in the sponsorship of common technological standards: the case of sun microsystems and java, *Acad. Manag. J.* 45 (2002) 196–214.
- [39] M.K. Sitoh, S.L. Pan, C.-Y. Yu, Business models and tactics in new product creation: the interplay of effectuation and causation processes, *IEEE Trans. Eng. Manag.* 61 (2014) 213–224.
- [40] S.D. Sarasvathy, N. Dew, S.R. Velamuri, S. Venkataraman, Three views of entrepreneurial opportunity, in: Z.J. ACS, D.B. AUDRETSCH (Eds.), Handbook of Entrepreneurship Research, Kluwer, Boston, MA, 2003.
- [41] S. Venkataraman, The distinctive domain of entrepreneurship research: an editor's perspective, in: J. Katz, R. Brockhaus (Eds.), Advances in Entrepreneurship, Firm Emergence, and Growth, JAI Press, Greenwich, CT, 1997.
- [42] A. Ojala, Business models and opportunity creation: how IT entrepreneurs create and develop business models under uncertainty, *Inf. Syst. J.* 26 (2016) 451–476.
- [43] S. Linder, J. Lyngsie, N.J. Foss, S.A. Zahra, Wise choices: how thoroughness of opportunity appraisal, incentives, and performance evaluation fit together, *IEEE Trans. Eng. Manag.* 62 (2015) 484–494.
- [44] C. Avgerou, B. Li, Relational and institutional embeddedness of Web-enabled entrepreneurial networks: case studies of netpreneurs in China, *Inf. Syst. J.* 23 (2013) 329–350.
- [45] M. Tarafdar, R. Singh, P. Anekal, Impact of ICT-enabled product and process innovations at the bottom of the pyramid: a market separations perspective, *J. Inf. Technol.* 28 (2013) 279–295.
- [46] C.K. Prahalad, S.L. Hart, The fortune at the bottom of the pyramid, *Strategy Bus.* (2002) 54.
- [47] K. Malik, Human Development Report 2014: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience, United Nations Development Programme, New York, 2014.
- [48] S. Simon, Using ICTs to explore moroccan women's ideas about their emancipation, *Gen. Technol. Dev.* 15 (2011) 301–317.
- [49] B.C. Stahl, N. Mcbride, I. Elbeltagi, Development and emancipation: the information society and decision support systems in local authorities in Egypt, *J. Inf. Commun. Ethics Soc.* 8 (2010) 85–107.
- [50] H.K. Klein, M.D. Myers, A set of principles for conducting and evaluating interpretive field studies in information systems, *Mis Q.* 23 (1999) 67–93.
- [51] A. Strauss, J. Corbin, Basic of Qualitative Research, Sage Publications, Thousand Oaks, CA, 1990.
- [52] W. Schmiech-Kowarzlik, Karl Marx as a philosopher of human emancipation, *Poznan Studies in the Philosophy of the sciences and the Humanities* 60 (1998) 365–378.
- [53] M. Alvesson, H. Willmott, On the idea of emancipation in management and organization studies, *Acad. Manag. Rev.* 17 (1992) 432–464.
- [54] R. Hirschheim, H. Klein, Realizing emancipatory principles in information systems development: the case for ETHICS, *Mis Q.* 18 (1994) 81–109.
- [55] I. Huault, V. Perret, A. Spicer, Beyond macro- and Micro- emancipation: rethinking emancipation in organization studies, *Organization* 21 (2014) 22.
- [56] S. Miranda, A. Young, E. Yetgin, Are social media emancipatory or hegemonic? Societal effects of mass media digitization in the case of the SOPA discourse, *Mis Q.* 40 (2016) 303.
- [57] C. Leong, S.L. Pan, S. Bahri, A. Fauzi, Social media empowerment in social movements: power activation and power accrual in digital activism, *Eur. J. Inf. Syst.* (2018) 1–32.
- [58] A. Sen, Development as Freedom, Knopf, New York, 1999.
- [59] T. Inglis, Empowerment and emancipation, *Adult Educ. Q.* 48 (1997) 3–17.
- [60] A. Somek, Europe: From Emancipation to Empowerment. LSE 'Europe in Question' Discussion Paper Series [Online], Available: <https://www.lse.ac.uk/europeanInstitute/LEQS%20Discussion%20Paper%20Series/LEQSPaper60.pdf> [Accessed January 26, 2018], 2013.
