Perceived Corruption, Business Process Digitization, and SMEs' Degree of Internationalization in sub-Saharan Africa.

Samuel Adomako[a,] **Joseph Amankwah-Amoah**[b;] Shlomo Y. Tarba[c]; Zaheer Khan[d]

[a] School of Management, University of Bradford, Bradford, UK
S.Adomako@bradford.ac.uk

[b] Kent Business School, University of Kent, UK*
(**J.Amankwah-Amoah@kent.ac.uk**)

[c] Birmingham Business School, University of Birmingham,
Birmingham, UK, **s.tarba@bham.ac.uk**

[D] University of Aberdeen Business School, the University of
Aberdeen, UK (**zaheer.khan@abdn.ac.uk**)

*Corresponding author

Abstract
This paper contributes to international business literature by investigating the relationship between perceived corruption and the degree of internationalization (DoI) through business process digitization (BPD). Moreover, the paper examines the moderating effect of firm age on the correlation between perceived corruption and BPD. Using data collected from two sub-Saharan African countries—Ghana and Nigeria, the findings show that perceived corruption is positively correlated to BPD and this correlation is stronger among younger firms. Besides, the findings reveal that BPD is positively correlated to DoI. Moreover, the results of our analysis also indicate that BPD mediates the correlation between perceived corruption and DoI. The limitations of the study and the implications of its findings for researchers and practitioners are discussed.

Keywords: *Africa; corruption; degree of internationalization; SMEs; business process digitization; developing countries*

1. Introduction

There is an adage that puts forward the notion that corruption thrives where there is no paper trail or, more currently, no digital trail (Haafst, 2017; Transparency International, 2020). This encapsulates the inherent difficulties that arise in combating corruption when nations do not possess robust systems and policies to deal with it. According to the World Economic Forum (2019), corruption, theft, bribery, and other illicit financial flows cost developing countries US$1.26 trillion annually. Corruption is defined as any illegal activity—such as bribery, fraud, and falsification—undertaken via misappropriation of "*authority or power by public (government) or private (firms) officeholders for private gain and benefit, financial or otherwise*" (Bahoo, Alon, & Paltrinieri, 2019, p. 2). As such, corruption is considered a strong constraint to growth and development that many countries are not doing enough to tackle (Transparency International, 2020).

The existing literature on the effects of corruption on firm-level outcomes has yielded mixed findings. First, in the presence of weak national institutional structures, corruption is considered a way to "grease the wheels" that assists firms in overcoming cumbersome bureaucratic procedures and rigid laws (Hanousek, & Kochanova, 2016; Lein, 1986). Second, some researchers argue that corruption weakens economic performance due to rent-seeking behaviors of government officials that potentially increase transaction costs and uncertainty for firms (Murphy, Shleifer, & Vishny, 1991; Kaufmann, & Wei, 2000). Third, while some firm-level studies find that corruption is harmful to firm growth, performance, and innovation (Fisman, & Svensson, 2007; De Rosa, Gooroochurn, & Gorg, 2015; Paunov, 2016), others reveal that corruption effectively drives growth (Vial, & Hanoteau, 2010). Collectively, these findings suggest that corruption affects firm-level outcomes in various ways. Given such mixed findings, firms are increasingly forced to innovate and adopt processes that enhance their competitiveness. The advent of the digital era has reduced the need for some physical products (Steenkamp, 2020); however, globally, many firms—and especially small and medium-sized

enterprises (SMEs)—lag behind their rivals in embracing digitization and digital processes. A recent international business study reveals that strong internal laws are required to minimize the negative impacts of corruption on firms (Bahoo, Alon, & Paltrinieri, 2019). This paper suggests that to enhance operational efficiency and performance, firms must consider corruption in their strategy formulation. In this context, scholars have highlighted the role played by non-market strategies (such as engaging in corruption, bribery, and lobbying), along with market-based ones, in the development of competitive advantages by firms (cf. Capron, & Chatain, 2008).

However, despite the growing efforts in examining the impact of corruption on firm strategies, international business literature exhibits some important research gaps. First, although corruption remains a powerful force that potentially deters investors or limits investment (Getz, & Volkema, 2001; Habib, & Zurawicki, 2002) and adversely impacts economic development (Rose-Ackerman, 1999), our understanding of the impact of perceived corruption (home country) on business process digitization (BPD) is far from complete. Arguably, digitization, which is likely to close the technological gap, has the potential to contribute economically to emerging economies as well as helping to enhance the efficiency of governmental and corporate functions (You et al., 2019, 2020). However, how home country corruption influences the BPD of internationalizing SMEs is unclear. Second, the circumstances under which perceived corruption (PC) influences BPD lack theoretical clarity. Accordingly, we suggest that firm age may be a boundary condition of this correlation. Third, while extensive research on the influence of corruption has been conducted in the context of large firms (Athanasouli, Goujard, & Sklias, 2012; Jiang, & Nie, 2014; Sharma, & Mitra, 2015), few studies have examined the effect of corruption on the degree of internationalization (DoI) (i.e., the intensity of international venturing activities undertaken by the firm) in the context of SMEs. The prevalence of large firms as a research setting is understandable as such firms, which typically possess large resources, are ideal settings to investigate the influence of

corruption on firm outcomes in international business. Fourth, while the effects of PC on the SMEs' DoI are intuitively appealing, our understanding of the mediating mechanisms of this relationship is lacking. Furthermore, SMEs lack foreign market knowledge and experience (Lu and Beamish, 2001), and suffer due to their liability of smallness and newness (e.g., Maekelburger, Schwens, & Kabst, 2012), which in turn makes them susceptible to corruption as they internationalize.

In light of these gaps, the main purpose of this paper is to examine how PC influences the DoI of SMEs from developing countries through the mediating mechanism of BPD. Thus, the paper aims to answer the following research questions: *How does PC correlate to firm DoI?* and *How does firm age moderate the correlation between PC and BPD?* To address these questions, we draw on the institutions-based view (Peng, Wang, & Jiang, 2008; DiMaggio & Powell, 1983; Meyer & Rowan, 1977) to test our conceptual model. Accordingly, we administered a survey to 464 chief executive officers (CEOs) based in Ghana and Nigeria. Testing our research model was crucial, given that a firm's institutional environment may determine the level of managerial discretion in international business decision-making (Adomako, Opoku, & Frimpong, 2017).

The paper makes important contributions to the international business literature. First, by testing a model that suggests that PC drives BPD, it adds to studies that used the institutions-based view (Meyer & Rowan, 1977; Peng, 2002; Peng, Wang, & Jiang, 2008) to explain firm-level outcomes in international business (Cui, Jiang &, Stening, 2011; Kim, Kim, & Hoskisson, 2010). Specifically, we show that home country PC drives BPD of internationalizing SMEs. In doing so, we explain the antecedents of BPD by extending previous research (BarNir, Gallaugher, & Auger, 2003). Second, our first contribution brings up a fundamental question: if a given home country's PC drives BPD, under what conditions does this happen? This is an important question because pervasive corruption would increase the financial and emotional costs in an international business environment. Thus, our second contribution is to identify one

such condition. We find that the effect of PC on BPD is stronger in younger firms. Third, one of the critical decisions for SMEs is whether to expand their domestic operations into foreign markets. Although the formal institutional context—relating to government legislation, policies, and programs—has been used to explain the drivers of internationalization, our understanding of the role played by PC, a constituent of the institutional structure, in driving a firm's DoI is less understood. This article contributes to the current research by examining the effects of PC on SME DoI. More so, it extends the previous research on corruption by investigating the mechanism through which it influences a firm's DoI. After a brief introductory review of the literature, we present the research setting and methods. The data analysis and findings are presented following the literature review. We conclude with the discussion and draw key implications of the findings.

2. Theoretical framework and hypotheses development

2.1 Institutions and corruption

We utilized the institution-based view (DiMaggio & Powell, 1983; Elango & Dhandapani, 2020; Meyer & Rowan, 1977) to examine how PC may help SMEs to digitize and ultimately enhance their cross-border activities The basic premise of the institution-based view is that 'institutions matter' in shaping firms' behavior and strategic choices (Elango & Dhandapani, 2020; Peng, Sun, Pinkham, & Chen, 2009), including internationalization. North (1990, p. 3) defined institutions as "*the rules of the game in a society or, more formally,* [they] *are the humanly devised constraints that shape human interaction.*" It has been argued that the context for economic activities stipulates the rules and guidelines related to economic exchanges (Blau, 1964). Institutions affect the allocation of resources in a country (Baumol, 1990; Grossman & Kim, 1995; Amankwah-Amoah et al., 2019, 2020); as such, institutional quality drives firm-level strategic choices, including non-market strategies. Managers select between productive and unproductive forms of value creation based on their perceptions of the institutional environment in which they do business (Collins, McMullen, & Reutzel, 2016).

Given that resources are allocated to those activities that have the highest potential returns, institutional burdens can promote unproductive entrepreneurial activities such as rent-seeking (Bhagwati, 1982; Coyne et al. 2010) or destructive entrepreneurship (Desai et al., 2013), as well as the productive entrepreneurial activity of product innovation (e.g., Brixiova, 2013). For example, when managers perceive the environment as burdensome, they may resort to rent-seeking (e.g., lobbying and corruption) (Murphy et al., 1993). One of the root causes of corruption is the nature of the political system and government actions (Meschi, 2009; Rose-Ackerman, 2016). In a weak and corrupt institutional context, rent-seeking becomes highly pervasive, enabling government officials to influence firms' actions through various policies, rules and regulations, and adopting coercive actions. Under such conditions, firms rely on forming network ties with government officials and make greater use of non-market strategies to deal with corruption in a given market (Capron & Chatain, 2008; Rodgers et al., 2019).

Corruption is broadly conceptualized to include all actions that foster the misuse of public funds, resources, and offices for private gain (Rose-Ackerman, 2016). Specifically, corruption captures the prevalent and institutionalized nature of bribery in both wider society and the functioning of markets (Lee & Oh, 2007). The multifaceted nature of corruption and corrupt practices was captured by Heineman and Heimann (2006, pp. 76–77), who distinguished between grand corruption (involving high-level officials with discretionary authority over government policy) and petty corruption (involving lower-level officials who control access to basic services). Corruption entails ties to relevant stakeholders who act based on their self-interest and have the potential to distort the full functioning of markets and market competition (Meschi, 2009). Besides, in some emerging economies, there is disorganized corruption, whereby political actors collect bribes in exchange for performing their basic government functions (Shleifer, & Vishny, 1993, 1998).

