



The Effects of Cross-Border E-Commerce Platforms on Transnational Digital Entrepreneurship: Case Studies in the Chinese Immigrant Community


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ABSTRACT

This research examines the important concept of transnational digital entrepreneurship (TDE). The paper integrates the host and home country entrepreneurial ecosystems with the digital ecosystem to the framework of the transnational digital entrepreneurial ecosystem. The authors argue that cross-border e-commerce platforms provide critical foundations in the digital entrepreneurial ecosystem. Entrepreneurs who count on this ecosystem are defined as transnational digital entrepreneurs. Interview data were dissected for the purpose of case studies to make understanding from 12 Chinese immigrant entrepreneurs living in Australia and New Zealand. The results of the data analysis reveal that cross-border entrepreneurs are in actual fact relying on the significant framework of the transnational digital ecosystem. Cross-border e-commerce platforms not only play a bridging role between home and host country ecosystems but provide entrepreneurial capital as digital ecosystem promised.

KEYWORDS

Cross-Border Trade, Current International (COVID-19) Affairs, Digital Ecosystem, E-Commerce Platform, Entrepreneurial Ecosystem, Immigrant Entrepreneurship, Transnational Digital Entrepreneurship

INTRODUCTION

In today's digital era, there is universal acceptance among researchers, policymakers and society as a whole (Elia, Margherita, & Passiante, 2020; Sahut, Luca, & Frédéric, 2019) of the significance of digital entrepreneurship (DE) to socioeconomic development. DE has advanced to a state where it is an entirely new area of research enquiry within the interdisciplinary field of entrepreneurship (Nambisan, 2017) as studied through information systems (Du & Li, 2018), economics (Richter, Kraus, Brem, Durst, & Giselsbrecht, 2017), management, innovation (Nambisan, 2017), policy, education (Li, Liu, Zhang, & Li, 2017), strategy, and sociology, in conjunction with other entrepreneurship disciplines (Zaheer, Breyer, & Dumay, 2019). The role of DE for Chinese immigrant communities is significant for

DOI: 10.4018/JGIM.20220301.0a2

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new business creation and for enhancing the efficiency and competitiveness of established businesses. In particular, cross-border e-commerce platforms act as a bridge between the entrepreneurial ecosystems of the host and home countries and encourage transnational entrepreneurship (Duan, Kotey, & Sandhu, 2020).

DE has been defined within various disciplinary contexts, including internet entrepreneurship, cyber entrepreneurship (Elia et al., 2020), information and communication technologies (ICT) entrepreneurship (Bogdanowicz, 2015), and entrepreneurship in other IT areas (Steininger, 2019). These definitions have been used unrestrictedly by scholars, as DE has expanded beyond national borders. In certain instances, self-made definitions are provided to get the message across to the target audiences. The present study is broad, and examines the motivations of transnational digital entrepreneurs, the strategies they adopt and the outcomes they achieve. It combines the definitions of DE from two theorists: Sahut et al. (2019), “the process of entrepreneurial creation of digital value through the use of various socio-technical digital enablers to support the effective acquisition, processing, distribution, and consumption of digital information” (Sahut et al., 2019, p.11); and Davidson and Vaast (2010), “new venture opportunities presented by new media and internet technologies” (Davidson & Vaast, 2010, p.2978).” The study focuses on Chinese immigrants living in New Zealand (NZ) and Australia, who become digital entrepreneurs and transact through Chinese cross-border e-commerce platforms.

Transnational entrepreneurship (TE) has become a major research stream in the immigrant entrepreneurship (IE) field in the last two decades (Portes, Haller, & Guarnizo, 2002), following growing international migration, globalisation and development of international trade. Research has shown that immigrants contribute significantly to the economy of their host countries, including Australia and NZ (Zhang, 2013; Collins, 2002). A widely accepted view of transnational entrepreneurs is “social actors who enact networks, ideas, information, and practices for the purpose of seeking business opportunities or maintaining businesses within dual social fields, which in turn force them to engage in varied strategies of action to promote their entrepreneurial activities” (Drori, Honig, & Wright, 2009, p.1001). According to Yeung (2002, p.37), transnational entrepreneurs are “capable of bearing risks in terms of capital investment and taking strategic initiatives to establish, integrate, and sustain foreign operations based on the skills of the immigrants”. An agreed viewpoint is that TE involves migrants only (Drori et al., 2009; Harima & Baron, 2020). These entrepreneurs are the focus of this study. Their trans-border activities based on digital technology (i.e., cross-border e-commerce platforms) are defined as transnational digital entrepreneurship (TDE), and the people involved are transnational digital entrepreneurs (TDEs).

Although DE and TE have garnered significant research interest in the last few years, partially due to free trade agreements among different countries, there is a dearth of research on what underpins the nature and characteristics of TDE. A Google Scholar search shows no publications devoted to TDEs. This paper aims at bridging the gap by analysing the TDE process from the perspectives of the entrepreneur’s motivations, strategies and outcomes within a transnational digital entrepreneurial ecosystem which comprises the home and host countries of the immigrant mediated by a cross border e-commerce platform. The paper addresses the following key research questions: 1) How do transnational digital ecosystems, in particular cross-border e-commerce platforms, enable TDE? 2) How do cross-border e-commerce platforms affect motivations, strategies, and outcomes of TDEs? And 3) how do TDEs exploit opportunities and leverage their host and home country resources through the digital platforms to engage in transnational business?

This study examines the motivations, business strategies and firm performance of TDEs based on twelve Chinese immigrant entrepreneurs in New Zealand (NZ). It also assesses the opportunities and resources that transnational digital ecosystems provide to TDEs. In doing these, it integrates immigrant entrepreneurship, TE and DE theories to explain the role of cross-border e-commerce platforms in TDE. The essential findings from the study are that cross-border e-commerce platforms promote TDE by enabling immigrant entrepreneurs to shift to TDE, and by providing capabilities that

enable access to networks and resources for the survival of their businesses in their host countries (Elia et al., 2020; Qi, Chan, Hu, & Li, 2020). The article contributes to the literature by proposing a conceptual framework of TDE and testing the interrelationships among the constructs.

