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Information Systems Enacted Capabilities and Their Effects on SMEs' Information Systems Adoption Behavior

by Noor Akma Mohd Salleh, Fiona Rohde, and Peter Green

Studies show that information systems (IS) adoption behavior is dependent on well-defined characteristics. However, firms must also be enabled for use and ultimately utilize IS. This study develops a model of how IS enacted capabilities of small- and medium-sized enterprises (SMEs) affect IS enablement through perceived net benefits and attitude. Follow-up interviews with chief executive officers (CEOs)/owners of SMEs indicated that IS enacted capabilities play an integral part in determining the extent to which SMEs become enabled and utilize IS. Top management IS skills and knowledge and trust in trading partners dominate the effect on perceived net benefits at the enablement stage.

Introduction

Studies on adoption behavior of Information Systems (IS) are devoting increasing attention to small- and medium-sized enterprises (SMEs). However, most prior studies within SMEs rely on models developed for large firms (Chau and Jim 2002; Kendall et al. 2001; Lee 2004) and they show that IS adoption behavior is greatly dependent on well-defined characteristics namely, organizational, technological, and environmental (Kendall et al. 2001). SMEs face different IS-related challenges and opportunities from those faced by large firms. Therefore, the applicable models and findings of SMEs IS adoption behavior from large firms' studies may be questionable. This is because large firms tend to have access to institutional, organizational, financial, and managerial leverages unlike SMEs. This allows large firms to translate high-tech ideas into process rapidly, which enables them to become competitive players in the global market (Zhouying 2005).

In contrast, SMEs rarely benefit from technology transfer due to low efficiency exhibited when absorbing the acquired technologies (Romijn 2001), resulting from incomplete technology environment (Lee 2004; Scupola 2003; Zhouying 2005). To have successful adoption and utilization of IS, the SME's ability in employing IS will be the distinguishing factors between various firms (Conner 1991). It requires organizational capabilities which can be labeled as "IS enacted capabilities." IS enacted capabilities are defined as a firm's ability to mobilize and deploy IS-based capabilities in combination or co-present with other capabilities within SMEs. In other words, a set of resources becomes "IS enacted capabilities" when they are combined

Noor Akma Mohd Salleh is a Senior Lecturer of Information Systems in the Department of Operations and Management Information Systems at the University of Malaya, Faculty of Business and Accountancy, University Malaya, 50603, Kuala Lumpur, Malaysia.

Fiona Rohde is a Professor in Information Systems and Deputy Dean within the TC Beirne, School of Law at the University of Queensland, St Lucia, Brisbane QLD 4072, Queensland, Australia.

Peter Green is a Professor in Accountancy and Head of School in QUT Business School, Queensland University of Technology, Brisbane, QLD 4001, Queensland, Australia.

Address correspondence to: Noor Akma Mohd Salleh, Department of Operations and Management Information Systems, Faculty of Business and Accountancy, University Malaya, 50603, Kuala Lumpur, Malaysia. E-mail: akmasalleh@um.edu.my.

or integrated in the performance of a task or activity within IS (Beard and Sumner 2004; Goodhue and Thompson 1995). As suggested by Goodhue and Thompson (1995), IS is more likely to be used and have a positive impact on individual/organizational performance, if the capabilities of IS match the tasks that the user must perform. The motivation of this study is to investigate determinants that stimulate SMEs to be enabled for use of IS innovation, particularly, electronic procurement system. Consequently, the aim of this study is to make a contribution by empirically examining the SMEs' IS enacted capabilities, which may influence the success of IS adoption.

IS enacted capabilities are organizational attributes resulting from organizational learning on how to combine and use resources (tangible and intangible resources), and also the learning already embedded in the organizational routines employed (Scupola 2003). Thus, IS enacted capabilities involve the ability of the organization to deploy resources in combination with organizational processes to obtain desired outcomes (Barua et al. 2004). These IS enacted capabilities in turn develop into core competencies that ultimately become a source of competitive advantage (Ciborra and Lanzara 1994). Hence, IS enacted capabilities are of value to the business and interact with the innovative IS, organizational, and interorganizational resources. For example, a firm's level of trust and relationships with trading partners and IT, the IS skills and knowledge, IS support from external experts, and organizational culture are deeply rooted in the organizational history and together with the IS resources are expected to impact the ability to adopt, enable, and utilize innovative IS (Melville, Kraemer, and Gurbaxani 2004). Therefore, organizations with strong high-order IS enacted capabilities can both leverage IS enabled change for business advantage and respond rapidly to changes in the IS business environment.

Complementary among these IS enacted capabilities enhances resources value (Barney 1991), though the aggregate impact of enacted capabilities is higher than any individual impact (Pavlou 2002). Regardless, whether they are of large organizations or just SMEs, all organizations possess some form of IS capabilities. Equally, an organization's IS enacted capabilities will either be an activator or stimulator in terms of the goals it can actually achieve (e.g., initial adoption and further utilization of an innovative IS). These IS enacted capabilities are likely to be resourced differently in different organizations. Moreover, these IS enacted capabilities are integrated and coordinated in different ways, depending on the context of each organization, including its history, people, and structural characteristics. Thus, IS enacted capabilities become unique to that particular organization. The combination of IS enacted capabilities makes imitation by competitors more difficult, and thus creates a stronger basis for competitive advantage. Even when SMEs have access to the same innovative IS, not all SMEs possess the ability to adopt, become enabled, and utilize the innovative IS. As IS enacted capabilities could not be easily replicated and copied they may result in strategic value to the firms (Amit and Schoemaker 1993). Investigating the IS enacted capabilities of SMEs is the key to understanding perceived net benefits to embracing innovative IS. The understanding of the perceived net benefits by owners and/or top management of SMEs helps explain how SMEs will behave related to their IS development strategy. Subsequently, SMEs will have the confidence to enter into new IS environment.

This study develops and tests a model investigating and predicting the determinants (i.e., IS enacted capabilities) that activate and stimulate SMEs to be IS enabled for use. In line with this objective, the following research question is examined: what are the critical determinants that ultimately activate and stimulate them to become IS enabled for use? For the purpose of this study, IS enabled refers to the implementation of IS, and the subsequent ability of SMEs to perform procurement electronically with the trading partners. It is critical to examine these issues within SMEs in order for them to compete successfully within a globalized economy.

Theoretical Foundation

The decision-making process to adopt IS by individuals and/or organizations has motivated a great deal of research across multiple disciplines (Dijk, Peters, and Ebbers 2008; Straub 2009; Venkatesh and Zhang 2010). Numerous theories have arisen, trying to predict human behavior and technology acceptance that include theory of reasoned action (Fishbein and Ajzen 1975), technology acceptance model (Davis 1989) and unified theory of acceptance and use of technology (UTAUT). Theory of reasoned action focuses on attitude behavior relationship, in which individuals form positive attitude and subsequently behavioral intention, before performing the said behavior (Leach, Hennessy, and Fishbein 1994). Theory of reasoned action (TRA) assumes that behavior is under volitional control and considers the behavior is consciously thought of beforehand. However, TRA has some limitations related to the confounding nature between attitudes and subjective norms.