Therefore, we draw on the institution-based view to examine how home country corruption can influence BPD of internationalizing SMEs. Managers who perceive greater

corruption in the business environment tend to find ways to protect their investors' capital (Cuervo-Cazurra, 2016). In this way, they are more likely to develop and lead their firms to integrate digitization into their business process as an escape motive for overcoming corruption, which, in turn, influences the internationalization of their firms (Cuervo-Cazurra, 2006). The development of BPD is a fruitful way to mitigate some of the effects of corruption (Fanea-Ivanovici et al., 2019). We also argue that BPD mediates the correlation between PC and DoI. Also, we contend that the effect of PC on BPD may depend on firm age, as younger firms are maybe more digitized than their older counterparts given their wider use of modern information and communications technologies (ICTs) and digital business models. We summarise the above arguments in the conceptual model presented in Figure 1.
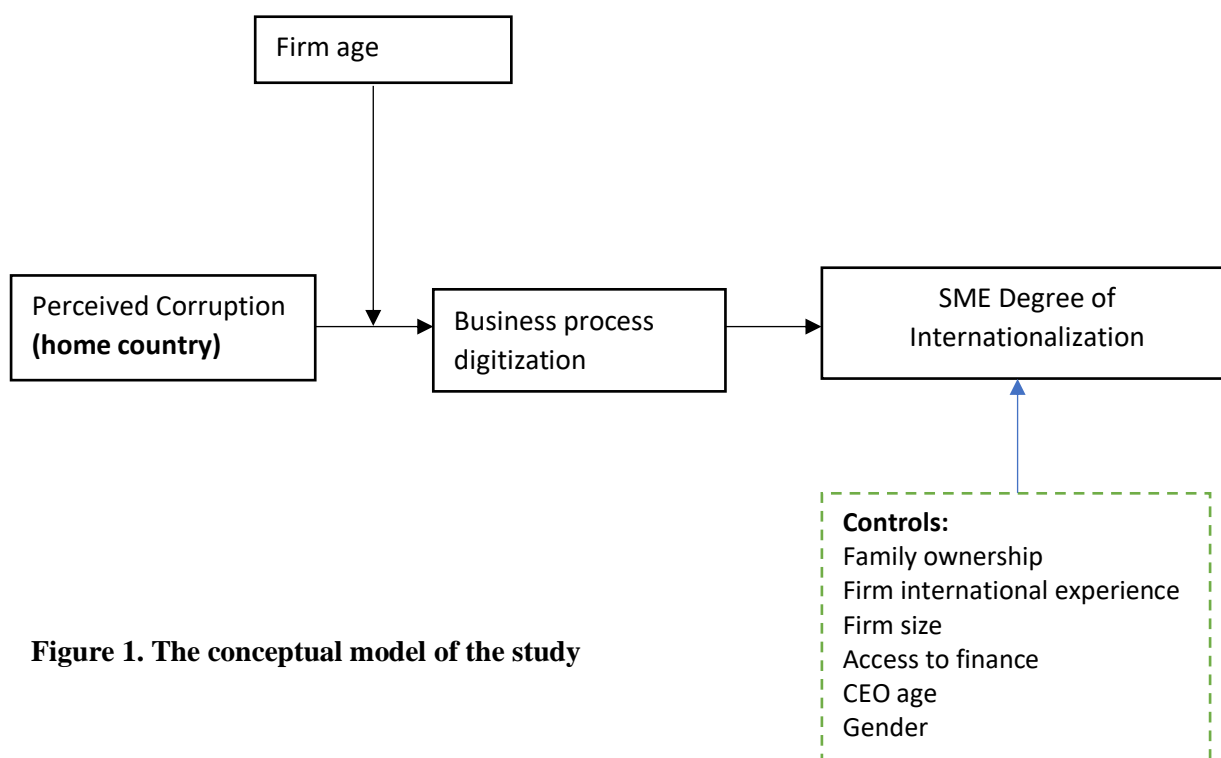

Figure 1. The conceptual model of the study

2.2 Perceived corruption and business process digitization

The utilization of the Internet to conduct business activities has blossomed across several countries. The term e-commerce refers to the use of the Internet and other related infrastructure to support business activities (BarNir, Gallaugher, & Auger, 2003; Berthon, Pitt, Cyr, &

Campbell, 2008). More specifically, e-commerce activities reflect the use of the Internet to gather competitive intelligence, interact with channel members, and conduct commercial transactions online (Chaffey, Hemphill, & Edmundson-Bird, 2019; Turban, King, Lee, & Viehland, 2002; Wigand 1997). In particular, the digitization of business processes refers to the stages inherent in the shift from the old ways of conducting business activities, including the mobilization of competitive intelligence and communication channels to digital online platforms (BarNir, Gallaugher, & Auger, 2003). In this study, we refer to BPD as the use of the Internet to conduct business activities—such as marketing or sales, information gathering, communication, and administrative tasks (e.g., purchasing or distribution).

Digitization and the adoption of new technologies per se are unlikely to yield a sustainable competitive edge; rather, it is the focal organization's ability to institute processes and structures that enable it to benefit by improving how it performs its value chain functions and relates to its stakeholders—such as customers, suppliers, and clients (Amankwah-Amoah, & Adomako, 2019; BarNir et al., 2003; Nambisan, Lyytinen, Majchrzak, & Song, 2017; Nambisan, Wright, & Feldman, 2019; Nambisan, Zahra & Luo, 2019; Warner & Wäger, 2019). Such improvements are likely to translate into reduced costs and delays and improved firm responsiveness to market needs (BarNir et al., 2003).

The extant literature, however, suggests that corruption 'greases the wheels' to help in overcoming cumbersome and difficult regulatory constraints and rigid laws (Hanousek & Kochanova, 2016; Lein, 1986). This is the case when a country's institutional framework is weak and poorly functional (Meon, & Weill, 2010; De Vaal, & Ebben, 2011) as in the case of developing economies where formal institutions are fragile and evolving. Accordingly, in a given country, PC is likely to further motivate a firm to adopt BPD as a means to sidestep any barriers to doing business and to demonstrate to potential investors and customers some degree of transparency in the way it conducts its business functions. Moreover, given that, in many economies, corruption is considered a major barrier to doing business (Cuervo-Cazurra, 2006;

Murphy, Shleifer, & Vishny, 1991; Kaufmann, & Wei, 2000), managers are likely to respond by putting in place processes and procedures aimed at reducing its effects on firm-level activities, including internationalization. When digitized infrastructures are in place, firms stand to gain e-opportunities to improve their competitive position and pursue their strategic objectives (Feeny, 2001). Also, the Internet is an effective and relatively inexpensive tool for environmental scanning or market research (BarNir, Gallaugher & Auger, 2003). Thus, when corruption is pervasive, firms may improve their digitization processes to identify business opportunities and gather large amounts of information suited to address any weaknesses brought about by corruption in the business environment. The notion that digitization facilitates decentralization and transparency (Merhi & Koong, 2013) tends to motivate firms to improve their digitization process to improve the efficiency and effectiveness of their services. Investing in digital business processes can be a viable market strategy to overcome any corrupt practices arising through weak institutional environments. Furthermore, this is likely to help firms in prevailing over any bureaucratic impediments through the direct delivery of services and connection with their stakeholders (Cordella, & Tempini, 2015). Since institutions shape firms' strategic choices (Yamakawa et al, 2008), therefore, firms may rely on digitizing their business processes to overcome rent seeking behavior of government officials. Against such a backdrop, the BPD offers firms greater surveillance and monitoring mechanisms to deal with corruption, and in turn enhance their competitive advantage. Thus, firms can use the digitization of their business processes as an escape strategy suited to mitigate corruption in their home market. Accordingly, we propose that:

H1. Perceived home country corruption is positively related to business process digitization.

2.3 Business process digitization and degree of internationalization

One of the main aims of this study was to examine the role played by BPD in a firm's DoI. Internationalization has been defined as the process of extending a firm's activities beyond the

borders of the domestic market (Abdi, & Aulakh, 2018; Hitt et al., 1994; Oesterle et al., 2016). In this study, we followed the same conceptualization and define DoI as the extent to which a firm expands its activities beyond the borders of its home country. (Given that a firm can achieve stronger growth through internationalization, it remains an important focus for researchers and managers (Lin et al., 2011). Indeed, internationalization represents an important growth trajectory for SMEs because they stand to benefit from pursuing cross-border activities (Adomako, Opoku & Frimpong, 2017). Accordingly, researchers have investigated the main factors that drive a firm's DoI. These include firm-, environmental-, and individual-level variables (Oesterle et al., 2016). Concerning firm-level factors, researchers have argued that information technology (IT) capabilities can enhance a firm's DoI (Kuivalainen, Puumalainen, Sintonen, & Kyläheiko, 2010; Tiessen, Wright, & Turner, 2001). Our study is consistent with this notion for the following reason. First, businesses that conduct online activities have the potential to benefit from lower transaction costs (Auger & Gallaugher, 1997; Nouwens, & Bouwman, 1995). Cost savings may be derived from simpler bureaucratic procedures and lower error rates. Second, the comprehensiveness of the information that can be obtained by international firms via the Internet can facilitate international business transactions such as sales and customer support by enhancing channels of communication (Gregory, Ngo, & Karavdic, 2019; Oxley & Yeung, 2001). This enables firms to obtain ongoing feedback and customer information, which could be integrated into their business operations for strategic activities. Thus, by investing in and adopting BPD, firms can utilize new technologies suited to facilitate business operations. Besides, BPD entails improvements that minimize processing errors and lower the processing and administrative cost associated with purchasing, which is likely to enhance firm competitiveness (BarNir et al., 2003). Accordingly, BPD would motivate firms to seek new international partners and markets, thereby increasing their internationalization activities. Based on these benefits, we argue that variations in firms' DoI are a function of their degree of BPD.

H2. Business process digitization is positively related to the degree of internationalization.