The study focuses on Chinese transnational digital entrepreneurs living in NZ and Australia because of their strong entrepreneurial culture and substantial TE activities (Zheng, Khavul, & Crockett, 2012; Zhao & Hsu, 2007). As per reports from NZ Inland Revenue (2013), approximately 24.1% of Chinese immigrants living in NZ are entrepreneurs, which is higher in comparison to the 18% of entrepreneurs for the whole population (NZstats, 2013). Engaging in TDE based on cross-border e-commerce platforms such as Alibaba and WeChat is a recent phenomenon in the Chinese immigrant community, occurring over the last ten years (Duan et al., 2020). Both Alibaba and WeChat are highly profitable home-grown popular digital business enterprises in China and have vast digital businesses platform that expands to cover a wide variety of products and services with major market shares. E-commerce platforms such as Taobao and Tmall from Alibaba Group have over 900 million annual active users (Duan et al., 2020, p162). WeChat (Chinese name: Weixin 微信) and WeChat Shop from Tencent provide social media and e-trading services to 938 million customers worldwide (Zhang, Yuan, & Duan, 2020, p2). The findings from this study have implications for sustainable socioeconomic development policies, including international trade and employment creation in the host country. They also provide evidence-based guidance for practitioners in various immigrant communities.

The next section presents a review of the TE and DE literature from which an integrated conceptual framework is developed, based on the TDE process embedded in a transnational digital entrepreneurship ecosystem, and the essential constructs explained. The research methodology, research samples and data collection process are presented in the Methodology section, while the research findings, implications, and areas for future research are covered in the final section.

BACKGROUND

TE is important to immigrants, as a large percentage engage in formal and informal transnational business activities (Qi et al., 2020; Zhang, 2013). The literature indicates that international immigration and TE stimulate socioeconomic growth in both the host and home countries (Duan, Sandhu & Kotey, 2021; Portes et al., 2013) and available data show the vital role and broad contributions of immigrant communities (Santamaria-Alvarez, Sarmiento-Gonzalez, & Arango-Vieira, 2019) in this regard. For example, 33.6% of businesses in Australia are owned by immigrants, although they comprise 28.8% of the general population (ABS, 2019). According to the Global Entrepreneurship Monitor (GEM) report, in the United Kingdom (UK), immigrants are twice as likely to engage in early-stage venture creation as their British-born counterparts (GEM, 012/2017/2018). Also, there is a positive two-way correlation between the number of immigrant businesses and the total number of non-immigrant firms within the host countries (Li, Isidor, Dau, & Kabst, 2018), which suggests that immigrant entrepreneurship creates wider opportunities for native entrepreneurs.

The literature shows current gaps in TE research, since few studies provide holistic coverage of the factors associated with TE. A considerable number of transnational entrepreneurs are necessity-driven (Portes & Yiu, 2013), where entrepreneurs adopt TE as a means of earning a living (Afutu-Kotey, Gough, & Owusu, 2017). These entrepreneurs are pushed into transnational business activities by lack of access to employment opportunities in their host countries. In contrast, some scholars argue that a large proportion of transnational entrepreneurs are opportunity-driven (Lan & Zhu, 2014; Hart & Acs, 2011). Chrysostome and Arcan (2009) attribute this trend to entrepreneurs' access to knowledge through high-tech innovation. These mixed findings point to lack of clarity around the key driving forces for TDEs.

Two entrepreneurship research frameworks have gained considerable attention in the recent past. They are the entrepreneurship ecosystem (Stam, 2015; Isenberg, 2011) and digital ecosystem (Li et al.,

2017). These two frameworks are integrated into the concept of the digital entrepreneurial ecosystem (DEE) by Sussan and Acs (2017) and Song (2019). DEE covers the key components of “digital infrastructure governance (DIG), digital user citizenship (DUC), DE and digital marketplace” within a digital economy (Sussan and Acs, 2017, p.60). As digital economies are becoming borderless, they present enormous opportunities for DE. Within the realms of transnational entrepreneurship, DEE can represent a transnational digital business environment (Qi et al., 2020) within which entrepreneurs operate. The entrepreneurial process is a frequently used framework in DE research. It emphasises a number of strategic behaviours and describes entrepreneurship as a journey, rather than an action (Zaheer et al., 2019), occurring within and drawing resources from various ecosystems linked through a digital platform. According to Zaheer et al. (2019), 36% of DE research uses the ‘process’ theory, which is indicative of the fact that DE research relies on the general entrepreneurship literature and is regarded as a subfield of the entrepreneurship discipline (He, 2019).

Cross-border e-commerce platforms play an important role in digital ecosystems as the fundamental infrastructure for TE (Kraus, Palmer, Kailer, Kallinger, & Spitzer, 2019; Nambisan, Siegel, & Kenney, 2018; Nambisan, Wright, & Feldman, 2019). Adopting e-commerce and trading through e-commerce platforms significantly and positively improves overall business performance. Abebe (2014) finds that, compared to non-adopters, e-commerce adopters have considerably higher sales growth. E-commerce platforms not only enhance business outcomes but alleviate e-commerce poverty (EP), especially in China (Han & Li, 2020). E-commerce platforms are also used by Chinese immigrants living overseas (Duan et al., 2020) to trade between China and their host country. These immigrants rely on their networks to trade, based on trust and mutual benefit (Zhao, Fang, Zhang & Jiang, 2020)

China’s e-commerce sector has grown exponentially in recent years, becoming a standard system for trading. The latest e-commerce innovations have boosted outcomes for micro, small and medium enterprises (MSME) in China. A United Nations’ report (Yue, 2017) breaks down the development of e-commerce in China into four stages: the initial stage (1996-2000); the accelerated development stage (2000-2008); the standardisation stage (2008-2014); and the globalisation stage (starting from 2014) (Yue, 2017). The report states that international e-commerce transactions in China grew more than fivefold (1.2 to 6.6 trillion yuan) between 2010 and 2016. In 2017, e-commerce sales accounted for 23.1% of the total retail sales in China (Ahluwalia & Merhi, 2020).