In an attempt to mitigate TRA limitations, Davis (1989) modifies the TRA by developing a model, known as Technology Acceptance Model (TAM). The cores of TAM are perception of usefulness and ease of use, which will influence individual's intention to use IT, which ultimately influence actual usage behavior through the mediating attitude construct (Bhattacherjee and Premkumar 2004; Karahanna, Straub, and Chervany 1999; Venkatesh and Davis 2000). Prior studies have utilized TAM to identify crucial determinants of an individual's intention toward accepting IS within variety of organizations. Prior studies have utilized TAM to identify crucial determinants of individual's intention toward accepting IS within variety of organizations. On that note, Venkatesh and Davis (2000) introduce TAM2 using TAM as the base theory. TAM2 expands TAM to include additional key determinants, such as social influence process and cognitive instrumental process factors. In addition, subjective norm is also included in TAM2 as an additional predictor of behavior intention. The purpose of including subjective norm to TAM2 is to provide an explanation as to how the influences of social and cognitive factors affect adoption behavior due to increasing individuals' experience over time with the targeted system. Throughout the years, IS researchers have adopt, adapt and expand TAM2 with other human behavior theories that allow better explanations of IS adoption behavior phenomena.

Nonetheless, one of the limitations of TAM and TAM2 are their assumption that usage is voluntary. This assumption means there are no barriers preventing an individual from using IS, if the individual chooses to do so (Davis 1989; Venkatesh and Davis 2000). Though TAM and TAM2 have consistently supported the IS adoption behavior for volitional context (Davis 1989), it is not clear if the same relationships will hold when the IS behavior model is mandatory, particularly to SMEs. Many large organizations have exercised pressure on SMEs to adopt interorganizational IS (Chau and Jim 2002; Iacovou, Benbasat, and Dexter 1995). External pressure to adopt IS, and thus the removal of the "truly voluntary nature of adoption," implies that TAM may not provide a complete prediction and explanation of adoption behavior by these enterprises.

The stream of research in IS adoption behavior culminates with the introduction of UTAUT develops by Venkatesh et al. (2003). UTAUT synthesizes and merges previous IS acceptance models such as TRA, TAM, and TAM2. The goals of UTAUT are to provide a useful tool for managers to assess the likelihood of success for new IS introduction and assist them to understand the drivers that include performance expectancy, effort expectancy, social influence and facilitating conditions of IS adoption behavior (that is intention and use) by employees (Venkatesh et al. 2003). All the relationships between these drivers and IS adoption behavior are moderated by voluntariness of use, experience with IS, age, and gender (Venkatesh et al. 2003). Since UTAUT development in 2003, IS researchers have used and validated the robustness of UTAUT in different context, subjects, and cultural settings when investigating IS adoption behavior. Moreover, IS researchers have introduced and added new variables to UTAUT to provide greater understanding of IS adoption behavior by individuals. The latest development of IS adoption behavior model is the development of UTAUT2 by Venkatesh, Thong, and Xu (2012). In UTAUT2, three new constructs that include hedonic motivation, price value, and habit are added to the basic UTAUT model to investigate IS adoption behavior by consumers (Venkatesh, Thong, and Xu 2012). However, there are criticisms to UTAUT (e.g., Straub 2009; Venkatesh et al. 2008). The main criticism is that behavioral intention in UTAUT has weak predictive and explanatory ability to deal with uncertainly and unforeseen events, such as the environmental and organizational limits that may inhibit the act between the time the intention is formed and the behavior is performed. Moreover, as with TAM and TAM2, in UTAUT, behavioral intention is limited in its ability to predict behavior that is not completely within an individual's volitional control (Ajzen and Fishbein 1985). Although facilitating conditions indirectly captures nonvolitional factor for which behavioral intention is unable to account, this factor was not fully able to measure uncertainty. In the volitional environment, uncertainty is the perception of controllability by individuals of any situation (Krueger 2000). Moreover, UTAUT excludes attitude as direct determinant of use behavior. Empirical evidences have shown that specific attitude contributes significantly to the motivation and performance of individuals (e.g., Bandura and Locke 2003; DeLone and McLean 1992).

The adoption and utilization of IS across heterogeneous culture, locales, and markets is a critical and ongoing challenge for SMEs. For SMEs to be successful in the adoption and utilization of IS, the SMEs' capabilities of employing the innovation are a distinguishing factor between firms (Conner 1991). SMEs are not successful in adopting and utilizing IS because of the particular leading-edge technological application. SMEs are successful in adopting and utilizing IS because SMEs develop a capability for applying the IS to ever-changing business opportunities (Grant 1991; Ross et al. 1996). Dealing effectively with such a challenge requires more than just good ideas and extensive resources. It also requires organizational and individual capabilities in what may be labeled "enacted capabilities." These enacted capabilities are informed by the resource-based view of the firm.

According to the resource-based view, firms are characterized as collections of resources (Barney 1991; Feeny and Willcocks 1998). A firm's resources may include both tangible and intangible assets including competencies, organizational processes, firm attributes, information, and knowledge. These resources are controlled by the firms and enable the firms to conceive and implement strategies that improve its efficiency and effectiveness (e.g., Barney 1991; Bharadwaj 2000; Grant 1991; Srinivasan, Lilien, and Rangaswamy 2002; Thong 2001). The resource-based view emphasizes understanding the internal resources and/or capabilities that enable firms to secure competitive positions (Conner 1991). Furthermore, the value of a resource and/or capabilities is likely to be partially contingent on the presence of other resources. Thus, a system of resources or capabilities is more valuable than an individual resource or capability taken separately (Foss et al. 1995; Thong 2001). In this study, enacted capabilities of SMEs refer to the strategic application of organizational and individual capabilities, that is, their use and deployment to accomplish given organizational goals. These goals establish the need for improving or developing specific IS competencies (e.g., from nonenabled for use to enabled for use). Equally, an SME's enacted capabilities will either be an activator or stimulator in terms of the goals it can actually achieve. These enacted capabilities are likely to be resourced differently in different SMEs. These enacted capabilities are integrated and coordinated in different ways, depending on the context of each organization, including its history, people, and structural characteristics of the SMEs.

Prior research into IS adoption by SMEs reveals that SMEs are concerned that whether the technologies they adopt are consistent with the firm's values and technology needs (Lee 2004). Studies reveal that SMEs decide to adopt IS because of a particular enterprise's individual characteristics (that is, chief executive officer [CEO] innovativeness, CEO attitude, and CEO skills and knowledge) and organizational characteristics (that is, competitiveness of environment and information intensity) (Thong 2001). A limitation of these studies is that they provide an understanding of the contextual factors that provide a simple dichotomous measure such as adopters and nonadopters, rather than the form or dimension of adoption; that is, from initial adoption to enabled for of innovative IS (Chin and Marcolin 2001).

Recent studies indicate that SMEs' reluctance to adopt IS can be attributed to resource poverty, such as lack of financial and technological resources, internal expertise, skills, and knowledge (Dijk, Peters, and Ebbers 2008; Straub 2009; Venkatesh and Zhang 2010). However, it is not just the known availability of resources that impacts IS adoption. Therefore, this study proposes that the ability to leverage IS enabled capabilities in SMEs significantly impacts their ability to adopt IS successfully. Studies related to resource issues have found that businesses with certain CEO characteristics are more likely to adopt the IS (Thong, Yap, and Raman 1996). Interestingly however, though the CEO characteristics affect the decision to adopt, they do not affect the extent of adoption (Thong 2001). Other resource issues, such as the characteristics of the individual making the usage decision, support from external expertise and system attributes have also been identified as determinants of adoption behavior (Chau and Hu 2002; Lee 2004). Some of these studies have linked resource availability to intention to use the innovative IS by SMEs. Taken up from the prior studies on resource issues, a firms' technological opportunism has been introduced as an important determinant of IS adoption (Caldeira and Ward 2003; Scupola 2003; Srinivasan, Lilien, and Rangaswamy 2002). Within this context, managers possess the capability to respond to new opportunities by acquiring knowledge and understanding them. The more knowledge and understanding they acquire in relation to a particular system the more likely they are to adopt and utilize that system (Mata, Fuerst, and Barney 1995; Srinivasan, Lilien, and Rangaswamy 2002).