2.4 Perceived corruption, business process digitization, and degree of internationalization

Turning to the mediation hypothesis, we have established that PC drives a firm's BPD, which, in turn, drives its DoI. Thus, the increasing need to combat corruption may yield beneficial outcomes such as the digitization of a business, which has the potential to boost its cross-border activities. Some scholars have suggested that, when governments close avenues to seizing market opportunities, bureaucrats may seek bribes to facilitate firms' business activities (Getz & Volkema, 2001). Generally, developing nations tend to have excessive red tape and bureaucracy, which creates uncertainties for businesses and forces them to incur compliance costs (Getz, & Volkema, 2001). Given that corruption affects business activities—which could create reputational problems and lower the quality of life of individuals—firms are likely to institute processes and procedures suited to contain the high cost of corruption. By adopting BPD, firms stand to benefit from controlling any internal corruptive activities, which can enhance efficiency and performance (Lupu, & Lazăr, 2015). For example, the diffusion of digital technologies into business processes helps store, process, transmit, and report important information to the firm's stakeholders (Turban et al., 2015). Besides, the use of digital technologies improves service delivery, increases efficiency and effectiveness, and facilitates interactivity (Leidner, 2010) and reduces corruption (Shim & Eom, 2009). Given that firms involved in cross-border activities use digital platforms to complete electronic financial transactions through banking channels, digital processes are considered more transparent than traditional processes (Ghose & Yao, 2011). In addition, firms involved in international business activities can easily capture, transmit, and store digital transactions. Therefore, the failure to report such transactions is easier to detect compared to traditional transactions. The foregoing argument suggests that SMEs' perception of corruption is likely to boost the digitization of business processes as all relevant information concerning business transactions can be traced by all stakeholders. Given that digital transactions are transparent, and associated with reduced

costs of doing business, we suggest that SMEs involved in international business activities would adopt business process digitization to boost international business activities (Gregory, Ngo, & Karavdic, 2019; Oxley & Yeung, 2001). As per the institution-based view, firms are embedded in a given institutional context and this in turn influence SMEs' degree of internationalization (Yamakawa et al, 2008; Child & Rodriguez, 2005; Child & Marinova, 2014; Cieslik & Kaciak, 2009). For firms based in developing economies, the perceived corruption in a given institutional settings may drive its BPD, which in turn influence its degree of internationalization. In addition, digital technologies and business process digitization also enhance firms' value creating propositions, which can then enable firms to rapidly internationalize. Thus, we suggest that:

H3. Business process digitization mediates the relationship between perceived corruption and the degree of internationalization.

2.5 The moderating role played by firm age

We contend that the correlation between corruption and BPD may be more positive in younger SMEs compared to mature ones, given the recent trends of digitization and investment in ICTs shown by start-ups. Mature firms are in a better position to establish legitimacy by developing and nurturing relationships with different stakeholders and developing concrete internal routines and processes (Fichman, & Kemerer, 1993; BarNir, Gallaugher, & Auger, 2003; Rafiq, Salim, & Smyth, 2016). The liability of newness construct (Li, Bruton, & Filatotchev, 2016; Stinchcombe, 1965) offers a useful lens through which to view this issue. Relative to more established ones, new firms face inherent obstacles such as lack of market recognition and an inability to attract customers, clients, and investors (Stinchcombe, 1965). However, new firms are often unburdened by prior liabilities and obsolete routines that can curtail their operations and processes and are therefore able to act more swiftly (Amankwah-Amoah, & Debrah, 2017). Also, the strategic change perspective (Langley, & Truax, 1994; Roberts & Grabowski, 1996) suggests that the adoption of structural changes, such as process digitization,

is an organizational change process that involves negotiations, political, and social changes in a firm (Clausen & Koch, 1999). Moreover, the adoption of new technologies is typically subject to the implementation of institutional structures suited to ensure their smooth implementation. However, the liability of the aging perspective indicates that older firms may struggle in making changes to routines and adopting new technologies (Barron et al., 1994; Coad, Segarra, & Teruel, 2013). This suggests that the characteristics of older firms may hinder or prevent their implementation of the changes associated with BPD. New SMEs tend to be motivated to adopt BPD before or immediately after their establishment given the important role the ICTs enabled technologies are playing in facilitating global value chains activities. Given this situation, the positive effects of corruption on BPD are expected to be stronger in younger SMEs compared to mature ones. Therefore, we suggest that:

H4. Younger internationalizing SMEs will experience more positive effects of perceived corruption on business process digitization compared to mature SMEs.

3. Research method

3.1 Sample and data collection

The data analyzed in this study were collected by administering a structured survey questionnaire to the CEOs of new manufacturing ventures established in two West African countries (Ghana and Nigeria). We focussed on SMEs from the manufacturing sector because it represents an engine of growth for many developing countries (World Bank, 2019). We selected our sample countries for two main reasons. First, they are considered middle-income countries with similar economic conditions (World Bank, 2016). Second, they have similar cultural values and are at comparable stages of development. As leading emerging economies in West Africa, both counties are considered the gateway to West Africa in terms of outward and inward foreign investment (Amankwah-Amoah et al., 2018; Amankwah-Amoah & Debrah, 2010). The sampling frame for both countries was developed per those used by previous international business studies (De Clercq, Sapienza, & Zhou, 2014). First, the

participating firms had to have been involved in cross-border activities (e.g., exporting; joint venture, and greenfield) since their incorporation. Second, the selected firms did not have to be affiliated with any other company group. Finally, the firms had to be manufacturers of physical products. The sample contained firms headquartered in Ghana and Nigeria and with subsidiaries in or exporting activities to other African regions (e.g., the Economic Community of the West African States and the Southern African Development Community), Europe, and North America.

In both settings, CEOs/entrepreneurs (i.e., founders or owners who had taken part in the start-up process for their new ventures) and finance managers were contacted for information. We contacted multiple informants to help reduce concerns related to common method bias (Podsakoff et al., 2003). We applied a competency test to assess three key issues: (1) the respondents' knowledge concerning the survey questions, (2) how accurate their answers were, and (3) the confidence they had shown in providing answers. We assessed these measures on a 7-point Likert scale with anchors 1 = 'strongly disagree' and 7 = 'strongly agree'. We obtained a minimum mean score of 5.65, which suggested that the respondents were very knowledgeable about the issues being examined and were confident in providing accurate answers.

In Ghana, we drew on a random sample from the Ghana Business Directory, while, in Nigeria, we relied on the Nigerian Export Promotion Council. We collected data in two waves in both countries. First, we approached the CEOs/entrepreneurs in person with a questionnaire survey (T1) aimed at capturing the perceived home country corruption, firm age, BPD, and control variables. After several visits to the head offices of the firms in each country, we obtained 292 responses from Ghana (firms contacted: 800 out of 3650; response rate: 36.50%), and 189 from Nigeria (firms contacted: 600 out of 3,412; response rate: 31.15%), for a total of 481 responses across both countries (total firms contacted=1,400; overall response rate:

34.35%). To capture temporal equivalence (Hult et al., 2008), we collected the data from both countries during the same period (the first half of 2019).

In a second survey (T2) aimed at capturing the internationalization measures, we then contacted the finance managers of the 481 firms that had taken part in the first round of survey in both countries. We captured the dependent variable from finance managers because cross-sectional studies are often a source of common method bias (Chang, Witteloostuijn, & Eden, 2010). After several reminder visits to the offices of the finance managers, we received 286 responses from Ghana (response rate: 35.75%) and 178 responses from Nigeria (response rate: 29.66%). In the 17 firms that did not respond, either there was no finance manager or those functions were carried out by the CEO/entrepreneur. Overall, we obtained a total of 464 responses across both countries (overall response rate: 33.14%).

3.1 Measures

Table 1 presents details of the measures and the validity and reliability assessment. All multi-item measures were captured on a seven-point Likert scale with anchors ranging from 1 = 'strongly disagree' to 7 = 'strongly agree'.

Perceived corruption. We measured PC using six items, drawn from previous studies (e.g., Collins, McMullen, & Reutzel, 2016; Doh et al., 2003; Uhlenbruck et al., 2006), that were modified to reflect home country PC. These items tap the extent to which CEOs/entrepreneurs perceive corruption as pervasive within their politico-economic institutional environment of their respective home market.

Business process digitization. We measured BPD by using 12 items developed by BarNir, Gallaugher, & Auger (2003) with insights drawn from Auger and Gallaugher (1997). The respondents were presented with a list of activities that constituted a four-dimensional scale entailing information gathering, marketing, administration, and communication—and asked whether each was performed with the use of the Internet. Three items were used to measure

each of the four dimensions on a seven-point Likert scale ranging from 1 = 'strongly disagree' to 7 = 'strongly agree'. The mean value of the four dimensions constituted the BPD measure.

Firm age. We measured firm age by the number of years since firm incorporation (George, 2005).

Degree of internationalization. The internationalization literature has used different measures to capture a firm's DoI (Ibeh, & Kasem, 2014; Yiu, Lau, & Bruton, 2007; Zahra et al., 2000). In this study, we used the following two: (1) the scale of a firm's international sales, which was captured employing the ratio of foreign sales to total sales; and (2) the scope of a firm's foreign activities, measured using the number of foreign countries in which it operated (Alayo et al., 2019; Zahra, 2003).

Control variables. We accounted for the effects of several control variables on the dependent one. These were family ownership, firm international experience, firm size, access to financial resources, CEO age, and CEO gender. Family ownership was included as a control variable because of its potential influence on managerial strategic decisions relating to internationalization (Liu, Shi, Wilson, & Wu, 2017; Lin, & Shen, 2015). The family ownership dummy variable was measured by asking respondents to indicate whether any founding members held a large portion of shares of the company or served on its board of directors. This was coded 0 if any family members were involved and 1 otherwise. A firm's international experience was measured utilizing a log-transformation of the number of years it had operated in international markets. To measure firm size, the number of employees was used. Financial resource availability was measured with five items drawn from prior studies (Cooper et al., 1994; Wiklund, & Shepherd, 2005) as access to finance has been found to influence the international business decision-making process (Ripollés et al., 2012). Owner-CEO age was also controlled, as it might have been an indicator of his/her decision-making confidence (Oesterle, Elosge, & Elosge, 2016). Finally, gender was coded as 0 if male and 1 if female.