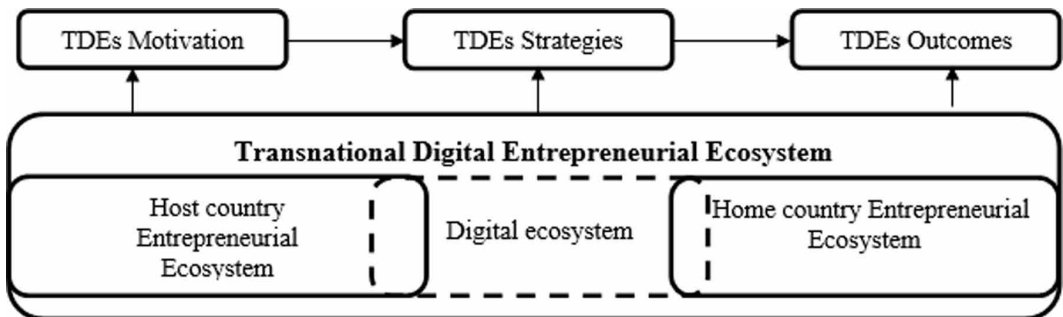
Literature indicates that digital actors (who), digital motivations (why), digital activities (what) and digital organisation (how) form the four dimensions of the DE research agenda (Elia et al., 2020). The literature also proposes that cross-border e-commerce platforms, as the focal components of the digital ecosystem, act as a bridge between TE in immigrants’ host and home countries (Duan et al., 2020). However this proposal has not been examined theoretically or empirically within the TE and DE literature. This study is the first attempt at analysing the association between entrepreneurs’ motivations, strategies and outcomes on the one hand, and on the other hand, the ecosystems in which they operate, including the digital platforms employed. The findings contribute to the field of TDE through the causal effects identified among the variables. The new understanding of the TDE process and associated success factors contributes to the TE and DE literature. The findings also reveal how entrepreneurs and platforms co-create value in a transnational context. There are potential implications for government policies and programmes that could impact TDE.

CONCEPTUAL FRAMEWORK FOR TRANSNATIONAL DIGITAL ENTREPRENEURSHIP

TDE can be explained as a process comprising entrepreneurs’ motivations, business strategies and outcomes occurring within the home and host country ecosystems and enabled by a digital platform (Figure 1). Figure 1 defines the constructs within the theoretical framework used to examine the case studies as comprising motivation, strategy, outcomes, and ecosystem constructs of TDE. The

causal mechanisms which correspond to the research questions are the relationships and interactions among these constructs. The framework is at par with traditional entrepreneurship process theories as well as with more recent notions of TE and DE. The TDE ecosystem provides access to resources for innovation and business growth in both host and home countries (Duan, Kotey & Sandhu, 2020b; Song, 2019; Du & Li, 2018). It is an integrated ecosystem consisting of three interrelated parts: the boundary-less digital ecosystem (cross-border e-commerce platform); and the bounded (geographic-specific) host and home country entrepreneurial ecosystems, as depicted in Figure 1 and explained below.

Figure 1. Conceptual framework for transnational digital entrepreneurship (Authors' Elaboration)



Transnational Digital Entrepreneurs' Motivation

Immigrants can be ‘pushed’ or ‘pulled’ into transnational entrepreneurship (Portes et al. 2002), through necessity or opportunity (Reynolds et al., 2002). Lack of opportunities in the labour market is the primary force behind necessity entrepreneurship, whereas opportunity entrepreneurs start new businesses by personal choice. Another well-known dichotomy associated with digital entrepreneurs compares ‘routine’ and ‘high-growth’ entrepreneurship (Sussan & Acs, 2017). The products and activities of routine entrepreneurs occur in well-established businesses and follow clearly defined processes such as printing, scanning, data entry, or digitising firms. Many digital entrepreneurs are routine operators relying exclusively on e-commerce platforms for their operations (Kraus et al., 2019). In contrast, high-growth entrepreneurs focus their business activities on creating innovative ventures “where not all the markets are well-established or clearly defined and in which the relative parts of the production function are not completely known” (Sussan and Acs, 2017, p.62). Duan et al. (2020) report that opportunity entrepreneurs are likely to be motivated to create high-growth ventures, while necessity entrepreneurs are keen to engage in routine entrepreneurship within the DE context.

Several factors determine whether entrepreneurs start their ventures as a result of necessity or opportunity, including individuals’ socioeconomic background, their perceptions of the entrepreneurial environment and their personality characteristics. Extant studies on DE motivation have been based on university students, and there is a sparsity of research specific to TDEs (Zhang, 2016; Hu, 2015; Li et al., 2008). Due to limited research on the TDE process, little is known about the relationships among entrepreneurial motivations and outcomes and the digital ecosystem in which they operate (Wahee and Bhardwaj, 2014).

Transnational Digital Entrepreneurship Business Strategies

The business strategies used by digital entrepreneurs are determined by their personality characteristics and the business environment in which they operate (Bogdanowicz, 2015). Capital-rich entrepreneurs tend to deviate towards strategies based on infrastructure and platform development. Conversely,

entrepreneurs with limited capital focus on end-user strategies. Proactive strategies are common to opportunity-driven entrepreneurs, while necessity entrepreneurs often pursue reactive strategies aimed at surviving. Survival strategies emphasise cash-flow and low-risk activities, often supported by government programs. The capacity to work for extended hours with minimal pay is considered an important strategic resource for business survival and growth of necessity entrepreneurs (Barney, 1991).