Based on prior studies related to resource based view, resource poverty and resource opportunism, the enacted capabilities in this study represent the collective capabilities of SMEs that builds into the organization's processes, procedures, and systems (e.g., trust in the technology and organizational culture), is embedded in informal networks (e.g., top management IS skills and knowledge and support and guidance from external experts), and personal relationships (i.e., interorganizational trust) (McGrath et al. 1995; Peppard and Ward 2004; Teece, Pisano, and Shuen 1997). This collective knowledge provides SME the ability to initiate or respond to change. For example, the innovative IS adopted by a SME is an increasingly important set of resources (i.e., often referred to as part of the IT infrastructure), which is the organizational aspect. In the context of enacted capabilities, the critical resources are the IS skills and knowledge residing in top management and/or owner of SMEs which is an individual aspect that provide the capability to SMEs to implement IS innovation.

Both the organizational and individual aspects implicitly and explicitly influence the decision to adopt and utilize the innovative IS, and these aspects collectively form the context of the adoption process by SMEs. Hence, enacted capabilities represent the collective knowledge of SMEs that builds into the organization's processes, procedures, and systems (e.g., trust in the technology), is embedded in informal networks (e.g., top management IS skills and knowledge and support and guidance from external experts), and personal relationships (i.e., interorganizational trust) (McGrath et al. 1995; Peppard and Ward 2004; Teece, Pisano, and Shuen 1997). This collective knowledge provides SMEs the ability to initiate or respond to change. For example, the innovative IS adopted or utilized by a SME is an increasingly important set of resources (i.e., often referred to as part of the IT infrastructure), which is the organizational aspect. In the context of enacted capabilities, the critical resources are the IS skills and knowledge residing in top management and/or owner of SMEs which is an individual aspect that enable SMEs to implement IS innovations.

Both the organizational and individual aspects implicitly and explicitly influence the decision to adopt and utilize the innovative IS, and these aspects collectively form the context of the adoption process by SMEs. Moreover, Rogers (1995) asserts that if an organization is to gain from the adoption and utilization of innovative IS, they requires an effective communication (e.g., support from external experts), trust (e.g., trust in technology and trading partners), and a thorough understanding of the business and IS environment (e.g., top management IS skills and knowledge, organizational culture). These aspects need to be present within the appropriate social system to reduce the risks and uncertainty, and provide the means, expertise, and information, so that the organization has the ability to learn about new technologies and are confident to adopt and utilize innovative IS (Jasperson 2005; Knol and Stroeken 2001). Extending this view of internal resources and/or capabilities to an IS environment, this study defines SMEs' enacted capabilities as a firm's ability to mobilize and deploy IS-based resources in combination or co-present with other resources and/or capabilities within SME that may influence their IS adoption behavior (Bharadwaj 2000; Grant 1991). In other words, a set of resources becomes "enacted capabilities" when they are combined or integrated in the performance of a task or activity (e.g., Beard and Sumner 2004; Hitt et al. 2003). As enacted capabilities are complex and intangible, their essence is quantified with a multidimensional factor formed by top management IS skills and knowledge, support from external experts, trust in technology, trust in trading partners, and organizational culture. This study theorizes that an increase in any one of these five dimensions in isolation will increase the total overall magnitude of the enacted capabilities construct without necessarily affecting the other dimensions.

Research in IS adoption behavior increasingly supports the contention that a firm must acquire a unique set of capabilities to successfully compete in the 21st century (Barney 1991). For a firm to be successful in the adoption and utilization of IS, the firm's IS capabilities of employing the innovation are a distinguishing factor between firms (Conner 1991).

Many of these organizational and individual aspects implicitly and explicitly influence the decision to adopt and utilize the innovative IS, and these aspects collectively form the context of the adoption process (Luftman 2005; Pavlou 2002). These collective aspects can be described in-depth using the IT and organization framework such as the strategic alignment model (Luftman 2005) consisting of the business domain and an IS technological domain in which the following interacting aspects meet: business strategy, infrastructure and processes of the organization, IS strategy, and infrastructure and processes of the IS (Venkatraman 1994). From this concept of strategic alignment, this study deduces that it is essential to unite or even integrate business aspects with IT aspects. Moreover, Rogers (1995) asserts that if an organization is to gain from the adoption and utilization of innovative IS, it requires effective communication, trust, and a thorough understanding of the business and IS environment. These aspects need to be present within the appropriate social system to reduce the risks and uncertainty, and to provide the means, expertise, and information, so that the organization has the ability to learn about new technologies and it is confident to adopt and utilize innovative IS (Jasperson 2005; Knol and Stroeken 2001).

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Prior studies in innovative IS has shown that information sharing capabilities improve operational performance through reduced cycle time and improved quality (Mukhopadhyay et al. 1997; Srinivasan, Lilien, and Rangaswamy 2002). Likewise, the marketing literature suggests that improved informational capabilities have a direct impact on perceived net benefits (e.g., Knol and Stroeken 2001). Extending from prior studies, this study theorizes SMEs' enacted capabilities will affect their perception of the perceived net benefits of their business activities, which are likely to affect their adoption behaviors. SMEs with high levels of enacted capabilities can leverage IS enabled change for business advantage and respond rapidly to changes in the IS business environment (Jasperson et al. 2005). An organization can increase one enacted capability, and thus increase their overall level of enacted capabilities. As such, five organizational and individual aspects—top management IS skills and knowledge, support from external experts, trust in technology, trust in trading partners, and organizational culture—are collectively examined. These five business and IS aspects have been examined and discussed extensively in prior literature on the adoption behavior of innovative IS (e.g., Chau and Jim 2002; Iacovou, Benbasat, and Dexter 1995; Lee 2004; Mehrtens, Cragg, and Mills 2001). However, most of this literature examined these aspects separately, rather than collectively. The proposed five dimensions of enacted capabilities are interrelated and are most effective when all five factors are simultaneously exhibited due to their complementarities (Milgrom and Roberts 1995; Pavlou et al. 2005).

Investigating the IS enacted capabilities of SMEs is the key to understanding the perceived net benefits to the SME of embracing IS. The understanding of the perceived net benefits by owners and/or top management of SMEs helps explain how SMEs will behave related to their IS development strategy. Subsequently, SMEs will have the confidence to enter into new IS environment. SMEs, however, tend to have simple and highly centralized structures with the CEOs, who are also often the owners, making many of the critical decisions (Lee and Runge 2001; Thong 2001). SMEs rely on short-term rather than long-term strategic plans (Lee and Runge 2001; Levy and Powell 2003), have fewer bureaucratic procedures, less complex interpersonal and political relations, and less organizational inertia (Chau and Hui 2001). All these inherent attributes to a great extent not only explain the organizational behavior, but also the individual behavior of technology acceptance by SMEs. Due to these characteristics of SMEs, this study combines perceived benefits, attitude, and enacted capabilities to provide a coherent and consistent explanation for interpreting and understanding the innovative IS adoption behavior by SMEs that possess both organizational and individual perceptions and attitude. Often within SMEs many of the decisions are made by an individual (e.g., the owner). In addition, the decision-making processes of SMEs' top managers and/or owners are more intuitive and less dependent on formal decision models (Dandridge 1979; Thong 2001). Hence, the organizational decisions are intertwined with individual perceptions and attitude (Lee and Runge 2001; Van Akkeren and Cavage 1999).