Table 1. Constructs, measurement items, and reliability and validity tests

Item description	Loadings (t-values)
Business process digitization: : α=0.84; CR = 0.86; AVE = 0.63	
Information gathering: α=0.85; CR = 0.88; AVE = 0.56	
In this firm, we use the Internet to do consumer research (e.g., market, customer)	0.85 (1.00)
We use the Internet for competitive benchmarking	0.93 (23.14)
We use the Internet for general information	0.87 (19.29)
Marketing: α = 0.86; CR = 0.87; AVE =0.69	
In this firm, we use the Internet to conduct our sales	0.67 (1.00)
We use the Internet to advertise/market our products	0.89 (15.85)
We use the Internet for customer service activities	0.78 (11.17)
Administration: (α =0.83; CR = 0.85; AVE = 0.60)	
In this firm, we use the Internet for purchasing activities	0.78(1.00)
We use the Internet for shipping/distribution	0.80 (13.54)
We use the Internet for general administrative duties	0.77 (12.19)
Communication: (α =0.85; CR = 0.86; AVE = 0.65)	
In the firm, we use email to communicate to staff members	0.85(1.00)
We use email to communicate with our customers	0.87(14.28)
We use email to communicate with other stakeholders	0.90(22.49)
Financial resource availability: α=0.90; CR=0.92; AVE=0.73	
We are satisfied with the financial capital available for business operations	0.86 (1.00)
Our company has easy access to financial capital to support its business operations	0.86 (15.30)
Our business operations are better financed than those of our key competitors	0.88 (19.12)
If we need more financial support for our business operations, we can easily obtain it	0.92 (23.15)
We can obtain financial resources at short notice to support our business operations	0.76 (11.93)
Perceived corruption: α=0.85; CR=0.86; AVE=0.57	
In this country, irregular additional payments to various government officials are required to get things done	0.85 (1.00)
Businesses generally must engage in various types of corruption to compete effectively in this industry in this country	0.87 (19.53)
Engaging in various types of corruption is a normal part of doing business in this country	0.79 (11.12)
Engaging in corruption is the way things get done in this country	0.90 (2153)
Degree of internationalization: α=0.90; CR=0.92; AVE=0.63	
The scale of a firm's international sales	0.86 (1.00)
The scope of a firm's foreign activities	0.95 (24.21)

Note: r=reverse coded

4. Analyses

4.1 Potential biases, validity, and reliability

We assessed non-response bias by comparing early and late respondents (Armstrong & Overton, 1977). Using multivariate *t*-tests, we compared firm age, firm size, CEO age, and CEO gender. The results of the multivariate *t*-tests showed no significant differences between the early and late respondents in each nation, suggesting that non-response bias was not a major concern in the data.

To evaluate any potential common method variance in the findings, we conducted a marker test (Lindell, & Whitney, 2001) on the pooled data by choosing as a marker variable one that was not conceptually related to any of the constructs in the study and is considered a

measure of customer dynamism—i.e., "customer needs and demands are changing rapidly". The inspection of the correlations between the marker variable and the main constructs of the study revealed nonsignificant correlations ranging from -0.01 to 0.03. Thus, common method variance did not influence the integrity of our findings. Besides, the approach suggested by Carson (2007) was followed, using the pooled data to estimate a combined congeneric CFA measurement model for all the multi-item scales. Accordingly, we estimated a CFA model in which all the multi-item scales, together with a common method factor, were modeled to load on all items. This approach was adopted to control for any variance and covariance introduced due to common method bias. Two competing CFA models were estimated. Model 1 was a trait model in which each indicator loaded on its respective latent factor. The results indicated adequate fit of the model: $\chi^2/df = 2.89$; RMSEA = 0.05; NNFI =0.97; and CFI =0.96. Model 2 was a trait-method in which a common factor linked all the indicators. The results from this model also indicated good fit indices: $\chi^2/df = 2.99$; RMSEA = 0.06; NNFI = 0.96; and CFI = 0.98. Based on these results, it is reasonable to believe that common method variance had no substantial influence on our results.

Next, we used the LISREL 8.71 software to refine the multi-item constructs in confirmatory factor analysis (CFA) by using the covariance matrices input data. The discriminant validity of the constructs was established by inspecting the square roots of AVE. All our constructs' correlations with the others were found to be lower than the square root of their AVEs, which indicates their discriminant validity (Fornell, & Larcker, 1981). To investigate convergent validity, the factor loadings for each construct were inspected. The results showed that factor loadings are significant at 1% for the sample, indicating the convergent validity of the measures (Bagozzi, & Yi, 2012). Moreover, each multi-item construct produced composite reliabilities above the suggested threshold value of 0.70 (Lattin, Carroll, & Green, 2003). The overall results of the CFA revealed that all the factor loadings

are positive and significant, with excellent model fit indices (Table 2). Thus, the overall model is robust (Bagozzi, & Yi, 2012).

Table 2. Results of the confirmatory factor analysis

	χ^2/df	CFI	NNFI	RMSEA	SRMR
Recommended values	≤ 3	≥ 0.90	≥ 0.90	≤ 0.08	≤ 0.08
Full model CFA	1.5	0.96	0.97	0.04	0.06
One factor model CFA	2.11	0.61	0.64	0.09	0.13

Note: CFI=comparative fit index; RMSEA=root mean square error of approximation; NNFI=non-normed fit index; SRMR=standard root mean-square residual

4.2 Measurement Invariance Assessment

Having examined the reliability validity of the constructs, we evaluated the measurement invariance of the measures by taking the two-group approach suggested by Steenkamp & Baumgartner (1998). The configural model was used as the baseline test for the metric invariance (i.e., equal loadings) using the χ^2 difference test. We found no significant increase in χ^2, indicating full metric invariance. The results relating to configural, metric, and scalar tests are summarized in Table 3. The chi-square (χ^2) difference test and approximate fit heuristics were used to assess the fit of the models. For simplicity, this study only shows the procedures used for testing perceived corruption (Table 3a) and chi-square difference (Table 3b). The results in Table 3 show that configural, metric, and scalar were verified for all items across both the Ghanaian and Nigerian samples. This indicates that the items were equally reliable across them. Therefore, combining data from the two countries is suitable for hypotheses testing (Ma, Huang, & Shenkar, 2011; Steenkamp, & Baumgartner, 1998).

Table 3: Establishment of Measurement Invariance

(a) An example of a test procedure: "Perceived corruption" across Ghana and Nigeria						
Models	χ^2	*df*	**RMSEA**	**NNFI**	**CFI**	**CAIC**
Configural invariance	3.31	1	0.04	0.99	0.98	166.17
Metric invariance	5.20	3	0.05	0.98	0.98	125.17
Scalar invariance	18.19	8	0.06	0.99	0.99	129.29

	χ² difference tests			
Construct	**Metric vs. configural**	**Scalar vs. Configural**	**Variance vs. Scalar**	**Factor variance**
Business process digitization	$\Delta\chi^2(2) = 3.31$, $p = 0.30$	$\Delta\chi^2(4) = 4.22$, $p = 0.39$	$\Delta\chi^2(3) = 6.12$, $p = 0.14$	$\Delta\chi^2(5) = 4.53$, $p = 0.62$
DoI	$\Delta\chi^2(3) = 3.27$, $p = 0.26$	$\Delta\chi^2(5) = 3.64$, $p = 0.26$	$\Delta\chi^2(6) = 4.28$, $p = 0.15$	$\Delta\chi^2(6) = 4.51$, $p = 0.38$

(b) Test results of all constructs across Ghana and Nigeria

Note: CFI = comparative fit index; NNFI=non-normed fit index; RMSEA = root mean square error of approximation; CAIC = consistent Akaike information criterion.

4.3 Unpooled data results

To analyze the data, we utilized the two-step approach suggested by Durvasula et al. (1993). First, we applied the unpooled-data analysis technique, whereby the data were analyzed at the country level. In taking this approach, we ensured that the measures performed well in each country. Second, we used the pooled-data analysis technique, whereby all the data from the two countries were pooled together. This step ensured that the data were de-culturalized and that all variables in each country's sample were standardized to establish the existence of a common core relationship across countries (Song, Kawakami, & Stringfellow, 2010). Thus, the two-step approach offered a robust test of our cross-country research. We followed conventional practice (Anderson, & Gerbing, 1988) to establish discriminant validity, convergent validity, and reliability at the country level. We found that all the values were within the acceptable thresholds. Accordingly, we tested the hypothesized correlations using hierarchical regression analysis.

For the Ghanaian sample, we found support for H1, which stated that PC would be positively correlated to BPD ($\beta = 0.14$, $p < 0.05$). Hypothesis 2, which proposed that BPD would be positively correlated to DoI, was also supported ($\beta = 0.19$, $p < 0.01$). To test Hypothesis 3, we followed Baron and Kenny's (1986) classic approach to mediation testing, according to which, mediation is achieved if (a) the independent variable significantly relates

to the dependent and mediating ones, (b) the mediating variable significantly predicts the dependent one, and (c) the influence of the independent variable on the dependent one is significantly reduced or nonsignificant when the mediator is added to the regression equation. In our analyses, PC was positively correlated with DoI ($\beta = 0.22$, $p < 0.01$) and BPD significantly influenced DoI ($\beta = 0.28$, $p < 0.01$). When BPD was added to the regression equation, we found that the effect of PC on DoI was nonsignificant ($\beta = 0.03$, *ns*). These findings are consistent with the conditions for full mediation. Thus, Hypothesis 3 was supported. Hypothesis 4, which stated that the positive effect of PC on BPD would be more positive among younger SMEs, also received support ($\beta = -0.35$, $p < 0.01$).

We found similar patterns in the Nigerian sample. Specifically, the results showed that PC was positively correlated to BPD ($\beta = 0.17$, $p < 0.01$), providing support for Hypothesis 1. In addition, BPD was positively correlated to DoI ($\beta = 0.24$, $p < 0.01$). We then tested mediation. We found that PC was positively correlated to DoI ($\beta = 0.20$, $p < 0.01$) and BPD was positively correlated to DoI ($\beta = 0.22$, $p < 0.01$). The introduction of BPD into the regression equation eliminated the significant effect of PC on DoI ($\beta = 0.02$, *ns*). Again, these findings are in line with the conditions for full mediation. Therefore, Hypothesis 3 was supported. Hypothesis 4 also received support because the correlation between firm age and PC was negative and significant ($\beta = -0.40$, $p < 0.01$), suggesting that the effect of PC on BPD is more positive among younger SMEs.

4.4 Pooled data results

To estimate our research model, we adopted the pooled data strategy (Song et al., 2010). Before pooling the data, we removed national bias by standardizing each country's data set. This was done to eliminate the effects of culture-specific factors between any two variables in the data. Once the data had been standardized, we examined construct validity and reliability (see Table 1) utilizing the pooled data and following the same procedure applied in the national-level analyses. We present the correlations between constructs in Table 4.

To estimate our model using the pooled data set, we performed a hierarchical regression analysis. Before proceeding with such analysis, the relevant variables were mean-centered to attenuate the possibility of our data being affected by multicollinearity concerns (Aiken & West, 1991). An inspection of the variance inflation factor (VIF) revealed that the largest VIF was 4.34 (Table 5), which was well below the suggested threshold value of 10 (Neter, Wasserman, & Kutner, 1990). This suggested that multicollinearity concerns were minimal.