Digital firms usually adopt a combination of proactive and reactive strategies. The strategies transform motivation, opportunities and resources to organisational activities and firm performance, the ultimate outcome from the interactions with the ecosystem. Studies in this area have tended to focus on individual entrepreneurs, identifying factors associated with the various strategies they adopt. However, there has been limited attention to ecosystem factors, especially the association between digital entrepreneurs' characteristics and factors within the ecosystem that affect their performance. The framework in Figure 1 is an attempt to link the ecosystem with motivation and strategies of the transnational entrepreneurs and performance outcomes of their businesses. Kotey et al. (2013) report associations between the strategies used by firms and their performance, especially their growth potential.

Outcomes of Transnational Digital Entrepreneurship

It is generally posited that performance outcomes differ between necessity and opportunity enterprises because they have different end goals and face different challenges, so that their performance should be assessed differently (Rubach, Bradley, & Kluck, 2015; van der Zwan, Thurik, Verheul, & Hessels, 2016). Researchers have argued that, while growth in market share and employment are regarded as important outcomes for evaluating performance for opportunity entrepreneurs, these indicators are not ideal for necessity entrepreneurs (Chrysostome & Arcand, 2009). Since surviving is one of the primary goals of necessity entrepreneurs, assessment of their performance should focus on sustainable business outcomes (Chrysostome & Arcand, 2009), and include job creation for the entrepreneurs themselves, reduction of competition in the local labour market, and increased personal earnings (Zhou, 2004). Sussan and Acs (2017) note that "high-growth ventures have significant economic impact while routine entrepreneurship are of social significance" (p62).

Transnational Digital Entrepreneurial Ecosystem

Digital entrepreneurs operate in digital entrepreneurial ecosystems (Sussan & Acs, 2017; Elia, 2020), and transnational entrepreneurs simultaneously operate in two ecosystems (Drori et al., 2009; You et al., 2019). Consequently, TDEs operate in their host and home country ecosystems linked through a digital ecosystem. These ecosystems determine the opportunities and resources available to the entrepreneurs and thus influence their motivations, the strategies they adopt, and ultimately the performance outcomes of their businesses (Isenberg, 2011). The host and home country ecosystems comprise markets, human capital, financial resources, infrastructure, business support, and policies, interacting within a culture that shapes the behaviours of the TDEs (Sussan & Acs, 2017; Isenberg, 2011). Cross-border e-commerce platforms integrate the components of the home and host country ecosystems and enhance their operation.

METHODOLOGY

Research Design

In order to test the theoretical framework in Figure 1 above, this study adopted a multiple case studies approach within a positivist paradigm (Yin, 2002; Cavaye, 1996). Shanks (2002, p77) quoting Dubin (1978) and Bacharach (1989), explain that the positivist case study approach is most suitable when the conceptual framework has a set of well-defined concepts, interrelationships among the concepts

and a boundary within which the theory holds. The framework proposed above meets these three conditions. A deductive research design was used since the theoretical framework developed to guide the study is based on well-established concepts in the literature (Hyde, 2000; Saunders et al., 2016) and the study investigates their application to a sparsely researched group – TDEs. The case study approach for deductive research is often used in the information system (IS) discipline (Cavaye 1996; Lee 1989). Yin (1994, p.18) define a case study as “an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.” He also points out that the case study “relies on multiple sources of evidence”. When theoretical conditions and outcomes are tested through case studies using a qualitative approach, causal associations among constructs are also examined (Miller and Tssang, 2011). Identification of these causal associations, which are central to this study, are able to confirm pathways through which outcomes are achieved (Miller and Tssang, 2011).

The qualitative approach (Strauss & Corbin, 1998; Yin, 2002) has been utilised extensively in studies of ethnic businesses (Cho, Moon, & Bounkhong, 2019; Sommer & Gamper, 2018). The qualitative data, which is rich in context, can help identify underlying factors and explain the deep issues investigated. Sommer and Gamper (2018) advocate the use of a qualitative approach in empirical studies of transnational entrepreneurship due to the characteristics of multinational businesses. They argue that the approach is best suited because transnationalism is qualitatively oriented.

Sampling

Purposeful sampling is ideal for qualitative studies as it enables information-rich cases related to the research phenomenon to be identified and examined (Strauss & Corbin, 1998). Cases for the present study were selected from Australian and NZ transnational businesses operating through the two most popular e-platforms in China - WeChat, and Alibaba. The enterprises selected total 12 necessity and opportunity entrepreneurs who have migrated to Australia and NZ from mainland China. The purposeful sampling approach has previously been used by scholars and verified to be appropriate for developing new knowledge (Hohenthal, 2006). Two purposeful sampling methods, snowballing and opportunistic sampling, were adopted for recruiting the cases.

Half of the cases were reached through the researcher’s professional networks in Australia and NZ. The other half were recruited through snowballing. This approach ensured that the researcher had the trust of the people interviewed. Among the 12 cases, three were serial entrepreneurs, another three had off-line retail shops while engaging in transnational trade on e-commerce platforms. One was a student entrepreneur making money to pay for her living, one was a working holiday visa holder, one technology diffuser, one job hunter and another a housewife earning income. The cases also included one Alibaba and WeChat technology distributor. Their profiles are provided in Table 1 below.

Data Collection and Analysis

With respect to data collection, Wang and Warn (2019, p.222) suggest that in-depth interviews are appropriate for exploring details of entrepreneurial activities, especially where immigrants are the research target. Recent immigrants may be reluctant to undertake surveys in a new language, and interviewing allows researchers to clarify issues not understood immediately by the interviewees. The data collection was conducted in two phases. Face-to-face or telephone (including WeChat) interviews were conducted first. Then, to triangulate findings from the interviews (Yin, 2003), data from the face-to-face or telephone interviews were corroborated with information from multiple sources including websites of the TDEs, their WeChat moment (朋友圈), and cellphone-based social media platforms. The research was also announced to interviewees’ WeChat network members.