As such, the following organizational and individual IS aspects: top management IS skills and knowledge, support from external experts, trust in technology, trust in trading partners, and organizational culture are collectively examined. These five business and IS aspects have been examined and discussed extensively in prior literature on the adoption behavior of innovative IS (e.g., Chau and Jim 2002; Iacovou, Benbasat, and Dexter 1995; Lee 2004; Mehrtens, Cragg, and Mills 2001; Melville, Kraemer, and Gurbaxani 2004). However, most of these studies examined these aspects separately, rather than collectively.

A classic theory of TAM posits that cognitive beliefs predict attitude, that is, attitude occurs only after considerable cognitive operation have been accomplished (Davis 1989; Fishbein and Ajzen 1975). However, attitude has an affective component (Triandis 1975), and may occur either before or after cognitive processing (Berkowitz 1993). Cognitive belief refers to one's perception of an object's qualities such as its relevance to one's goals and causal antecedents (Russel 2003). A second paradigm on attitude-cognitive relationships argues that attitude and cognitive are "separate and partially independent systems" (Zajonc 1984), and that attitude could precede cognitive process in a behavioral chain. Basically, attitude influences cognition through a "mood-congruence mechanism" (Bagozzi, Gopinath, and Nyer 1999; Chen and Dubinsky 2003). The impact of attitude on cognitive beliefs is situational, depending on personal variable, task characteristics, and situational features.

Mattila and Wirtz (2000) argued that the pre-consumption attitude can be translated into post-cognitive beliefs evaluations. Specifically, the initial attitude reaction may lead them to mood consistent information, which is used to form associated cognitive structures. For example, users with an initial positive attitude at the time of adoption are more likely to be satisfied with the systems as they proceed through the enablement and utilization stage, and thus, see the increased benefits associated with the system at each stage of adoption (Guimaraes and Igbaria 1994). This study expects a favorable attitude is likely to lead to higher perceived net benefits at both the enablement and utilization stages. Moreover, attitude acts as an inertia agent for the extent of enablement of innovative IS through perceived net benefits (Guimaraes and Igbaria 1994).

Research Model and Hypothesis Development

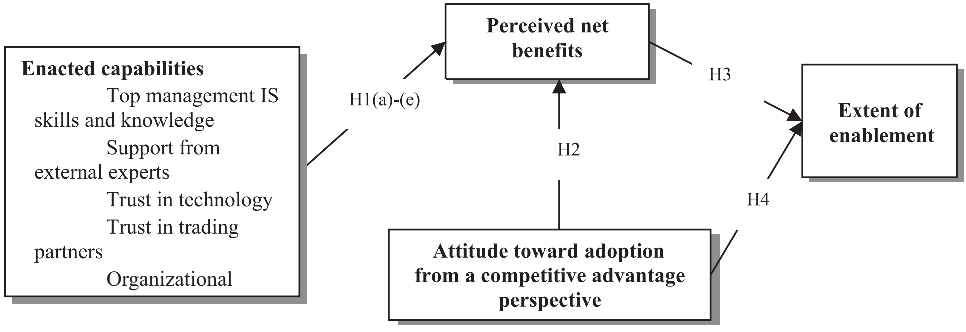
At the time a SME decides to adopt and/or register for the innovative IS, the enacted capabilities SMEs possess at this stage are hypothesized to affect both perceived net benefits and attitude of SMEs. Enacted capabilities are also expected to influence attitude indirectly through perceived net benefit. The positive associations between all these constructs are presumed to explain the behavior of SMEs at the adoption stage. After adopting, SMEs would normally proceed to the enablement stage, whereby they obtain the ability to conduct their business activities with the adopted innovative IS and ultimately use the system.

Research Model

The model depicted in Figure 1 presents the relationships among enacted capabilities, perceived net benefits, and attitude on the adoption behavioral dimensions that is the enablement of innovative IS. At this stage enacted capabilities are predicted to affect perceived net benefits (Iacovou, Benbasat, and Dexter 1995) organization. In turn, perceived net benefit at the enablement stage is predicted to affect the extent of enablement. Moreover, enacted capabilities are hypothesized to influence extent of enablement indirectly through perceived net benefits. This study also theorizes a SME carries the attitude formed at the initial adoption stage to the enablement stages. This attitude is proposed to have a direct influence on perceived net benefits. Moreover, this study theorizes that attitude has a direct influence on the enabled for use of innovative IS.

Attitude has an affective component (Triandis 1975), and may occur either before or after cognitive processing (Berkowitz 1993). SMEs with a more positive attitude at the time of adoption are likely to be more satisfied with the new system and to perceive the net benefits at the enablement stage (Guimaraes and Igbaria 1997). There are several purposes for which IS can be used: value creation, problem solving (Melville, Kraemer, and Gurbaxani 2004) as well as communication purposes (Russell 2003). Given that IT usage enables efficiency and considering that IS will generate returns on investment, the usage of IS can also be seen as a strategic tool,

Figure 1
Generic Research Models of Innovative Information System Adoption Behavior



and thus becomes an important competitive advantage enabler (Jung, Schneider, and Valacich 2010). Therefore, within this study, SMEs' attitudes are affective in nature, and they are related to their set of beliefs about adoption of innovative IS from a competitive advantage perspective at the time of adoption. SMEs hold both positive and negative beliefs about the adoption of innovative IS, and the effect is viewed as corresponding to the total effect associated with their beliefs of competitive advantage that can be gain by becoming IS enabled (Bagozzi, Yi, and Phillips 1991; Chen and Dubinsky 2003).

Hypotheses Development

Enacted Capabilities and Perceived Net Benefits. Past literature in innovative IS has shown that information sharing capabilities improve operational performance through reduced cycle time and improved quality (Mukhopadhyay et al. 1997; Srinivasan, Lilien, and Rangaswamy 2002). Likewise, the marketing literature suggests that improved informational capabilities have a direct impact on perceived net benefits (e.g., Knol and Stroeken 2001). Extending the above finding to this study, SMEs' enacted capabilities are theorized to affect their perception of the perceived net benefits of their business activities, which are likely to affect their adoption behaviors. SMEs with high levels of enacted capabilities can leverage IS enabled change for business advantage and respond rapidly to changes in the IS business environment (Jasperson et al. 2005). An organization can increase one enacted capability, and thus increase their overall level of enacted capabilities. The proposed five dimensions of enacted capabilities are interrelated and are most effective when all five factors are simultaneously exhibited due to their complementarities (Milgrom and Roberts 1995; Pavlou et al. 2005). Investigating the enacted capabilities of SMEs is the key to understanding perceived net benefits at all stages of adoption, and toward embracing, enabling, and utilizing innovative IS. In general, it is anticipated that organizations with strong enacted capabilities are more able to perceive the net benefits of adoption of the innovative IS. Accordingly,

H1: The level of enacted capabilities has a positive effect on the level of perceived net benefits of the innovative IS.

Top Management Information Systems Skills and Knowledge and Perceived Net Benefits. Top management with higher levels of IS skills and knowledge have a better understanding of the perceived net benefits of IS and, in most instances, are more comfortable in adopting and utilizing IS (Chang, Jackson, and Grover 2003; Thong 2001). Furthermore, they contribute more effectively to the IS implementation and utilization (Kendall et al. 2001; Thong 2001). In other words, SMEs that are managed by a CEO who is skillful and knowledgeable of IS will tend to understand the benefits of IS adoption. Thus, they are willing to invest the scarce resources that they have in the IS project, which in turn allows them to take advantage of the promised benefits of adopting the IS (Thong 1999). Ettlie (1991) has found that CEOs with more knowledge of the technological innovation are significantly more likely to implement aggressive technology adoption policies due to their high level of perception of the benefits derived from the IS implementation. Therefore, a lack of or lower level of IS skills and knowledge possessed by top management may create insufficient awareness of the potential benefits and costs. Thus,

H1a: A high level of top management information systems skills and knowledge has a positive effect on the level of perceived net benefits of IS.