Table 4: Descriptive statistics and correlations

	Variables	1	2	3	4	5	6	7	8	9	10
1	Firm size (employees)										
2	Firm age (years)	0.05									
3	Family ownership (0=family owned; 1=otherwise)	0.05	0.02								
4	Gender (0=male; 1=female)	0.09	0.10	0.09							
5	CEO age	-0.04	-0.01	-0.01	0.01						
6	Firm international experience	0.19**	0.08	-0.05	0.04	0.11					
7	Financial resource availability	0.11	0.05	-0.04	0.06	0.01	0.12				
8	Perceived corruption	-0.01	-0.02	-0.03	-0.10	-0.08	0.22**	0.11			
9	Business process digitization	0.01	-0.04	-0.01	0.06	0.01	0.19**	0.03	0.18**		
10	Degree of internationalization	0.03	-0.12	-0.09	0.03	0.07	0.26**	0.16*	0.19**	0.29**	
	Mean	16.52	7.30	0.51	0.44	49.22	4.49	3.93	4.23	4.56	20.71
	SD	9.72	3.11	0.52	0.62	17.86	1.14	1.07	1.34	1.29	22.67

SD = standard deviation

$*p < 0.05$; $**p < 0.01$

Table 5. Results of the standardized hierarchical regression analyses

	Models 1–4: Business Process digitization				Models 5–8: Degree of internationalization			
Control variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Firm size (employees)	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.06
Family ownership	0.05	0.06	0.07	0.07	-0.10*	-0.10*	-0.11*	-0.11*
CEO age	0.02	0.02	0.02	0.03	0.08*	0.08*	0.09*	0.09*
Gender (0=male; 1=female)	0.08*	0.08*	0.08*	0.09*	0.03	0.04	0.04	0.05
Firm international experience	0.17***	0.18***	0.19***	0.19***	0.21***	0.21***	0.21***	0.22***
Financial resource availability	0.21***	0.21***	0.21***	0.22***	0.14**	0.14**	0.15***	0.16***
Independent variable								
Perceived corruption (PC)		0.20***	0.19***	0.20***		0.19***		0.03
Moderator								
Firm age			-0.08*	-0.08*	-0.14**	-0.14**	-0.13**	-0.14**
Interaction								
PC * firm age				-0.39***				
Mediator								
Business process digitization							0.24***	0.25***
Model fit statistics								
F	1.49	4.23***	5.09***	7.28***	1.52	3.96***	4.89***	5.64***
R^2	0.11	0.20	0.25	0.32	0.12	0.18	0.23	0.29
ΔR^2	-	0.09	0.05	0.07	-	0.06	0.05	0.06
Largest VIF	2.08	1.58	4.34	1.29	1.23	3.45	1.68	1.46

N = 464; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; standardized coefficients are shown.

The results of the regression analyses are presented in Table 5. In Models 1-4 the dependent variable is BPD. Model 1 contains the control variables. Model 2 enters the independent variable (PC). The results in Model 2 ($\beta = 0.20$, $p < 0.01$) confirm H1. The moderating variable is added in Model 3. The results show that the effect of PC on BPD remains positive and significant ($\beta = 0.19$, $p < 0.01$) when the moderating variable is added in Model 3. In Model 4, we include the interaction term between PC and firm age (PC x firm age). The results in Model 4 demonstrate that the coefficient of the interaction term is negative and significant ($\beta = -0.39$, $p < 0.01$), suggesting that the effect of PC on BPD is more positive among younger SMEs. This finding confirms Hypothesis 4. To facilitate interpretations of the two-way interaction, we followed the recommendations made by Cohen et al. (2003) and plotted the interactions at ± 1 s.d. Figure 2 below shows that younger firms are more likely than older ones to use BPD when perceived corruption is higher. Further inspection and linear comparisons of the slopes of the two conditions indicate that the two slopes differ.
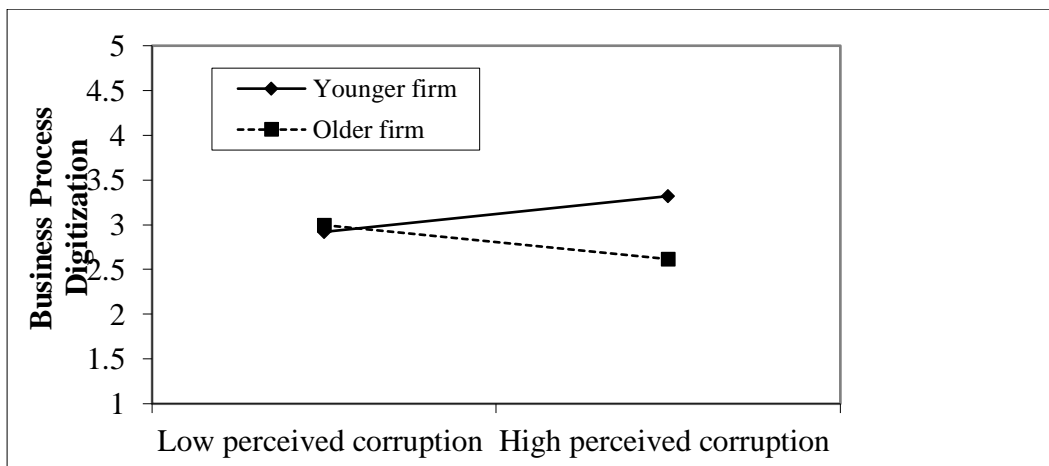

Figure 2. Effect of PC and firm age on BPD.

In Models 5-8, the dependent variable is DoI. Hypothesis 2, which proposed that BPD is positively related to DoI, was supported ($\beta = 0.24$, $p < 0.01$, Model 7). The results in Model 6 showed that PC was positively correlated to DoI ($\beta = 0.19$, $p < 0.01$). As already mentioned, BPD was positively correlated to DoI ($\beta = 0.24$, $p < 0.01$, Model 7). When BPD was introduced

into the regression equation, the effect of PC was eliminated (i.e., became nonsignificant) (β = 0.03, *ns*). These findings are consistent with the conditions for establishing full mediation. Thus, Hypothesis 3 was confirmed.

4.5 Supplementary analyses

To gain additional insights into how the indirect effects differ depending on the moderator (firm age), we used a bootstrapping method and quantified the indirect effects at young (-1 s.d.), medium age, and old (+1 s.d.) firms (Preacher, Rucker, & Hayes, 2007). Table 6 presents the indirect effects concerning firm age and provides 95% confidence level intervals (CI) for these effects. The results show that the indirect effect of PC on DoI via BPD was conditional on firm age. Specifically, we found that the indirect effect was nonsignificant for older firms (CI ranging from 0.00 to 0.05) but was significant for new ones (CI ranging from 0.04 to 0.17). Therefore, H3 was supported.

Table 6. Moderated mediation results for DoI across younger and older SMEs

Moderator	Younger vs. older firms	Conditional indirect effect	SE	LL 95% CI	UL 95% CI
Firm age	Older firms (−0.98)	0.00	0.02	0.00	0.05
	Younger firms (0.98)	0.07	0.04	0.04	0.17

N = 464. CI = confidence interval; LL= lower level; UL =upper level; 10,000 bootstrap sample size

5. Discussion and Conclusion

5.1 Key findings

This study builds on the institution-based view (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) to explore how perceived corruption (PC) influences the SME degree of internationalization (DoI) through the mechanism of business process digitization of SMEs originating from developing countries. In particular, the first finding of this study (i.e., that PC is positively correlated to business process digitization – BPD) sheds light on the importance of the previously neglected role played by perceived corruption in driving digitization in

developing countries. By integrating insights drawn from the institutional-based view, we argue that, in these contexts, corruption is a valuable source of BPD, as SMEs may adopt digitization as an escape strategy for overcoming corruption in their home market (Cuervo-Cazurra, 2006), which, in turn, facilitates their internationalization. The extant literature has suggested the use of both market and non-market strategies to navigate institutional environments in which formal institutions are weak and underdeveloped (Capron, & Chatian, 2008; Rodgers et al., 2019). The investment in and utilization of BPD can be considered an important market-based strategy that can enable the firms based in developing economies to mitigate pervasive home market corruption. The second finding (i.e., that BPD is positively correlated to DoI) provides fresh evidence that those firms that place greater emphasis on technology tend to have a greater chance of rapidly internationalizing, as BPD is considered an important driver of internationalization (Jean, Sinkovics, & Kim, 2008; Narula, 1993). In line with this argument, this study's findings support the positive influence of BPD on a firm's DoI; this is because the more digitized a firm is, the more likely it is to pursue international opportunities (Zahra, Matherne, & Carleton, 2003). This finding is in line with recent research on those firms that are rapidly internationalizing by effectively utilizing their platforms (Brouthers et al., 2016; Chen et al., 2019). The third finding (i.e., that BPD mediates the correlation between PC and DoI) provides synergy between H1 and H2 by demonstrating that the mechanism of PC affects DoI via the mediating mechanism of BPD. Moreover, we hypothesized (H4) and tested the role played by firm age. As managers leading younger firms are more likely to perceive higher levels of corruption due to their limited experience in navigating the state-business relationships commonly found in developing markets, firm age represents a theoretically meaningful moderating variable. Thus, given an equal level of actual corruption, managers of younger firms could have a higher perception of it, which would prompt them to digitize their firms' processes. Besides, young firms are becoming tech-savvy

due to the rise of ICTs, and thus have a greater propensity to invest in new technologies and adopt business process-based digitization, which in turn can facilitate these firms' international business activities.

5.2 *Theoretical contributions*

The findings of the study contribute to the international business and strategy literature in several ways.

First, our findings extend the extant understanding of the role played by corruption in international business. The international business literature often assumes that corruption creates a laboratory setting in which international business activities flourish (Cuervo-Cazurra, 2016; Roy, & Singer, 2006). However, the empirical testing of this assumption lacks theoretical precision. Our study (especially Hypotheses 1–3) extends this notion by empirically testing the role played by perceived corruption in driving SME DoI. By doing so, it provides a more comprehensive understanding of the role played by perceived corruption in international business activities. Since firms are embedded in a given institutional settings and such settings drive firms' strategic choices, including internationalization (Child & Marinova, 2014; Yamakawa et al., 2008). Thus, SME degree of internationalization is influenced by its home country's institutional environment.

Second, given that our sample was made up of SMEs, the results of our study contribute to the literature on corruption by showing that it is crucial not only to large firms but also to those SMEs that are rapidly internationalizing into foreign markets. Conventionally, corruption has been examined in the context of large multinational corporations (Belgibayeva, & Plekhanov, 2019; Doh, et al., 2003; Rodriguez, Uhlenbruck, & Eden, 2005). Conversely, research on the role played by corruption in driving SMEs' behaviors and strategic choices is less explored in the extant literature. Third, our study extends the current understanding of the

boundary conditions of the influence of perceived corruption on BPD. Although the effects of corruption on firm outcomes have been extensively investigated (Van Vu, Tran, Van Nguyen, & Lim, 2018), our understanding of those instances in which corruption drives BPD is not well developed, as firms may use digitization as a market-based strategy aimed at developing competitive advantages and, in turn, mitigate corruption in their home market—which then aids their internationalization. Our study, therefore, is the first to examine the effects of firm age on the correlation between perceived corruption and digitization. Particularly, the finding concerning Hypothesis 4 indicates that firm age does moderate that correlation.