Interviews were conducted in two batches. The first batch of face-to-face interviews comprised two entrepreneurs and occurred in November 2019. The second batch of 10 telephone interviews took place in May and June 2020. Telephone interviews were used due to travel restrictions following the COVID-19 pandemic. A semi-structured interview guide was used for the interviews. Interviewees

Table 1. Sample description

ID	Age	Gender	Year of emigration	Year of startup	Career before startup	Startup location	Cross-border e-commerce platforms used	Transnational digital entrepreneurial motivation
SZ	3 4	M	2002	2015	Business owner	Auckland	Alipay and WeChat Pay distributor	Opportunity
CY	40-50	F	2014	2014	Housewife	Auckland	WeChat, partner with off-line shops	Opportunity
NN	40-50	M	2002	2012	Entrepreneur visa holder	Auckland	Own off-line shops in Auckland, online shops in Taobao and WeChat	Opportunity
Luna	30-40	F	2013	2017	Employee in an e-trading firm	Auckland	Own off-line shops in Auckland, WeChat network	Opportunity
Andrella	30-40	F	2014	2015	Professional position	Auckland	Taobao, WeChat (moment and shop).	Opportunity
ZK	40-50	F	2012	2018	Employee in an e-trading firm	Melbourne	WeChat (moment and shop).	Opportunity
JW	5 0	M	2015	2015	Job seeker	Auckland	TMall and Taobao	Necessity
GG	20-30	F	2010	2016	Student	Auckland	WeChat, partner with off-line shops.	Necessity
JH	3 5	F	2016	2016	Working holiday in NZ	Auckland	WeChat network only	Necessity
Jenny	35-45	F	2014	2014	Job seeker	Auckland	WeChat, partner with local suppliers. Being a member of E-commerce business association.	Necessity
WY	4 0	F	2014	2014	Entrepreneur visa holder	Auckland	Own off-line shops in Auckland, online shops in Taobao and WeChat	Necessity
Annie	40-50	F	2013	2017	Housewife	Brisbane	WeChat	Necessity

were asked a series of open-ended questions about their immigration experience, motivation for embarking on transnational entrepreneurship, the strategies they employed, obstacles faced, and outcomes from their businesses, as well as their expectations for the future development of their businesses. Interviewees were queried for more in-depth information based on their responses to the various questions. The interviews took between 30 and 90 minutes and were conducted in Mandarin. Notes were taken during the interviews and translated into English after the interviews. All interviewees felt comfortable with the process and communicated openly after being informed of the purpose of the study, their rights as interviewees, and the confidential handling of information provided. To ensure confidentiality, gain interviewees' trust and encourage accurate information, all interviewees were assigned pseudonyms (see Table 1). Data collection was conducted by DataServe NZ Ltd. in which the first author is a managing director.

Classification and coding are two key data analysis processes in the study. Data from the interviews were coded and analysed to identify themes that correspond with various constructs within the framework. Open coding was the primary analysis method used (Straus & Corbin, 1998). Isenberg's (2011) entrepreneurial ecosystem framework was adopted to study the home and host country ecosystems and data analysed with respect to the six domains in the ecosystem: funding and finance, government and institutional policy, market, human capital, business support and entrepreneurial

culture. Some of the constructs identified did not fit directly with Isenberg's domains, especially for the home country ecosystem. They include funding from personal saving prior to migration which was coded as 'funding', although it had strong links with human capital and culture.

RESEARCH FINDINGS

This section describes the TDE effects of cross-border e-commerce platforms and the findings from the interviews with the TDEs. The description of the platforms focuses on the services they provide to transnational traders. The findings for TDEs are summarised into themes corresponding to motivations, strategies and outcomes. In addition, the analyses investigate how a transnational digital entrepreneurial ecosystem affects the entrepreneurial process.

Findings for Transnational Digital Entrepreneurs

Based on Reynolds et al. (2002), both necessity- and opportunity-driven TDEs were identified from the cases. However, no clear standard strategies or business models were associated exclusively with either type of entrepreneur. Jenny, GG, JW and Annie were typical necessity entrepreneurs, since they were motivated by the need for income to support their families or studies in their host countries. One particular subtype of necessity entrepreneurs was 'business visa holders' (WY and NN), who engaged in transnational entrepreneurship not necessarily to earn income to survive, but as an avenue for immigration. Two interviewees who belonged to this group were not only trading on e-commerce platforms, but also had local shops with employees in the host country. In contrast to the necessity entrepreneurs, SZ, Andrella and CY were typical opportunity-driven entrepreneurs pursuing identified opportunities. Other motives for engaging in TDE were mentioned such as to help family members (Jenny), to maintain personal networks in the home country (Andrella), and to earn money to travel (JH).

From a strategy perspective, both informal and formal business strategies played essential roles in transnational activities of the cases. Some TDEs treated their business activities as part-time jobs for extra income (CY, GG, Andrella). In contrast, others engaged in traditional formal businesses with offices and stores, and all efforts (social and economic capitals, full-time) were directed to business success (WY, SZ). All the cases except SZ, WY, NN and Luna pursued their transnational business activities as informal businesses. Some expressed (Jenny, CY, GG, JH) that formal business models and trading rules were not necessary for modern online businesses.

One of the informal strategies employed by the TDEs was the home-based business (Ndofor, 2011) which is popular in e-commerce platform-driven entrepreneurship. Of the 12 interviewees, only four (SZ, WY, NN and Luna) had physical offices or shops in their locations. The others operated their businesses from their homes. Some (Andrella, WY, JH) had product stocks in their garages and many were operating as intermediaries in the supply chain. Jenny commented that she used to keep stock in her home and was responsible for packing and sending products to overseas customers, but she no longer did this. She currently acts as an intermediary in the distribution chain, receiving orders through e-platforms and forwarding them to different suppliers who send the ordered goods to the end-users.