- [61] P.F. Musa, Making a case for modifying the technology acceptance model to account for limited accessibility in developing countries, *Inf. Technol. Dev.* 12 (2006) 213–224.
- [62] J.E. Jennings, P.D. Jennings, M. Sharifian, Living the dream? Assessing the "Entrepreneurship as emancipation" perspective in a developed region, *Entrep. Theory Pract.* 40 (2016) 81–110.
- [63] D. Goss, R. Jones, M. Betta, J. Latham, Power as practice: a micro-sociological analysis of the dynamics of emancipatory entrepreneurship, *Organ. Stud.* 32 (2011) 211.
- [64] A. Spicer, M. Alvesson, D. Kärreman, Critical performativity: the unfinished business of critical management studies, *Hum. Relat.* 62 (2009) 537–560.
- [65] J.M. Njihia, Y. Merali, The broader context for ICT4D projects: a morphogenetic analysis, *Mis Q.* 37 (2013) 881–905.
- [66] K.M. Eisenhardt, M.E. Graebner, Theory building from cases: opportunities and challenges, *Acad. Manag. J.* 50 (2007) 25–32.
- [67] H. Koch, U. Schultze, Stuck in the conflicted middle: a role-theoretic perspective on B2b E-Marketplaces, *Mis Q.* 35 (2011) 123–146.
- [68] G. Walsham, Interpretive case studies in IS research: nature and method, *Eur. J. Inf. Syst.* 4 (1995) 74–81.
- [69] B.T. Pentland, Building process theory with narrative: from description to explanation, *Acad. Manag. Rev.* 24 (1999) 711–724.
- [70] I. Arsana, P. Gede, A.S. Alibhai, Women entrepreneurs in Indonesia: a pathway to increasing shared prosperity. World Bank Group Open Knowledge Repository [Online], 2016. Available: <http://documents.worldbank.org/curated/en/738881467782741648/Women-entrepreneurs-in-Indonesia-a-pathway-to-increasing-shared-prosperity> [Accessed January 26, 2018].
- [71] S. Sarker, S. Sarker, A. Sahaym, N. Bjørn-Andersen, Exploring value cocreation in relationships between an ERP vendor and its partners: a revelatory case study, *Mis Q.* 36 (2012) 317–338.
- [72] World Bank, The World Bank in Indonesia [Online], The World Bank, 2019. Available: <https://www.worldbank.org/en/country/indonesia/overview> [Accessed 2019].
- [73] World Bank, Overview of Indonesia, Available: 2016 <http://www.worldbank.org/en/country/indonesia/overview>.
- [74] Indonesia-Investments, Economy of Indonesia, 2015.
- [75] J. Manyika, S. Lund, M. Singer, O. White, C. Berry, Digital finance for all: powering inclusive growth in emerging economies. McKinsey Global Institute

- Report [Online], 2016. Available: <https://www.mckinsey.com/~media/McKinsey/> [Accessed January 26, 2018].
- [76] CRISIL, Financial Inclusion for Entrepreneurship, 2015.
- [77] M. Baziad, Kanopi out to spark a microfinance revolution in Indonesia. Digital News Asia [Online], 2016. Available: <https://www.digitalnewsasia.com/startups/kanopi-out-spark-microfinance-revolution-indonesia> [Accessed January 28, 2018].
- [78] P. Muthukannan, B. Tan, F.T.C. Tan, C.M.L. Leong, The concentric development of the financial technology (Fintech) ecosystem in Indonesia, ICIS2017 Proceedings [Online] (2017). Available: <http://aisel.laisnet.org/icis2017/TransferringSociety/Presentations/5/> [Accessed January 26, 2018].
- [79] L. Dubé, G. Paré, Rigor in information systems positivist case research: current practices, trends, and recommendations, *Mis Q.* 27 (2003) 597–636.
- [80] M.D. Myers, M. Newman, The qualitative interview in IS research: examining the craft, *Inf. Organ.* 17 (2007) 2–26.
- [81] P. Biernacki, D. Waldorf, Snowball sampling: problems and techniques of chain referral sampling, *Sociol. Methods Res.* 10 (1981) 141–163.
- [82] S.L. Pan, B. Tan, Demystifying case research: a structured-pragmatic-Situational (SPS) approach to conducting case studies, *Inf. Organ.* 21 (2011) 161–176.