Fourth, our study contributes to the international business literature by focussing on a sample of SMEs drawn from the two developing countries of Ghana and Nigeria. Corruption has long been considered a major obstacle to development in Africa (D'Agostino, Dunne, & Pieroni, 2016; Gründler, & Potrafke, 2019). By examining the role played by corruption in international business in the context of developing economies, our study deviates from much of the existing literature, which has construed or equated corruption to negatively affecting firms operating in the Global South (Gaviria, 2002; Olken, & Pande, 2012). Thus, we contribute to the international business literature by testing a model that demonstrates that corruption is an impelling force for international business activities.

Finally, we contribute to the institution-based view by identifying corruption as a driver of investment and of the adoption of BPD in firms that are rapidly internationalizing. Although previous research has explored the drivers of BPD (Mishra, Konana, & Barua, 2007; Vendrell-Herrero et al., 2017), the extent to which corruption drives BPD had not been hitherto studied. By testing hypothesis 1, we filled this gap and showed that corruption could increase the degree of digitization of SMEs that are internationalizing into foreign markets.

5.3 Practical contributions

Our study also provides some important practical ones. First, managers of SMEs could leverage the role played by PC to digitize their firms to conduct international business activities. The results of this study suggest that PC is an effective driver of BPD which ultimately leads to internationalization in SMEs that operate in developing country contexts, as such firms use it as an escape strategy to venture into foreign markets. SME managers operating in these contexts are advised to leverage corruption to identify international business opportunities by adopting both market-based and non-market-based strategies. Second, we find that PC has different impacts on BPD depending on firm age. SME managers should be advised that corruption many not lead to BPD in older firms. Thus, they need to make an effort to digitize their firms when they are still new. Earlier work suggests that, as firm age, its knowledge becomes obsolete (Sørensen, & Stuart, 2000), thus corruption may not motivate the firm to digitize. For managers in older SMEs, the achievement of greater digitization from corruption may be premised on their ability to distinguishing their firms from the population by leveraging the benefits accrued from maturity, such as experience, while also seeking to aggressively stay afloat concerning dynamic technological advances.

6. Limitations and future research

The limitations of our study open avenues for future research. First, despite the strengths of the methodology—the data being collected over time and from multiple sources—which helped to avoid the inflated correlations usually associated with same source data (Podsakoff, et al., 2003), our research design did enable us to manipulate variables or use random assignment techniques, which could allow us to make causal claims. Future research should exclude potential endogeneity bias (Hamilton & Nickerson, 2003) by using longitudinal data.

Second, our study was conducted in the context of SMEs operating in two developing West African countries. As such, the findings should be evaluated based on the contexts of

other less developed countries. We would encourage future studies to examine the influence of perceived corruption, digitization, and firm age on DoI in, for instance, China, India, and Chile, and establish whether the findings of this study hold in these markets. Besides, we focussed on SMEs, as most of these firms are found in developing countries. However, as larger firms tend to have more resources, they may be able to use them to pay bribes in their internationalization process. Thus, future research should explore whether larger firms differ concerning the findings discussed in the present study. Such studies could focus on home and host country factors, such as the institutional quality and the availability of ICTs and infrastructure in shaping firm behaviors and strategic choices, including internationalization and post-entry performance.

Third, we did not control for manufacturing industry classifications, which should be considered when interpreting the results. For example, high-technology firms have been shown to potentially be more likely to internationalize (Oviatt, & McDougall 2005). Thus, future studies should control for manufacturing industry classifications; e.g., high-technology and low-technology industries (Tang, Kacmar, & Busenitz, 2012). Finally, future studies could focus on state- and non-state-owned firms and examine the extent to which the PC found in their home market influences their degree and duration of internationalization. Such a line of inquiry could also focus on the entry mode and duration of operations, in a given market, of firms from the manufacturing and service sectors.

Despite these limitations, our theoretically grounded study design and the outcomes obtained from our robustness analyses lend credence to the finding that high levels of BPD mediate the correlations between PC and SME DoI. The results also show that this correlation may be moderated by firm age. Collectively, this study contributes to the international business literature by providing a clearer illustration of the specific mechanism that governs the

correlation between PC and DoI and of the conditions under which PC impacts SME

digitization in developing economies, which then facilitate their rapid internationalization.

References

Abdi, M., & Aulakh, P. S. (2018). Internationalization and performance: Degree, duration, and scale of operations. *Journal of International Business Studies*, *49*(7), 832-857.

Adomako, S., Opoku, R. A., & Frimpong, K. (2017). The moderating influence of competitive intensity on the relationship between CEOs' regulatory foci and SME internationalization. *Journal of International Management*, *23*(3), 268-278.

Aiken, L., & West, S. (1991). *Multiple regression testing and interpreting interactions.* Thousand Oaks, CA: Sage.

Alayo, M., Maseda, A., Iturralde, T., & Arzubiaga, U. (2019). Internationalization and entrepreneurial orientation of family SMEs: The influence of the family character. *International Business Review*, *28*(1), 48-59.

Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin,* 103: 411-423

Amankwah-Amoah, J., & Adomako, S. (2019). Big data analytics and business failures in data-Rich environments: An organizing framework. *Computers in Industry*, 105, 204-212.

Amankwah-Amoah, J., Boso, N., & Antwi-Agyei, I. (2018). The effects of business failure experience on successive entrepreneurial engagements: An evolutionary phase model. *Group & Organization Management*, *43*(4), 648-682.

Amankwah-Amoah, J., & Debrah, Y. A. (2017). Toward a construct of liability of origin. *Industrial and Corporate Change*, 26(2), 211-231.

Amankwah-Amoah, J., & Debrah, Y. A. (2010). The protracted collapse of Ghana Airways: Lessons in organizational failure. *Group & Organization Management*, *35*(5), 636-665.

Amankwah-Amoah, J., Chen, X., Wang, X., Khan, Z., & Chen, J. (2019). Overcoming institutional voids as a pathway to becoming ambidextrous: The case of China's Sichuan Telecom. *Long Range Planning*, *52*(4), 101871.

Amankwah-Amoah, J., Khan, Z., & Wood, G. (2020). COVID-19 and business failures: The paradoxes of experience, scale, and scope for theory and practice. *European Management Journal*. https://doi.org/10.1016/j.emj.2020.09.002.

Armstrong, J., & Overton, T. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research,* 14: 396-402.

Athanasouli, D., Goujard, A., & Sklias, P. (2012). Corruption and firm performance: Evidence from Greek firms. *International Journal of Economic Sciences and Applied Research*, *5*(2), 43-67.

Auger, P., & Gallaugher, J. M. (1997). Factors Affecting the Adoption of an Internet-Based Sales Presence for Small Businesses. *The Information Society*, *13*(1), 55-74.

Bahoo, S., Alon, I., & Paltrinieri, A. (2019). Corruption in international business: A review and research agenda. *International Business Review*, 101660.

Bagozzi, R. P & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8-34.

BarNir, A., Gallaugher, J. M., & Auger, P. (2003). Business process digitization, strategy, and the impact of firm age and size: the case of the magazine publishing industry. *Journal of Business Venturing*, 18(6), 789-814.

Baron, R. M., & Kenny, D.A. (1986). Moderator mediator variables distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy*, 98(5), 893-921.

Belgibayeva, A., & Plekhanov, A. (2019). Does corruption matter for sources of foreign direct investment?. *Review of World Economics*, *155*(3), 487-510.

Berthon, P., Pitt, L., Cyr, D., & Campbell, C. (2008). E-readiness and trust: macro and micro dualities for e-commerce in a global environment. *International Marketing Review*, *25*(6), 700-714.

Bhagwati, J. N. (1982). Directly unproductive, profit-seeking (DUP) activities. *Journal of Political Economy*, 90(5), 988-1002.

Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.

Brixiova, Z. (2013). Modeling productive entrepreneurship in developing countries. *Small Business Economics*, 41(1), 183–194.

Brouthers, K. D., Geisser, K. D., & Rothlauf, F. (2016). Explaining the internationalization of ibusiness firms. *Journal of International Business Studies*, *47*(5), 513-534.

Capron, I. L., & Chatain, O. (2008). Competitors' resource-oriented strategies: Acting on competitors' resources through interventions in factor markets and political markets. *Academy of Management Review*, 33(1), 97-121.

Carson, S. J. (2007). When to give up control of outsourced new product development. *Journal of Marketing*, 71(1), 49-66.

Cieslik, J., & Kaciak, E. (2009). The speed of internationalization of entrepreneurial start-ups in a transition environment. *Journal of Developmental Entrepreneurship*, 14(4), 375-392.

Chaffey, D., Hemphill, T., & Edmundson-Bird, D. (2019). *Digital business and e-commerce management*. Pearson UK.

Chen, L., Shaheer, N., Yi, J., & Li, S. (2019). The international penetration of ibusiness firms: Network effects, liabilities of outsidership and country clout. *Journal of International Business Studies*, *50*(2), 172-192.

Child, J., & Rodrigues, S.B. (2005). The internationalization of Chinese firms: A case for theoretical extension? *Management and Organization Review* 1(3), 381-410.

Child, J., & Marinova, S. (2014). The role of contextual combinations in the globalization of Chinese firms. *Management and Organization Review*, 10(3), 347-371.

Clausen, C., & Koch, C. (1999). The role of spaces and occasions in the transformation of information technologies-Lessons from the social shaping of IT systems for manufacturing in a Danish context. *Technology Analysis & Strategic Management*, 11(3), 463-482.

Coad, A., Segarra, A., & Teruel, M. (2013). Like milk or wine: Does firm performance improve with age?. *Structural Change and Economic Dynamics*, *24*, 173-189.

Cordella, A., & Tempini, N. (2015). E-government and organizational change: Reappraising the role of ICT and bureaucracy in public service delivery. *Government Information Quarterly*, *32*(3), 279-286.

Collins, J. D., McMullen, J. S., & Reutzel, C. R. (2016). Distributive justice, corruption, and entrepreneurial behavior. *Small Business Economics*, *47*(4), 981-1006.

Cohen, J., Cohen, P., West, S. G., Aiken, L. S. (2003). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. 3rd Ed. Lawrence Erlbaum, New Jersey.

Cooper, A.C., Gimeno-Gascon, F.J., & Woo, C.Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5), 371-95.