Involving family members in the business (Ndofor, 2011) was also common among the TDEs. In particular, female-owned e-shops were in fact family-owned businesses. Family members, particularly husbands of married women, played crucial roles in decision-making and execution of strategies. Eight interviewees noted that family members, in both the host and home countries, were involved in their business. Family business theories (Peterson and Crittenden, 2020) are therefore relevant to TDE. Accordingly, these family businesses generally had very low-profit margins (Garrido & Olmos, 2008). Their low prices and low price strategies enhanced their competitive advantage in TE.

Another effective strategy was transacting through social networks (Norfor et al. 2011). The most commonly used social capital was WeChat "moment" networks. All interviewees saw "moment" as an effective strategy for promoting their products and services. GG, CY, JW, JH and other interviewees

expressed the significance of their social networks for marketing their products. The social networks were not limited to the entrepreneur's personal networks of family members and close friends but also involved partnerships with people in China who expanded the social networks (Jenny, Andrella).

With regards to the outcomes of TDE, the study investigated interviewees' financial satisfaction and non-financial achievement. All interviewees were happy with their financial achievement, particularly returns on their capital investment, as well as the effort and time devoted to the business. A couple of interviewees (WY, Luna) felt their financial outcomes such as profit were low, which they attributed to not working hard enough. Even so, they still considered using cross-border e-commerce platforms an efficient business model for achieving their financial goals.

Chrysostome and Arcand (2009) emphasised that necessity and opportunity entrepreneurs cannot be evaluated using the same parameters of financial performance (employment expansion and market share), and that the extent of achievement of the entrepreneurs' goals, both financial and non-financial, are better measures of performance for this purpose. The essential reasoning behind the goal approach to performance assessment is that all businesses aim to reach a recognisable goal, so that business performance can be assessed by the extent of goal achievement (Etzioni, 1960). The majority of interviewees agreed with that notion; many had realised their financial and non-financial goals, and although the level of the goals differed, they were all satisfied with their achievements. One exception was YW, who was not pleased with her business performance, due mainly to internal business problems. The majority of interviewees (JH, GG, Annie) expressed satisfaction with their social networks, voluntary contributions to their communities, and support for family members. One person (Jenny) also felt her social status had improved.

Effects of The Transnational Digital Entrepreneurial Ecosystem

The research investigated the entrepreneurial ecosystem effects from three perspectives: the home country; the host country; and the digital platform. This section discusses the key ecosystem effects from the entrepreneurs' perspectives.

First, access to markets in the home country motivated entrepreneurs to engage in transnational trading. All interviewees agreed that, without demand for Australian and NZ products in China, their export-orientated businesses would not exist. They also believed this genuine market has originated from China's socioeconomic development in the last 40 years.

Human capital and social networks were important in promoting products and services. The most important role played by social networks was building trust (Zhao et al. 2020). Family ties were also crucial, since the entrepreneurs often partnered with one family member or a close friend to oversee trade in the home country (Jenny, JH, GG, CY). Supply chains and logistical arrangements in the home country were also highlighted as important to the businesses. It appeared finance had lower importance in the e-commerce platform-enabled business model, since only one entrepreneur (WY) expressed the need for finance. In general, the interviewees (SZ, JW, JH, Lina, Zk, Andrella, WY, NN, and Jenny) agreed that all domains of the home country entrepreneurial ecosystem were supportive of TDE. All interviewees believed that governments are extremely important in transnational trade, since any changes in export/import policies and tax in the home country impact their operations.

The most important component of the host country ecosystem was identified as market demand for trendy competitive products with excellent quality and reputation. The entrepreneurs commented that operating from the host country had enabled them to upgrade the quality and information on their product packages, relying heavily on natural, clean, good quality products to meet customer demand in the home country. All interviewees noted that the tax policies of the host country had an enormous impact on their businesses. The business environment, particularly the freedom to start informal and formal enterprises, encouraged the entrepreneurs to exploit transnational opportunities. These transnational traders (Lina, Zk, Andrella, WY, NN and Jenny) saw business support (accounting, industry associations) in the host country as important to their success. One (Jenny) believed the NZ business association, of which she is a member helped her carve an appropriate business model and

achieve profits. In general, these entrepreneurs recognised support as an important domain of the host entrepreneurial ecosystem.

One important sub-domain of the host entrepreneurial ecosystem, co-ethnic community, played an extremely important role in TDE. Some entrepreneurs (GG, JH) admitted that they learned the TDE business model from Chinese friends. Some (GG, Annie) built their businesses with the help of compatriots. Three entrepreneurs (CY, Jenny and Andrella) explained that the church to which they belonged provided social capital.

It is the digital ecosystem, the e-commerce platforms specifically, that enables TDE (Elia, 2020). All entrepreneurs believed their business model would not work without these platforms. The platforms not only bridged the host and home country ecosystems, but provided digital business facilities to these entrepreneurs. Cross-border e-commerce platforms serve entrepreneurs by providing services such as customer channels, e-shop start-ups, logistics, finance, information, and business scaling up. This borderless digital ecosystem also promoted TDE by providing access to digital infrastructure, digital citizenship and a digital marketplace (Sussan and Acs, 2017), in addition to connecting the host country with the home country ecosystems.

Finally, the e-commerce platforms enhance international trade by reducing travel between the home and host countries and extending networks and social capital without the deep embeddedness in home and host countries required in traditional international trade (Drori et al., 2009; Harima & Baron, 2020). TDEs therefore, pursue a lean start-up strategy with significant reduction in the financial and knowledge capital required in international trade. E-commerce platforms, therefore, play a vital role in the integrated transnational digital entrepreneurial ecosystem.

DISCUSSION

The research introduced and tested a model for investigating TDE based on the motivations of entrepreneurs, the strategies employed, performance outcomes, and the three ecosystems in which they operate, which comprised the host and home country ecosystems and the digital platforms that hosted the businesses. The model was tested with 12 TDEs, comprising Chinese immigrants residing in Australia and NZ and using the popular Chinese e-commerce platforms of WeChat and Alibaba. A major contribution of the research is exploring the services that e-commerce platforms provide TDEs and how these digital platforms affect their businesses.