- [83] W.A. Firestone, R.E. Herriott, Two images of schools as organisations: an explication and illustrative empirical test, *Educ. Adm. Q.* 18 (1982) 39–59.
- [84] C. ROBSON, Real World Research: A Resource for Social Scientists and Practitioner-Researchers, Blackwell Publishing, Oxford, UK, 1993.
- [85] M.D. Myers, Qualitative Research in Business & Management, Sage Publications, London, UK, 2009.
- [86] S.J. Taylor, R. Bogdan, Introduction to Qualitative Research Methods: A Guidebook and Resource, John Wiley and Sons, New York, NY, 1998.
- [87] G. McCracken, The Long Interviews, Sage Publications, Newbury Park, CA, 1988.
- [88] A. Bryman, E. Bell, Business Research Methods, Oxford University Press, New York, NY, 2007.
- [89] I. Seidman, Interviewing As Qualitative Research: a Guide for Researchers in Education and the Social Sciences, Teachers College Press, New York, NY, 2006.
- [90] M. Barratt, T.Y. Choi, M. Li, Qualitative case studies in operations management: trends, research outcomes, and future research implications, *J. Oper. Manag.* 29 (2011) 329–342.
- [91] D.A. Gioia, K.G. Corley, A.L. Hamilton, Seeking qualitative rigor in inductive research, *Organ. Res. Methods* 16 (2013) 15–31.
- [92] A. Langley, Strategies for theorizing from process data, *Acad. Manag. Rev.* 24 (1999) 691–710.
- [93] B.G. Glaser, A.L. Strauss, The Discovery of Grounded Theory: Strategies for Qualitative Research, Aldine de Gruyter, New York, 1967.
- [94] P. Nayyar, A. Sharma, J. Kishitwaria, A. Rana, N. Vyas, Causes and constraints faced by women entrepreneurs in entrepreneurial process, *J. Soc. Sci.* 14 (2007) 99–102.
- [95] T. Kawagoe, K. Ohkama, A.S. Bagyo, Collective actions and rural organizations in a peasant economy in Indonesia, *Dev. Econ.* 30 (1992) 215–235.
- [96] H. Purnomo, R. Irawati, A. Fauzan, M. Melati, Scenario-based actions to upgrade small-scale furniture producers and their impacts on women in Central Java, Indonesia, *Int. For. Rev.* 13 (2011) 152–162.
- [97] P. Vujanovic, Policies for inclusive and sustainable growth in Indonesia. OECD Economics Department Working Papers [Online], 2015. Available: <http://www.oecd-ilibrary.org/economics/> [Accessed January 26, 2018].
- [98] F. Guerrini, The future of agriculture? Smart farming. Forbes Investing [Online], 2015. Available: <https://www.forbes.com/sites/federicoguerrini/2015/02/18/the-future-of-agriculture-smart-farming/> [Accessed January 26, 2018].
- [99] T. Tambunan, Women Entrepreneurs in Indonesia: their main constraints and reasons, *J. Asia Entrepreneurship Sustainabil.* 5 (2009) 37–51.
- [100] C. Leitch, F. Welter, C. Henry, Women entrepreneurs' financing revisited: taking stock and looking forward, *Ventur. Cap.* 20 (2018) 103–114.
- [101] M. Malmstrom, J. Johansson, J. Wincent, Gender stereotypes and venture support decisions: how governmental venture capitalists socially construct entrepreneurs' potential, *Entrepreneurship Theory and Practice*, 2017.
- [102] V. Stead, Belonging and women entrepreneurs: women's navigation of gendered assumptions in entrepreneurial practice, *Int. Small Bus. J.* 35 (2017) 61–77.
- [103] K.V. Lewis, The power of interaction rituals: the Student Volunteer Army and the Christchurch earthquakes, *Int. Small Bus. J.* 31 (2013) 811–831.
- [104] R. Reagans, B. Mcevely, Network structure and knowledge transfer: the effects of cohesion and range, *Adm. Sci. Q.* 48 (2003) 240–267.
- [105] P.V. Singh, Y. Tan, V. Mookerjee, Network effects: the influence of structural social capital on open source project success, *Mis Q.* 35 (2008) 813–829.
- [106] C. Avgerou, Information systems in developing countries: a critical research review, *J. Inf. Technol.* 23 (2008) 133–146.