IS Support from External Experts and Perceived Net Benefits. Prior studies on IS adoption within SMEs found external IS expertise to be a significant factor (Thong, Yap, and Raman 1996). External experts act as mediators compensating for the lack of internal IS skills and knowledge. They also play a critical role in lowering and evaluating the knowledge barriers impeding IS diffusion in SMEs (Caldeira and Ward 2003; Thong, Yap, and Raman 1996). When the level of support from external experts is high/low, the level of perceived net benefits toward the adoption of the IS by SMEs is also likely to be high/low (Kendall et al. 2001; Lee 2004). Thus,

H1b: A high level of support from external experts has a positive effect on the level of perceived net benefits of IS.

Trust in Technology and Perceived Net Benefits. Research into trust in technology reveals that businesses rely on technical safeguards, protection measures, and control mechanisms to avoid opportunistic behavior (Bahmanziari, Pearson, and Crosby 2003). These mechanisms provide technological, organizational, and relationship benefits by ensuring timely, accurate, and complete transmission and receipt of transactions, thereby achieving transaction integrity, authenticity, confidentiality, nonrepudiation, and availability (Ratnasingham 2003). Lower trust in the technology, such as insecurity regarding the security-based mechanisms, will escalate the perceived risks of IS adoption, which in turn, will decrease the perceived net benefits. Thus,

H1c: A high level of trust in technology has a positive effect on the level of perceived net benefits of IS.

Trust in Trading Partners and Perceived Net Benefits. Prior studies that examine trust in business relationships have identified trust to be a key factor for successful long-term trading partner relationships (McKnight, Choudhury, and Kacmar 2002). Prior studies also reveal that a lack of trust in trading partners during electronic procurement activities can lead to uncertainties such as unknown future events and their trading partners' responses to such events (Chan and Lee 2002). Examples of unknown future events can be events when individuals are being offered an incentive or they are in a financial crisis. In such cases, their intention to use innovative IS in the future will be affected by these events. In other words, if one of the above unknown future events happened, it may facilitate or inhibit the performance of the adoption behavior and change the SMEs' intention to use the innovative IS. Perceived benefits such as satisfaction and information sharing are achieved from trust in trading partners (Bahmanziari, Pearson, and Crosby 2003; Ratnasingham 2003). Without trust even low-value transactions may not take place, as the perception will be that the transactions are more vulnerable due to the firm's unfamiliarity with trading partners. Thus,

H1d: A high level of trust in trading partners has a positive effect on the level of perceived net benefits of IS.

Organizational Culture and Perceived Net Benefits. Organizational culture and IS adoption are intricately and intriguingly inter-related. Thus, organizational culture can act as an inertia agent for the adoption and utilization of innovative IS. Shan (1990) has argued that the rapid emergence of new technologies demands that SMEs become more innovative. The need for innovation in turn leads to a greater willingness on the part of SMEs to seek out and accept new technologies so that SMEs can remain competitive. Placing Shan (1990) argument within the context of Covin and Slevin's (1991) conceptualization of an entrepreneurial firm as one that seeks out innovation and is willing to accept change and the risk it brings, SMEs whose culture is characterized as entrepreneurial will most likely be able to deal with uncertainty, and thus, they would perceive high benefits in adopting and utilizing IS (for example, Curry and Moore 2003). Thus,

H1e: A more entrepreneurial organizational culture has a positive effect on the level of perceived net benefits of IS.

Attitude and Perceived Net Benefits

Many studies in entrepreneurship discipline consider attitude as direct determinant of behavioral intention. For example, using the Entrepreneurial Potential Model, Krueger and Brazeal (1994) argue that favorable attitude is an important factor toward intention to take action. They argue that starting a new action requires at least a threshold level of favorable attitude, plus some propensity to actually act on an opportunity. Furthermore, most prior studies have found attitude to be salient determinant of behavioral intention (e.g., Dijk, Peters, and Ebbers 2008; Louho, Kallioja, and Oittinen 2006; Oshlyansky, Cairns, and Harold 2007; Yuen et al. 2010). Attitude has an affective component (Triandis 1975), and may occur either before or after cognitive processing (Berkowitz 1993). This paradigm on attitude-cognitive relationships argues that attitude and cognitive beliefs are "separate and partially independent systems" (Zajonc 1984), and that attitude could precede cognitive process in a behavioral chain. For example, users with an initial positive attitude at the time of adoption are more likely to be satisfied with systems as they proceed through the enablement stage and see the increased benefits associated with the system. Thus,

H2: A high level of attitude toward adoption from a competitive advantage perspective at the adoption stage has a positive effect on the level of perceived net benefits at the enablement stage.

Perceived Net Benefits and Adoption Behavior

There is much evidence that the adoption of IS is largely driven by perceived net benefits (Bhattacherjee and Premkumar 2004; Lee 2004). In turn, the perceived net benefits have direct impact on extent of enablement of IS (Chan and Lee 2002; Igbaria et al. 1997). If the perceived net benefits are positive, a firm is more likely to favor the IS, and thus become enabled and ultimately utilize the innovative IS. Even though quantifying such net benefits, specifically, indirect benefits are generally difficult there is a perception of the proposed magnitude. Thus,

H3: A high level of perceived net benefits at the enablement stage has a positive effect on extent of enablement.

Attitude and Adoption Behavior

Rogers (1995) and Zmud (1984) assert the importance of relationship between organization's attitude toward an innovative IS and its successful adoption. Attitude is central to behavioral theory, and many prior studies consider attitude to be a significant predictor of adoption behavior (Ajzen and Fishbein 1985). Moreover, prior studies have found that a positive attitude has a positive impact on the adoption and utilization decision. Furthermore, users' attitudes have a direct impact on IS success (Igbaria et al. 1997), and they can be a major determinant of IS-enabled behavior for SMEs (Chau and Jim 2002; Karahanna, Struab, and Chervany 1999). Thus,

H4: A high level of attitude toward adoption from a competitive advantage perspective at the adoption stage has a positive effect on extent of enablement.

Research Method

Background

A cross-sectional field study (i.e., survey) was conducted with CEOs/owners of Malaysia SMEs. Malaysia is considered an appropriate technologically developing country because Malaysia has created the Multimedia Super Corridor in the South East Asia region. Subsequently, Malaysia has embarked on a major push to convince SMEs to adopt the Internet as a new and more efficient way of doing and generating business. In its bid to encourage SMEs, the Malaysian government has made it compulsory for its SME suppliers to be electronic procurement enabled, better known as ePerolehan. ePerolehan allows suppliers to present their products via electronic catalogs on the World Wide Web; to receive, manage and process purchase orders; to submit quotations, obtain tender documents and submit tender bids; and to receive payment from government agencies via the Internet.