Digital ecosystems have enhanced the flexibility of transnational businesses, enabling immigrant entrepreneurs to extend their reach across several countries, especially to transact simultaneously in their home and host countries. Entrepreneurs with varying motivations and strategies interact on the e-commerce platforms and make individual contributions that together enhance value created by the platform.

The motivations of the entrepreneurs interviewed were consistent with necessity- and opportunity-driven entrepreneurs as defined in the literature (Reynolds et al., 2002). With respect to strategy, there were no visible differences in strategies used by necessity- and opportunity-driven entrepreneurs to realise their self-defined goals. The Alibaba platform enabled the entrepreneurs to source and sell goods in both their home and host markets, permitting full connection to the home country business environment. The conventional notion that necessity immigrant entrepreneurs pursue a strategy of catering to co-ethnic populations within their host countries (Aldrich & Waldinger, 1990; Chrysostome & Arcand, 2009) was not supported. Necessity-driven immigrant entrepreneurs used e-commerce platforms to access markets in both their home and host countries. In some cases, they were family businesses focusing on high sales volume at low prices with low margins.

For opportunity-driven entrepreneurs, the e-commerce platforms provided further opportunities and the resources to implement the opportunities. The transnational operations enabled improvement in quality and reputation of their products by transferring knowledge from their host countries to operating in their home countries, for competitive advantage based on improved quality at low prices.

Both necessity- and opportunity-driven entrepreneurs used the e-commerce platform to promote their products and services. The relationship between the e-commerce platforms and the entrepreneurs who used them, as well as benefits derived by both, were bi-directional. The platforms provided opportunities and resources for the entrepreneurs to transact in both their home and host countries, while the entrepreneurs' activities enhanced the value of the platforms and the services they provided.

Immigrants are keen to initiate transnational business activities between their host and home countries (Lin & Tao, 2012; You et al., 2019), by accessing resources from the two ecosystems. E-commerce platforms enable TDEs to make the best use of resources from their home and host country ecosystems. First, immigrants have a close sociocultural association and advantage when they engage in trade with their home country because of established "bounded solidarity and enforceable trust" (Portes and Sensenbrenner, 1993, p.1325). Second, being a Chinese immigrant engaging in trade on Chinese e-commerce platforms where customers are mainly Chinese, TDEs have a competitive advantage with regard to market knowledge and product recognition, compared to foreign operators. They can leverage knowledge from their host countries to improve the quality of their products sold in their home countries.

Researchers and policymakers now recognise that economic development is enabled by investing in suitable entrepreneurial ecosystems to nurture entrepreneurs. So far, the research has focused on physical entrepreneurial ecosystems and is mainly theoretical (Spigel and Harrison, 2017), while research on how e-commerce platforms, as digital ecosystems, support TE has received sparse attention (Sussan & Acs, 2017). This is especially the case for necessity-driven transnational entrepreneurs (Du and Li 2018; Song 2019) who use these platforms.

With respect to performance, all TDEs studied were satisfied with the outcomes from their businesses when assessed in terms of their goals. Necessity entrepreneurs pursued family employment, expanding personal networks in the home country, and earning money for travel, while opportunity-driven transnational digital entrepreneurs pursued growth goals.

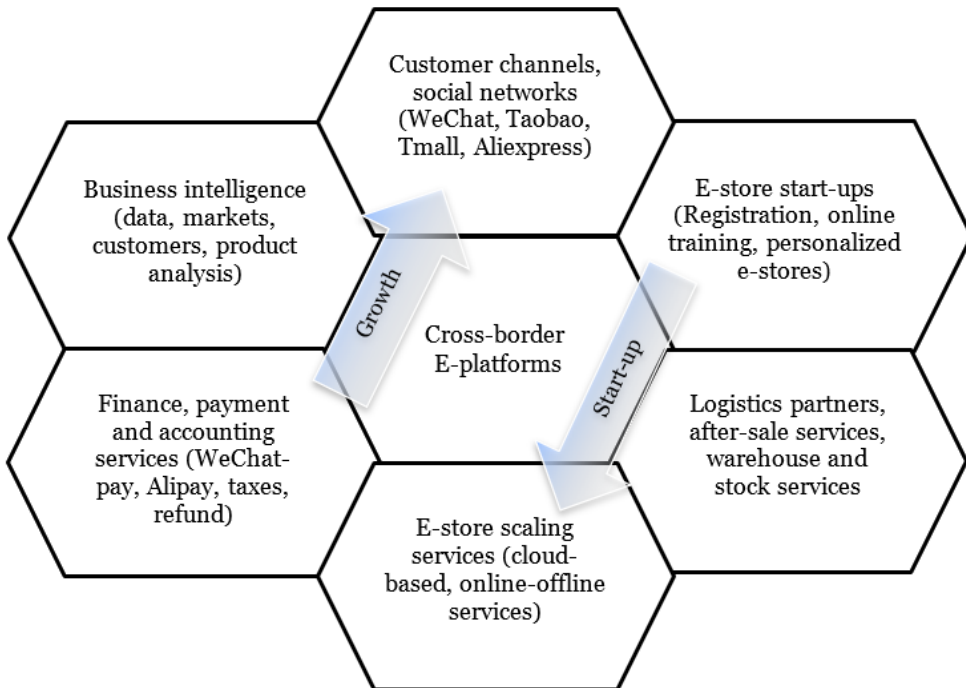
The research proposed an analytical framework of the transnational digital entrepreneurial ecosystem that comprises host- and home-country entrepreneurial ecosystems bridged by digital ecosystems. Through positivist case studies, the study confirmed that TDE is affected by these three ecosystems. The study demonstrated that ecosystem factors in the host and home countries, such as technology development, infrastructure advancement and formal and informal business support services, directly impact outcomes for TDEs. The framework contributes to the field of TDE study by offering a new approach to consider systemic influences in addition to socioeconomic factor impacts holistically. It also has significant implications for policymakers and practitioners in TDE promoting and venturing by illustrating the available policy instruments (ecosystem domains) and determinants (ecosystem components) for TDE development.