- [107] A. Siqueira, G. Bruton, High-technology entrepreneurship in emerging economies: firm informality and contextualization of resource-based theory, *Ieee Trans. Eng. Manag.* 57 (2010) 39–50.
- [108] W.R. Scott, Institutions and Organizations, Sage Publications, Thousand Oaks, CA, 2001.
- [109] W.R. Scott, Institutions and Organizations: Ideas, Interests, and Identities, Sage Publications, Thousand Oaks, CA, 2013.
- [110] C.E.K. Hull, Y.-T.C. Hung, N. Hair, V. Perotti, R. Demartino, Taking advantage of digital opportunities: a typology of digital entrepreneurship, *Int. J. Netw. Virtual Organ.* 4 (2007) 290–303.
- [111] C. Avgerou, B. Li, A. Poulymenakou, Exploring the socio-economic structures of internet-enabled development: a study of grassroots netpreneurs in China, *Electron. J. Inf. Syst. Dev. Ctries.* 49 (2011) 1–12.
- [112] O. Henfridsson, Y. Yoo, The liminality of trajectory shifts in institutional entrepreneurship, *Organ. Sci.* 25 (2013) 932–950.
- [113] D. Tilson, K. Lyytinen, C. Sørensen, Research commentary-digital infrastructures: the missing IS research agenda, *Inf. Syst. Res.* 21 (2010) 748–759.
- [114] J.L. Zittrain, The generative internet, *HELR* 119 (2005) 1975.
- [115] OECD, Entrepreneurship at a Glance 2016, 2016.
- [116] C. Burrell, K. Toyama, What Constitutes Good ICTD Research? *Inf. Technol. Int. Dev.* 5 (2009) 82–94.
- [117] R.K. Yin, Case Study Research: Design and Methods, Sage Publications, Thousand Oaks, CA, 2003.
- [118] A.S. Lee, R.L. Baskerville, Generalizing generalizability in information systems research, *Inf. Syst. Res.* 14 (2003) 221–243.
- [119] D. Tedmanson, C. Essers, P. Dey, K. Verduyn, An uncommon wealth... Transforming the commons with purpose, for people and not for profit!, *J. Manag. Inq.* 24 (2015) 439–444.
- [120] C. Jones, A.-M. Murtola, Entrepreneurship and expropriation, *Organization* 19 (2012) 635–655.
- [121] M.B. Calás, L. Smircich, K.A. Bourne, Extending the boundaries: reframing "entrepreneurship as social change" through feminist perspectives, *Acad. Manag. Rev.* 34 (2009) 552–569.

Dr Carmen Leong is a Senior Lecturer of Information Systems at the University of New South Wales (UNSW) Business School. Her research interests include digital empowerment in social studies and digitally enabled strategic transformation in organisations. Her research work has been published in various academic and practitioner journals such as MIS Quarterly, Journal of Association Information Systems, European Journal of Information Systems and International Journal of Information Management.

Dr Felix Ter Chian Tan is a Senior Lecturer of Information Systems at the University of New South Wales (UNSW) Business School. His research interests include digital platforms, Information Systems for good, and enterprise systems. His research work has been published in various academic and practitioner journals such as Information Systems Journal, Information and Management, MISQ Executive, Communications of the AIS, International Journal of Information Management and Australasian Journal of Information Systems.

Assoc. Prof. Barney Tan is Deputy Head of Department and Associate Professor at the University of Sydney Business School. His research interests include strategic information systems, enterprise systems implementation, electronic commerce, Chinese IT management and qualitative research methods. His research work has been published in various academic and practitioner journals such as MIS Quarterly, Journal of Association Information Systems, Information and Organization, European Management Journal, Information and Management, MISQ Executive, Communications of the AIS, International Journal of Information Management, and Electronic Journal of Information Systems in Developing Countries.

Dr Fithra Faisal is a lecturer at the Faculty of Economics University of Indonesia. He has published in the Journal of Global Business and Economics and American Journal of Economics and Business Administration among other journals, book chapters and conferences. He also served as a senior researcher at the National Economic Council where he gives advices for the President of Indonesia from 2012 to 2013. He was assigned as Research and Community Engagement Manager from January 2014 to January 2017 and as Head of Research Dissemination Unit/Special Adviser to the Dean of Faculty of Economics and Business from January 2017 to April 2018.