CommerceDotCom Sdn. Bhd. was selected by the Malaysian Ministry of Finance to develop, operate, and maintain the ePerolehan via Build-Operate-Transfer systems. CommerceDotCom Sdn. Bhd. also assists SMEs (i.e., suppliers) to become operational within ePerolehan. CommerceDotCom Sdn. Bhd. conducts training sessions to allow SMEs to familiarize themselves with the ePerolehan packages and technologies. For SMEs to progress through the enablement stage they must attend training, in addition to having a computer, Internet connection, and smart card. At the conclusion of the training, SMEs are given a certificate that allows them to log into the system and they have the ability to use ePerolehan. A few service centers (i.e., ePerolehan Shoppe) have been established by CommerceDotCom Sdn. Bhd. for SMEs that lack access to the required infrastructure. At the time of the study, out of 61,000 SMEs that registered for the ePerolehan system, about 7,736 SMEs are ePerolehan enabled (CommerceDotCom 2005).

One thousand SMEs were selected through random sampling from the above population. Responses were sought from participants only who were owners or top/middle management and who were actively involved with the IS decision-making process. To ensure an appropriate respondent completed the questionnaire, that is, the respondent played an integral part in the adoption process of the innovative IS, the questionnaire included a section about the respondent's background.

Measures

Whenever possible, multi-items within each construct were developed and adapted from existing scales previously validated within IS literature. All items were measured using 7-point Likert scales representing a range from (1) strongly disagree to (7) strongly agree. Top management IS skills and knowledge is defined as the ability of the owner/CEO of a SMEs to understand and appreciate IS needs and to coordinate IS activities in ways to support the business (Yen et al. 2003). Support from external experts is defined as the ability to coordinate a set of knowledge-based activities from individuals/groups with different background, varied experiences and expectation, located in different organizations (Peppard and Ward 2004).

There is no universal definition that encompassed trust. Blomqvist (2002) defines trust as "actors' expectation on the capability, goodwill, and self-reference visible in mutually beneficial behavior enabling cooperation under risk." This concept of trust was derived from dynamic and knowledge-based business context where the pace of technological change is high and at the same time, there is a lot of uncertainty and turbulence in the markets. Hence, trust is often closely related to words such as competence, credibility, confidence, faith, hope, loyalty, and reliance (Blomqvist 1997). Hence, trust can be seen as an implicit if not explicit source for sustainable competitive advantage (e.g., Barney 1991; Cohen and Prusak 2001; Zaheer et al. 1998). Subsequently, most researchers propose that the firm's ability to create and manage trust in its internal and external networks may become a critical factor in the search for sustainable competitive advantage (e.g., Barney 1991; Cohen and Prusak 2001). Based on this argument, trust in technology is defined as the ability to collectively maintain appropriate control and security procedures for the use of IS (Pavlou 2002). Trust in trading partners is defined as the ability to collectively assess its trading partners who will perform potential transactions according to SMEs' expectations, irrespective of their ability to fully monitor the trading partners (McKnight, Choudhury, and Kacmar 2002; Pavlou 2002). In this study, organizational culture is defined as the cultural orientation of the firms (Wallach 1983).

Wallach (1983) identifies and defines three separate organizational cultures covering almost all the parameters identified by other research. According to Wallach (1983), shared values, norms, and beliefs of people in an organization can be mapped onto bureaucratic; supportive; and innovative culture. Bureaucratic cultures are hierarchical and compartmentalized, and there are clear lines of responsibility and authority, and as such these firms are more stable and usually mature. Supportive cultures center on common beliefs and values, narrowly defined roles, goal congruence among employees rather than direct surveillance, and specific directives from management. Though innovative cultures are exciting and dynamic, they typically lead to a differentiating of activities and the ability to respond to change, and thus this dimension of cultural orientation can be considered as more entrepreneurial. This study expects to find these dimensions of culture present to a greater or lesser degree in any SMEs. Respondents had to choose which statements best described their organizational culture using a 7-point Likert-type scale, with 1 "strongly disagree" to 7 "strongly agree" (Kanungo, Sadavarti, and Srinivas 2001). This study uses adjectives to describe the type of organizational culture.

Attitudes are viewed as the predisposition to respond favorably or unfavorably to an object, person, event, institution, or another discriminable aspect of the individual's world (McGuire 1985). This construct is affective in nature, and is related to the set of their beliefs about adoption of IS from a competitive advantage perspective at the time of adoption. Although the unit of analysis is at the organizational level, the operationalization of attitude construct is at the individual level. Often within SMEs many of the decisions are made by an individual (e.g., the owner). Hence, the organizational decisions are intertwined with individual perceptions and attitude (Lee and Runge 2001; Van Akkeren and Cavage 1999). Therefore, operationalizing attitude at the individual level enables a coherent and consistent explanation for interpreting and understanding the innovative IS adoption behavior by SMEs that possess both organizational and individual perceptions and attitude. Rather than measuring attitude using a multi-item semantic differential scale, this study adapts Chau and Hu's (2002) measurement scale using a 7-point Likert-type scale, with 1 "strongly disagree" to 7 "strongly agree."

This study takes a similar approach to prior studies by exploring the measures of "perceived net benefits" via the expected success and/or advantages arising from enabling electronic procurement systems (Iacovou, Benbasat, and Dexter 1995; Mehrtens, Cragg, and Mills 2001). It is the owner–manager's perceptions of the efficiency, effectiveness, and management control of adopting and utilizing the electronic procurement system that were assessed (Chau and Jim 2002; Thompson, Higgins, and Howell 1991).

The IS investigated in this study, the electronic procurement systems (that is, ePerolehan) is mandatory. Those SMEs that have registered for the electronic procurement systems are already considered as adopters of the system. Hence, the dichotomous measure used in prior studies is inappropriate because the adoption behavior measure is not the decision whether to adopt or not adopt IS. Rather, four components of tasks related to procurement activities (receiving and processing orders, sending invoices, receiving payments, and providing product catalogs to their buyers using online procurement systems) are identified and they are used as measures of the "extent of enablement" construct (Davila, Mahendra, and Palmer 2003). Please refer to Appendix A for details of the constructs.

Validation of Research Instrument

The instrument was prevalidated by panels of academics and practitioners. The instrument was then put through a two-way language translation process to ensure that the translation to Malay was valid (language in which survey was ultimately administered). The instrument was also validated for ease of understandability by ten Malaysian SMEs to ensure that all items in the questionnaire were relatively easy to complete by respondents. Also, the questionnaire was pilot-tested using thirty-five SMEs randomly selected from the population of government suppliers, who are also users of the ePerolehan systems.

Two steps were taken to encounter issue of common method variance (CMV) that may lead to wrong conclusions in this study. First, the relationships between independent variables, mediating variables and dependent variables are not revealed in the questionnaire that would allow respondents to make assumptions of the relationships that may exist between these variables. Second, Harman's single factor test is performed to assess CMV (Podsakoff et al. 2003). Results of Harman's single factor test reveal no sign of single-factor that account for the majority of co-variances, and therefore confirm the data are free of CMV issues (Podsakoff et al. 2003).

Data Collection, Samples, and Nonresponse Bias

The questionnaire was mailed to 1,000 SMEs registered for ePerolehan. The final number of usable responses was 206, a response rate of 21.5 percent. Of the 206 respondents, 31 were nonenabled adopters, thus discarded from further analysis. The remaining 175 responses of enabled adopters were used to examine the adoption behavior at the enablement stage. The data were checked for data entry errors and all errors were corrected before analysis. Follow-up telephone calls were made to obtain missing data. Two items of the attitude construct that were negatively worded were reversed and recoded to allow all scores to be in same direction during data analysis (Tabachnick and Fidell 2001). Nonresponse bias was assessed by comparing early respondents with late respondents based on mean scores of all key constructs (Armstrong and Overton 1977). Results indicate there were no substantial differences in the makeup of the early and late respondents.