Coyne, C. J., Sobel, R. S., & Dove, J. A. (2010). The non-productive entrepreneurial process. *Review of Austrian Economics*, 23(4), 333-346.

Cuervo-Cazurra, A. (2016). Corruption in international business. *Journal of World Business*, *51*(1), 35-49.

Cuervo-Cazurra, A. (2006). Who cares about corruption? *Journal of International Business Studies*, *37*(6), 803-822

Cui, L., Jiang, F., & Stening, B. (2011). The entry-mode decision of Chinese outward FDI: Firm resources, industry conditions, and institutional forces. *Thunderbird International Business Review*, *53*(4), 483-499.

D'Agostino, G., Dunne, J. P., & Pieroni, L. (2016). Corruption and growth in Africa. *European Journal of Political Economy*, *43*, 71-88.

De Clercq, D., Sapienza, H. J., & Zhou, L. (2014). Entrepreneurial strategic posture and learning effort in international ventures: The moderating roles of operational flexibilities. *International Business Review*, *23*(5), 981-992.

De Rosa, D., Gooroochurn, N., & Gorg, H. (2015). Corruption and productivity: firm-level evidence. *Journal of Economics and Statistics*, 2352, 115-138.

Desai, S., Acs, Z. J., & Weitzel, U. (2013). A model of destructive entrepreneurship: Insight for conflict and Post conflict recovery. *Journal of Conflict Resolution*, 57(1), 20-40.

De Vaal, A., & Ebben, W. (2011). Institutions and the relation between corruption and economic growth. *Review of Development Economics*, 151, 108-123.

DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. *American Sociological review*, *48*(2), 147-160.

Doh, J., Rodriguez, P., Uhlenbruck, K., Collins, J., & Eden, L. (2003). Coping with corruption in foreign markets. *Academy of Management Executive*, 17(3), 114-127.

Durvasula, S., Andrews, J. C., Lysonski, S., & Netemeyer, R. G. (1993). Assessing the cross-national applicability of consumer behavior models: A model of attitude toward advertising in general. *Journal of Consumer Research,*19: 626-636.

Echambadi, R., & Hess, J. D. (2007). Mean-centering does not alleviate collinearity problems in moderated multiple regression models. *Marketing Science,* 26: 438-445.

Elango, B., & Dhandapani, K. (2020). Does institutional industry context matter to performance? An extension of the institution-based view. Journal of Business Research, 115, 139-148.

Fanea-Ivanovici, M., Muşetescu, R. C., Pană, M. C., & Voicu, C. (2019). Fighting Corruption and Enhancing Tax Compliance through Digitization: Achieving Sustainable Development in Romania. *Sustainability*, *11*(5), 1480.

Feeny, D. (2001). Making business sense of the e-opportunity. *MIT Sloan Management Review*, 42 (2), 41-51.

Fichman, R., & Kemerer, C. (1993). Adoption of software engineering process innovations: the case of object orientation. *MIT Sloan Management Review*, 34 (2), 7-22.

Engelen, A., Gupta, V., Strenger, L., & Brettel, M. (2015). Entrepreneurial orientation, firm performance, and the moderating role of transformational leadership behaviors. *Journal of Management*, *41*(4), 1069-1097.

Fisman, R., & Svensson, J. (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics*, *83*(1), 63-75.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.

Gaviria, A. (2002). Assessing the effects of corruption and crime on firm performance: evidence from Latin America. *Emerging Markets Review*, *3*(3), 245-268.

George G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal* 48(4), 661-676

Getz, K. A., & Volkema, R. J. (2001). Culture, perceived corruption, and economics: A model of predictors and outcomes. *Business & Society*, 40(1), 7-30.

Ghose, A., & Yao, Y. (2011). Using transaction prices to re-examine price dispersion in electronic markets. *Information Systems Research*, *22*(2), 269-288.

Gregory, G. D., Ngo, L. V., & Karavdic, M. (2019). Developing e-commerce marketing capabilities and efficiencies for enhanced performance in business-to-business export ventures. *Industrial Marketing Management*, *78*, 146-157.

Grossman, H. I., & Kim, M. (1995). Swords or ploughshares? Antheory of the security of claims to property. *Journal of Political Economy*, 103, 1275-1289.

Gründler, K., & Potrafke, N. (2019). Corruption and economic growth: New empirical evidence. *European Journal of Political Economy*, *60*, 101810.

Habib, M., & Zurawicki, L. (2002). Corruption and foreign direct investment. *Journal of international business studies*, 33(2), 291-307.

Haafst, R. (2017) "On The Effect of Digital Transformation on Corruption." KU Leuven: Leuven, Belgium.

Hamilton, B., & Nickerson, J. (2003). Correcting for endogeneity in strategic manage-ment research. *Strategic Organization*, 1 (1), 51-78.

Hanousek, J., & Kochanova, A. (2016). Bribery environments and firm performance: Evidence from CEE countries. *European Journal of Political Economy*, *43*, 14-28.

Heineman, B. W., & Heimann, F. (2006). The long war against corruption. *Foreign Affairs*, 85(3): 75-86.

Hitt, M. A., Hoskisson, R. E., & Ireland, R. D. (1994). A mid-range theory of the interactive effects of international and product diversification on innovation and performance. *Journal of Management*, 20(2): 297-326.

Hult, T., Ketchen, D., Griffith, D., Finnegan, C., Gonzalez-Padron, T., Harmancioglu, N., & Cavusgil, S. (2008). Data equivalence in cross-cultural international business research: Assessment and guidelines. *Journal of International Business Studies,* 39: 1027-1044.

Ibeh, K., & Kasem, L. (2014). Internationalization's effect on marketing learning: A study of Syrian firms. *Journal of Business Research*, *67*(5), 680-685.

Jean, R. J., Sinkovics, R. R., & Kim, D. (2008). Information technology and organizational performance within international business to business relationships: a review and an integrated conceptual framework. *International marketing review*, *25*(5), 563-583.

Jiang, T., & Nie, H. (2014). The stained China miracle: Corruption, regulation, and firm performance. *Economics Letters*, *123*(3), 366-369.

Kaufmann, D., & Wei, S.-J. (2000). Does 'grease money' speed up the wheels of commerce? IMF Working Paper 64

Kim, H., Kim, H., & Hoskisson, R. E. (2010). Does market-oriented institutional change in an emerging economy make business-group-affiliated multinationals perform better? An institution-based view. *Journal of International Business Studies*, *41*(7), 1141-1160.

Khojastehpour, M. (2015). How does corporate social responsibility avoid the incidence of corruption in international expansion?. *European Business Review*. *27*(3), 334-342.

Kuivalainen, O., Puumalainen, K., Sintonen, S., & Kyläheiko, K. (2010). Organisational capabilities and internationalisation of the small and medium-sized information and communications technology firms. *Journal of International Entrepreneurship*, *8*(2), 135-155.

Langley, A., & Truax, J. (1994). A process study of new technology adoption in smaller manufacturing firms. *Journal of Management Studies*, *31*(5), 619-652.

Lattin, J., Carroll, D., & Green, P. (2003). *Analyzing multivariate data*. Belmont, CA: Duxbury

Lee, S. H., & Oh, K. K. (2007). Corruption in Asia: Pervasiveness and arbitrariness. *Asia Pacific Journal of Management*, 24(1), 97-114.

Lein, D. H. D. (1986). A note on competitive bribery game. *Economics Letters*, 224, 337-341.

Leidner, D. E. (2010). Globalization, culture, and information: Towards global knowledge transparency. *The Journal of Strategic Information Systems*, *19*(2), 69-77.

Li, W., Bruton, G. D., & Filatotchev, I. (2016). Mitigating the dual liability of newness and foreignness in capital markets: The role of returnee independent directors. *Journal of World Business*, *51*(5), 787-799.

Lin, Y. M., & Shen, C. A. (2015). Family firms' credit rating, idiosyncratic risk, and earnings management. *Journal of Business Research*, 68, 872-877.

Lin, W., Liu, Y., Cheng, K. (2011). The internationalization and performance of a firm: moderating effect of a firm's behavior. *Journal of International Management*, 17, 83-95.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, *86*(1), 114-121

Liu, M., Shi, Y., Wilson, C., & Wu, Z. (2017). Does family involvement explain why corporate social responsibility affects earnings management? *Journal of Business Research*, *75*, 8-16.

Lupu, D., & Lazar, C. G. (2015). Influence of e-government on the level of corruption in some EU and non-EU states. *Procedia Economics and Finance*, *20*, 365-371.

Lu, J. W., &. Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, *22*(6-7), 565-586.

Ma, R., Huang, Y. C., & Shenkar, O. (2011). Social networks and opportunity recognition: A cultural comparison between Thailand and the United States. *Strategic Management Journal,* 32: 1183-1205.

Maekelburger, B., Schwens, C., & Kabst, R. (2012). Asset specificity and foreign market entry mode choice of small and medium-sized enterprises: The moderating influence of knowledge safeguards and institutional safeguards. *Journal of International Business Studies*, *43*(5), 458-476.

Meschi, P. X. (2009). Government corruption and foreign stakes in international joint ventures in emerging economies. *Asia Pacific Journal of Management*, *26*(2), 241-261.

Merhi, M. I., & Ahluwalia, P. (2015). Country environments factors affecting e-commerce adoption: A cross-country analysis. *Journal of Management Systems*, *25*(3), 21-38.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340-363.

Mishra, A. N., Konana, P., & Barua, A. (2007). Antecedents and consequences of internet use in procurement: an empirical investigation of US manufacturing firms. *Information Systems Research*, *18*(1), 103-120.

Meon, P. G., & Weill, L. (2010). Is corruption an efficient grease? *World Development*, 383, 244–259

Myovella, G., Karacuka, M., & Haucap, J. (2020). Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. Telecommunications Policy, 44(2), 101856

Murphy, K., Shleifer, A., & Vishny, R. (1991). The allocation of talent: implications for growth. *Quarterly Journal of Economics*, 106, 503-530.

Murphy, K., Shleifer, A., & Vishny, R. (1993). Why is rent seeking so costly to growth? *American Economic Review*, 83, 409-414.

Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital Innovation Management: Reinventing innovation management research in a digital world. *Mis Quarterly*, *41*(1).

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, *48*(8), 103773.

Nambisan, S., Zahra, S. A., & Luo, Y. (2019). Global platforms and ecosystems: Implications for international business theories. Journal of International Business Studies, 50(9), 1464-1486.

Narula, R. (1993). Technology, international business and Porter's" Diamond": Synthesizing a dynamic competitive development model. *MIR: Management International Review*, 85-107.