Some interviewees expressed concerns about the home and host country ecosystems, including lack of clear government regulations with regard to operating through e-commerce platforms. Others noted the low entry barriers to trading on the platforms, exposing participants to severe competition. A conservative strategy, involving cautious investment in growth, was therefore, preferred. Nonetheless, some interviewees referred to the significant increase in opportunities in TDE through e-commerce platforms, with China opening trade to the world and the increasing trend in globalisation.

TDE provides an entrepreneurial pathway for opportunity and necessity immigrant entrepreneurs to access markets in both their home and host countries. The main support services provided by the e-commerce platforms (both Alibaba and WeChat) are accounting, customer care, product promotion, and business intelligence. The platforms take the burden of administration, accounting and marketing from the entrepreneurs (Figure 2), leaving them to focus on critical activities such as strategic decisions and resource organisation. In a traditional business environment, these advanced business services would typically be out of reach of the MSMEs.

During the second batch of interviews, the COVID-19 pandemic was accelerating its spread worldwide. One question asked of the interviewees was the impact of the pandemic on their businesses.

Figure 2. Platforms taking the burden of administration, accounting and marketing from entrepreneurs



Two distinct responses were revealed. The entrepreneurs operating informally expressed firmly that their sales had increased, while business owners with local shops complained about a fall in sales. Both groups believed sales through the platforms had improved. Shop owners (WY) were ready to retrench employees due to a fall in demand from the reduced number of tourists. From a transnational digital ecosystem perspective, a destabilising socioeconomic event directly impacted entrepreneurship intentions and firm performance. COVID-19 continues to affect business operations. Longitudinal studies are required to investigate ongoing socioeconomic effects of the pandemic. The current proposition is that the pandemic enhanced performance of firms using e-commerce platforms and enabled transnational digital entrepreneurs.

CONCLUSION AND IMPLICATION

From an academic perspective, it can be concluded that cross-border e-commerce platforms enhance trade in three crucial ways. First, they promote TDE by providing access to various resources including knowledge capital, technology, market access, and financial capital, to ease entry and operations for TDEs. These resources are directly available without the use of intermediaries. Second, the platforms enable both necessity- and opportunity-driven entrepreneurs to grow their incomes by trading in both the host and home countries. The conventional view that only opportunity entrepreneurs engage in international trade does not hold in the context of e-commerce platform-based entrepreneurship. This finding is consistent with the work of Sussan and Acs (2017). Finally, cross-border e-commerce

platforms enhance the entrepreneurial capacity of immigrant entrepreneurs by enabling lean start-up and minimal capital requirement (Ghezzi, Cavallo, 2018), especially for resource-scarce new immigrants. Immigrant entrepreneurs with the advantage of knowledge of the markets and cultures in both home and host countries are empowered by the digital e-commerce platforms to turn their migrant status in their host countries into transnational entrepreneurship. This paper also makes a contribution by using the positivist case study approach to explore how the ecosystems associated with TDE, especially the e-commerce platform, support the strategies employed by TDEs with diverse motivations to enhance performance of their businesses. It demonstrates how the positivist case study approach can be used to explore interrelationships within a conceptual framework, developed to guide the study, to confirm the pathways through which outcomes are achieved.

From a practitioner perspective, transnational digital entrepreneurs have strong social, cultural and economic connections with their home country entrepreneurial ecosystem, although they are residing in and embedded in the host country ecosystem. These entrepreneurs have access to resources and opportunities from both home and host country ecosystems through business support of digital ecosystems. Therefore, e-commerce platforms play key roles in the business operations of TDEs as facilitators and mediators, confirming the findings of Sahut et al. (2019). The present study indicates that digital e-commerce platforms act as enablers through which new ventures can be created and traditional firms can be transformed.

This research identified differences in motivational influences between the two types of entrepreneurs, which translate into different financial outcomes. Although business strategies based on e-commerce platforms were similar between the two types of entrepreneurs, differences in motivations for survival versus motivations for growth were evident from differences in the rate of business expansion between the two groups. When the goal-based performance evaluation method was used, the performance outcomes were similar for two types of TDEs.

This study contributes new knowledge to the DE literature by integrating it with TE into a new concept of TDE. In addition to the traditional interest in opportunity-driven DE, the study shows that necessity-driven digital entrepreneurs are also relevant to TDE research. The findings diverge from the conventional view that necessity entrepreneurs have limited access to resources (finance, human, social) and are therefore precluded from active participation in transnational activities. Digital platforms permit necessity entrepreneurs to conduct business in the exact same manner as opportunity entrepreneurs. These platforms transform the challenges encountered by both types of entrepreneur into strengths in transnational environments. The e-platforms in China and the business models enabled by the platforms, together with the strategies of the necessity and opportunity entrepreneurs who use them to trade successfully in both the host and home countries, may have general application. Nonetheless, future research could examine the applications of the findings in other contexts using a quantitative research approach for wider generalisation.

The main limitations of the study are the small sample size and focus on e-commerce platforms hosted in one home country. Future research can test the global application of the proposed framework in extensive studies involving quantitative analyses. The impacts of COVID-19 on platform-based entrepreneurs requires urgent research. Another research agenda could focus on female transnational digital entrepreneurs, investigating whether they have different motives beyond necessity and opportunity, or adopt different strategies from males for their businesses. Future research could also focus on markets where being female is an advantage.

ACKNOWLEDGMENT

Data collection was conducted and provided by DataServe NZ Ltd. in which the first author is a managing director. This occurred prior to planning and writing the paper.

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