Demographic data indicates that 65 percent of the SMEs have been in business for more than six years. Forty-eight percent of the respondents were in the servicing industry, with ten percent in manufacturing, and forty-two percent in trading and construction. Sixty-one percent of these SMEs have between eleven to thirty employees, and about 65 percent have been in business for more than 5 years. In addition, 50 percent of respondents have been involved with the ePerolehan for more than one year. Please refer to Appendix C for details of the demographics. Follow up semi-structured interviews were conducted with 21 CEOs/owners of SMEs (see Appendix B). The primary purpose of the interviews was to triangulate and validate survey findings from the analysis of the questionnaire data. Furthermore, the interviews were conducted to gain additional insights into the nature and causes of the hypothesized associations and reveal unknown aspects of reality for which this study could not revert to previous theoretical knowledge for explanation. The results of the survey data and the interview data were combined to produce an adequate image of reality, and for validation (Scandura and Williams 2000).

Data Analysis

Scale Reliability and Validation

Principal components analysis was performed. All constructs appeared to be reliable

Table 1
Principal Component Analysis—Organizational Culture Construct

Component	Rotation Sums of Squared Loadings			Items	Component	
	Total	Percent of Variance	Cumulative Percent		1	2
1	4.61	46.08	46.08	Highly structured and systematic (orgcul1)		0.81
2	1.63	16.32	62.40	Creative and Innovative (orgcul2)	0.34	0.47
3				Procedural and Regulated (orgcul3)		0.81
4				Risk-taking (orgcul4)	0.60	
5				Result-oriented (orgcul5)	0.76	
6				Stimulating and Challenging (orgcul6)	0.79	
7				Enterprising and Driving (orgcul7)	0.86	
8				Supportive and Trusting (orgcul8)	0.81	
9				Relationship-oriented and Collaborative (orgcul9)	0.90	
10				Safe and Encouraging (orgcul10)	0.85	

Table 2
Individual Item Reliability—Organizational Culture

Reliability Coefficients (10 items)			
Item-Total Statistics			
Items	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Alpha if Item Deleted**
Highly structured and systematic (orgcul1)	0.17	0.30	0.87
Creative and Innovative (orgcul2)	0.38	0.25	0.85
Procedural and Regulated (orgcul3)	0.08	0.27	0.87
Risk-taking (orgcul4)	0.49	0.40	0.84
Result-oriented (orgcul5)	0.7	0.57	0.82
Stimulating and Challenging (orgcul6)	0.74	0.59	0.81
Enterprising and Driving (orgcul7)	0.67	0.66	0.82
Supportive and Trusting (orgcul8)	0.71	0.67	0.82
Relationship-oriented and Collaborative (orgcul9)	0.79	0.79	0.81
Safe and Encouraging (orgcul10)	0.71	0.68	0.82

Table 3
Composite Reliability (ρ_c), AVE, Square Root of AVE and Correlations

Construct	ρ_c	AVE	ENABLT	ATITUD	EPERCV	ENTCAP
Enabled for use (ENABLT)	0.94	0.79	0.89			
Attitude (ATITUD)	0.93	0.70	0.39	0.84		
Perceived net benefits (EPERCV)	0.93	0.53	0.14	0.12	0.73	
Enacted capabilities (ENTCAP)	0.00	0.00	0.24	0.13	0.55	1.00

and valid except for the organizational culture construct (refer to Table 1).

Thus, individual item reliability for all constructs was further assessed by examining the simple correlations of the measures with their respective constructs. As shown in Table 2, all items of the constructs except for three items in organizational culture were above the 0.50 cutoff values recommended. These three items: (1) "highly structured and regulated," (2) "creative and innovative," and (3) "procedural and regulated" are related to bureaucratic cultural orientation. All these three items have very low individual item reliabilities. The low reliabilities could exist because these three items were not measuring the SMEs' organizational culture (Barclay, Higgins, and Thompson 1995). Based on further testing, it was determined that these three items related to bureaucratic cultural orientation should be removed, as they add very little explanatory power to the model (Hulland 1999; Nunnally 1978). In this study, SMEs' culture is a unidimensional construct that is oriented toward an entrepreneurial cultural orientation.

Partial Least Squares Analysis

Measurement Model. After omitting the three items in the organizational culture construct, scale reliability was assessed via confirmatory

Table 4
Cross Loadings—Confirmation Factor Analysis

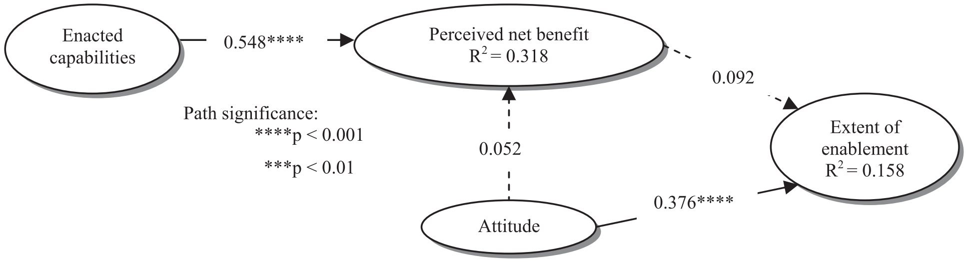
Item	Weight	ENABLT	ATITUD	EPERCV	ENTCAP
enablt1	0.29	0.91	0.36	0.11	0.08
enablt2	0.34	0.92	0.41	0.14	0.02
enablt3	0.20	0.88	0.29	0.04	0.01
enablt4	0.29	0.84	0.28	0.20	0.01
atitud1	0.28	0.43	0.90	0.14	0.20
atitud2	0.08	0.20	0.63	−0.03	0.09
atitud3	0.22	0.32	0.94	0.14	0.11
atitud4	0.21	0.30	0.93	0.13	0.17
atitud5	0.10	0.22	0.66	−0.01	0.02
atitud6	0.24	0.38	0.92	0.11	0.14
epercv1	0.06	0.06	−0.05	0.50	−0.08
epercv2	0.05	−0.05	0.04	0.44	0.07
epercv3	0.15	0.04	0.08	0.64	−0.10
epercv4	0.11	0.17	0.13	0.78	0.01
epercv5	0.10	0.12	0.06	0.77	−0.08
epercv6	0.14	0.14	0.06	0.80	−0.01
epercv7	0.12	0.15	0.10	0.70	−0.02
epercv8	0.11	0.06	0.12	0.83	−0.10
epercv9	0.14	0.08	0.03	0.81	−0.11
epercv10	0.08	0.14	0.09	0.78	−0.04
epercv11	0.15	0.10	0.15	0.76	−0.05
epercv12	0.14	0.07	0.13	0.73	0.03
Top management knowledge and skills	0.67	0.08	0.21	0.04	−0.13
Support from external experts	−0.08	0.32	0.14	0.23	0.21
Trust in technology	0.23	0.31	0.19	0.31	0.13
Trust in trading partners	0.43	0.16	−0.03	0.07	−0.17
Organizational culture	0.00	0.20	0.14	0.38	0.14

factor analysis (CFA) performed using Partial Least Squares (PLS) analysis. PLS places minimal restrictions on measurement scales, sample size, and residual distributions. All constructs were analyzed using PLS analysis for adequate internal consistency reliabilities. As shown in Table 3, all constructs have composite reliability values of greater than the recommended threshold value of 0.70 (Agarwal and Karahanna 2000; Barclay, Higgins, and Thompson 1995). Thus, suggesting adequate internal consistency reliabilities of the measurement model.