Neter, J., Wasserman., W., & Kutner, M. H. (1990). *Applied Linear Statistical Models* (3rd edn). Irwin: Homewood, IL.

North, D. C. (1990). *Institutions, institutional change, and economic performance.* Cambridge, MA: Harvard University Press.

Oesterle, M. J., Richta, H. N., & Fisch, J. H. (2013). The influence of ownership structure on internationalization. *International Business Review*, 22, 187-201.

Oesterle, M. J., Elosge, C., & Elosge, L. (2016). Me, myself and I: The role of CEO narcissism in internationalization decisions. *International Business Review*, *25*(5), 1114-1123.

Olken, B. A., & Pande, R. (2012). Corruption in developing countries. *Annu. Rev. Econ.*, *4*(1), 479-509.

Oviatt, B., & McDougall, P. (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory and Practice*, 29(5): 537-554

Oxley, J. E., & Yeung, B. (2001). E-commerce readiness: Institutional environment and international competitiveness. *Journal of International Business Studies*, *32*(4), 705-723.

Paunov, C. (2016). Corruption's asymmetric impacts on firm innovation. *Journal of Development Economics*, 118, 216-231.

Peng, M. W., Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of international business studies*, *39*(5), 920-936.

Peng, M. W. (2002). Towards an institution-based view of business strategy. *Asia Pacific Journal of Management*, 19(2-3), 251-267.

Peng, M. W., Sun, S. L., Pinkham, B., & Chen, H. (2009). The institution-based view as a third leg for a strategy tripod. *Academy of Management Perspectives*, 23(3), 63-81.

Rafiq, S., Salim, R., & Smyth, R. (2016). The moderating role of firm age in the relationship between R&D expenditure and financial performance: Evidence from Chinese and US mining firms. *Economic Modelling*, *56*, 122-132.

Ripollés, M., Blesa, A., & Monferrer, D. (2012). Factors enhancing the choice of higher resource commitment entry modes in international new ventures. *International Business Review,* 21(4), 648-666.

Roberts, K. H., & Grabowski, M., (1996). Organizations, technology, and structuring. In: Clegg, S.R., Hardy, C., Nord, W.R. (Eds.), Handbook of Organization Studies. Sage Publications, London, pp. 409-423.

Rodgers, P., Stokes, P., Tarba, S., & Khan, Z. (2019). The role of non-market strategies in establishing legitimacy: The Case of Service MNEs in emerging economies. *Management International Review*, *59*(4), 515-540.

Rose-Ackerman, S. R. (2016). *Corruption and Government*. Cambridge, U.K.: Cambridge University Press

Roy, A., & Singer, A. E. (2006). Reducing corruption in international business: Behavioural, managerial and political approaches. *Journal of Economic and Social Policy*, *10*(2), 2.

Rodriguez, P., Uhlenbruck, K., & Eden, L. (2005). Government corruption and the entry strategies of multinationals. *Academy of management review*, *30*(2), 383-396.

Sharma, C., & Mitra, A. (2015). Corruption, governance and firm performance: Evidence from Indian enterprises. *Journal of Policy Modeling*, *37*(5), 835-851.

Shleifer, A., & Vishny, R. W. (1993). Corruption. *Quarterly Journal of Economics*, 108: 599-617.

Shleifer, A., & Vishny, R. W. (1998). *The grabbing hand, government pathologies and their cures*. Cambridge MA: Harvard University Press.

Shim, D. C., & Eom, T. H. (2009). Anticorruption effects of information communication and technology (ICT) and social capital. *International review of administrative sciences*, *75*(1), 99-116.

Sørensen, J. B., & Stuart, T. E. (2000). Aging, obsolescence, and organizational innovation. *Administrative Science Quarterly,* 45, 81-112.

Song, M., Kawakami, T., & Stringfellow, A. (2010). A cross-national comparative study of senior management policy, marketing-manufacturing involvement, and innovation performance. *Journal of Product Innovation Management,* 27: 179-200.

Steenkamp, J. B., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research,* 25: 78-90.

Steenkamp, J. B. E. (2020). Global Brand Building and Management in the Digital Age. *Journal of International Marketing*, 1069031X19894946.

Stinchcombe, A. (1965). Organizations and social structure. In: March, J.G. (Ed.), Handbook of Organizations. Rand McNally, Chicago, pp. 142–193.

Tang, J., Kacmar, K. M. M., & Busenitz, L. (2012). Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, *27*(1), 77-94.

Tiessen, J. H., Wright, R. W., & Turner, I. (2001). A model of e-commerce use by internationalizing SMEs. *Journal of International Management*, *7*(3), 211-233.

Transparency International (2020). Corruption Perceptions Index 2019. Berlin: Transparency International.

The World Economic Forum (2019). Corruption costs developing countries $1.26 trillion every year – yet half of EMEA think it's acceptable. https://www.weforum.org/agenda/2019/12/corruption-global-problem-statistics-cost/.

Turban, E., King, D., Lee, J., & Viehland, D. (2002). Electronic commerce: A managerial perspective 2002. *Prentice Hall: ISBN 0*, *13*(975285), 4.

Turban, E., King, D., Lee, J. K., Liang, T. P., & Turban, D. C. (2015). Innovative EC systems: from e-government to e-learning, collaborative commerce, and c2c commerce. In *Electronic Commerce* (pp. 209-254). Springer, Cham.

Uhlenbruck, K., Rodriguez, P., Doh, J., & Eden, L. (2006). The impact of corruption on entry strategy: Evidence from telecommunication projects in emerging economies. *Organization Science*, 17, 402–414.

Van Vu, H., Tran, T. Q., Van Nguyen, T., & Lim, S. (2018). Corruption, types of corruption and firm financial performance: New evidence from a transitional economy. *Journal of Business Ethics*, 148(4), 847-858

Vendrell-Herrero, F., Bustinza, O. F., Parry, G., & Georgantzis, N. (2017). Servitization, digitization and supply chain interdependency. *Industrial Marketing Management*, 60, 69-81.

Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived performance of multinational firms. *Academy of Management journal*, 39(1), 179-196.

Vial, V., & Hanoteau, J. (2010). Corruption, manufacturing plant growth, and the Asian paradox: Indonesian evidence. *World Development*, 38(5), 693-705.

Warner, K. S., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. Long Range Planning, 52(3), 326-349.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing,* 20 (1), 71-91.

Wigand, R. T. (1997). Electronic commerce: definition, theory, and context. Inf. Soc. 13 (1), 1-16.

World Bank (2016), *The Little Data Book: World Development Indicators 2013*. Washington, DC: International Bank for Reconstruction and Development.

World Bank (2019). Doing Business report. Available at http://www.doingbusiness.org/rankings?region=sub-saharan-africa. Accessed March 5, 2019.

Yamakawa, Y., Peng, M.W., & Deeds, D.L. (2008). What drives new ventures to internationalize from emerging to developed economies? *Entrepreneurship Theory and Practice*, 32(1), 59-82.

Yiu, D. W., Lau, C., & Bruton, G. D. (2007). International venturing by emerging economy firms: The effects of firm capabilities, home country networks, and corporate entrepreneurship. *Journal of International Business Studies*, *38*(4), 519-540.

You, K., Dal Bianco, S., Lin, Z., & Amankwah-Amoah, J. (2019). Bridging technology divide to improve business environment: Insights from African nations. Journal of Business Research, 97, 268-280.

You, K., Dal Bianco, S., & Amankwah-Amoah, J. (2020). Closing Technological Gaps to Alleviate Poverty: Evidence from 17 Sub-Saharan African Countries. *Technological Forecasting and Social Change*.

Zahra, S. A. (2003). International expansion of U.S. manufacturing family businesses: The effect of ownership and involvement. *Journal of Business Venturing*, 18(4), 495-512.

Zahra, S. A., Neubaum, D. O., & Huse, M. (2000b). Entrepreneurship in medium-size companies: exploring the effects of ownership and governance systems, *Journal of Management,* 26(5): 947–976.

Zahra, S. A., Matherne, B. P., & Carleton, J. M. (2003). Technological resource leveraging and the internationalisation of new ventures. *Journal of International Entrepreneurship*, *1*(2), 163-186.

Zhou, K. Z., Brown, J. R., Dev, C. S., & Agarwal, S. (2007). The effects of customer and competitor orientations on performance in global markets: A contingency analysis. *Journal of International Business Studies,* 38: 303-319.

Bios

Dr Samuel Adomako is a lecturer in Strategy and Entrepreneurship at the School of Management, University of Bradford. His research centres on the cognitive processes supporting entrepreneurship, innovation and strategy. His research has appeared in reputable journals including *Journal of Business Research, International Small Business Journal, International Review of Financial Analysis, Journal of International Management, R&D Management Journal, and Business Strategy and the Environment*.

Prof. Joseph Amankwah-Amoah is a Professor of international business at University of Kent. Joseph is also a recipient of multiple research awards across the social science disciplines and has consistently published in many journals of international repute including *British Journal of Management, Industrial and Corporate Change, Business History, Long Range Planning, International Business Review, Technological Forecasting and Social Change, International Journal of Human Resource Management, Journal of International Management, Thunderbird International Business Review, R&D Management, Business Strategy and the Environment, Computers in Industry, Journal of Rural Studies, Group and Organization Management, International Journal of Production Economics, and Journal of Business Research*. In all, he has published over 100 articles.

Prof. Shlomo Y. Tarba is a Chair (Full Professor) in Strategy & International Business at Birmingham Business School. Between August 2015 and September 2018, he served as a Head of Department of Strategy & International Business and a member of Senior Management Team. Prof. Tarba is a Deputy Editor-In-Chief of British Journal of Management (ABS 4, Impact Factor 4.327) and an incoming Co-Editor-In-Chief of BJM. In recognition for his significant contribution to the social sciences he was awarded in March 2020 the Fellowship of the Academy of Social Sciences (FAcSS). He has served as a guest-editor for the special issues at the leading journals such as Long Range Planning, California Management Review, R&D Management, and others. Shlomo has published over 55 articles in premier refereed academic journals in strategy international business areas such as Journal of Management, Journal of Organizational Behavior, Human Relations, Human Resource Management (US), Academy of Management Perspectives, Management International Review, Journal of World Business, and others.

Prof. Zaheer Khan is a Professor in Strategy & International Business at University of Aberdeen Business School, the University of Aberdeen, UK. His research interests are international knowledge transfer, capability development, the automotive industry and cross-border alliances. He has published in journals such as *Journal of International Business Studies*, *Global Strategy Journal*, *International Business Review*, *International Marketing Review* and *Industrial Marketing Management* among others.