Convergent validity is assessed by examining the Average Variance Extracted (AVE) values of all constructs in the model. The AVE values in Table 3 shows all constructs exceeded the recommended threshold value of 0.50 (Fornell and Larcker 1985). Convergent validity is also assessed using the standardized CFA. As shown in Table 4, loadings for all reflective items in the model exceeded the minimum requirement loading criterion of 0.50 and were significant at $p < 0.01$ (two-tailed). The weights for enacted capabilities indicate two indicators (support from external experts and organizational culture have a weight below 0.1 (Table 4). Indicator deletion is problematic as it is omitting a part of the construct (Bollen and Lennox 1991), that is, would reduce the enacted capabilities construct. All the indicators were based on conceptual consideration (Diamantopoulos and Winklhofer 2001), and hence, the whole set of enacted capabilities indicators are contained in the enacted capabilities measure.

The CFA results in Table 4 also indicate all items are loaded more highly on their own

Figure 2
PLS Analysis of Proposed Structural Model at the Enablement Stage



construct than on other constructs. As illustrated in Table 3, all shaded numbers on the leading diagonals are the square roots of AVEs, though the off-diagonal elements are the correlations among constructs with the highest correlation between any pair of the constructs in the lower left of the off-diagonal element of the matrix was 0.55 (i.e., between perceived net benefits and enacted capabilities, whereas the lowest square root of AVE was 0.73 (i.e., enabled for use). Thus, indicate satisfactory discriminant validity (Fornell and Larcker 1985).

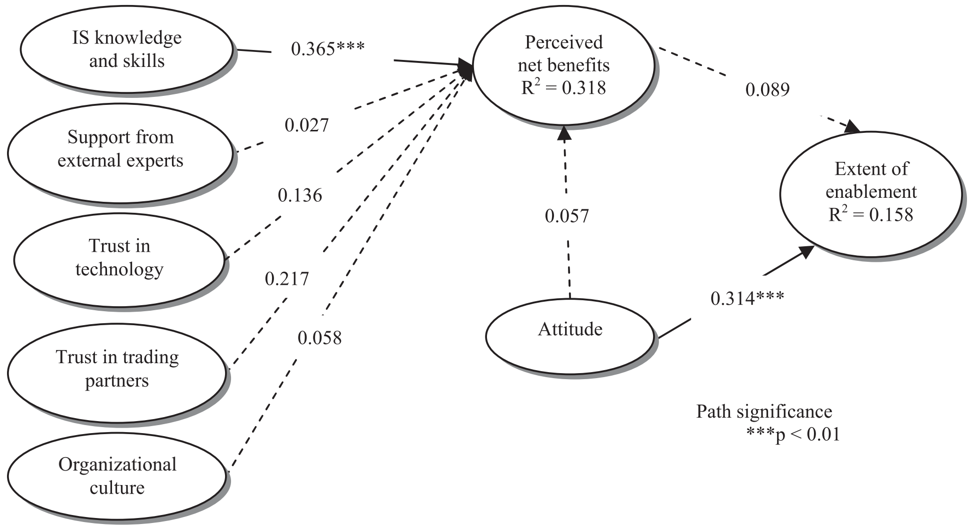
Nomological validity test was performed to qualify formative indicators of the enacted capabilities construct. The nomological validity test includes examining the existence of theoretical relationship postulated between enacted capabilities to other reflective constructs (i.e., perceived net benefits and attitude) in the model and also the formative construct indicators weight and cross loading (Diamantopoulos and Winklhofer 2001; MacKenzie et al. 2005). One of the path coefficients from enacted capabilities to perceived net benefits were significant at $p < 0.01$. This direct hypothesized path and the construct indicators weight suggest that the measurement model for the enacted capabilities constructs as formative constructs is affirmed and is adequate (Diamantopoulos and Winklhofer 2001; MacKenzie et al. 2005).

Structural Model. As PLS makes no distributional assumptions, bootstrapping (500 samples with replacement) was used to test the statistical significance of each path coefficient (Chin 1998). The PLS structural model and hypotheses were assessed by examining the path coefficients (β estimates), their significance levels (*p*-values), and the variance explained (R^2 values) for each dependent construct. Figure 2 summarizes the results of the overall model. Results from the overall model shows that the hypothesized path from enacted capabilities to perceived net benefits was significant ($\beta = 0.548$; $p < 0.001$) with 31.8 percent of the variance in perceived net benefits explained. Thus, hypothesis H1 was supported.

The hypothesized path from attitude to perceived net benefits was not significant ($\beta = 0.052$; $p > 0.10$). Therefore, hypothesis H2 was not supported. Results from the interviews indicated that the majority of the interviewees stated that at the time they made their decision to adopt the innovative IS, they knew that the system would provide their organization with competitive advantage in the current business environment. Thus, SMEs have relatively positive attitudes at the time they made the decision to adopt the system Moreover, they still have a positive attitude that they carried from the time of adoption to the enablement stage. However, at present they are not satisfied with the manner in which the implementation of the system by the government has proceeded.

The hypothesized path from perceived net benefits to extent of enablement was not significant ($\beta = 0.092$; $p > 0.10$). Thus, hypothesis H3 was not supported. From the interview results, it appears that these enabled adopters did perceive some benefits in being enabled for use. However, the perceived net benefits were not sufficient to significantly influence the extent of enablement observed. Furthermore, the innovative IS examined are mandatory for those SMEs that want to continue being government suppliers. This mandatory factor may have played a role as to why the results are insignificant, as SMEs would already expect that if the system is to be made compulsory, then being enabled for use would relatively provide certain benefits. The hypothesized path

Figure 3
PLS Analysis of the Initial Proposed Structural Model at the Enablement Stage (Enacted Capabilities Examined Separately)



from attitude to extent of enablement was significant ($\beta = 0.376$; $p < 0.001$). Thus, hypothesis H4 was supported. Attitude and perceived net benefit explained 15.8 percent of the variance observed in the extent of enablement. During the follow-up interviews, these adopters were asked what motivated them to be enabled for use, and some of the responses were *"business opportunity" (Interviewee 4); "to compete in current business environment" (Interviewee 18);* and *"secure business with the government" (Interviewee 20)*. These remarks by the interviewees on perceived net benefits and attitude toward the innovative IS give insight that the enabled adopters had a belief of what the system had to offer in terms of opening new business opportunities and they were still consistent with their attitude at the time of making the initial adoption decision.

Examining the Separate Enacted Capabilities. To test the salient effect of each enacted capability on perceived net benefits at the enablement stage, the model in Figure 3 was tested. Results show that only the hypothesized path from top management IS skills and knowledge to perceived net benefits was significant ($\beta = 0.365$; $p < 0.01$). The components, together with attitude, explained 31.8 percent of the variance in perceived net benefits. Thus, hypothesis H1a is supported.

During the follow-up interviews, enabled adopters were asked to reflect on which enacted capabilities affected their perceived net benefits at the time of enablement. Interview results supported the survey findings that top management IS skills and knowledge affects perceived net benefits. Interview results further indicated trust in trading partners; trust in technology; and organizational culture affects perceived net benefits. Thus, the interview results provide some support for hypotheses H1a, H1c, H1d, and H1e. There was no statistical or qualitative support for hypothesis H1b.

Refined Model. The philosophical distinction behind this study is for theory development and causal predictive between all the constructs. Moreover, the phenomenon to be investigated is relatively new, particularly enacted capabilities construct. As such, this study focuses on causal predictive analysis in situations of high complexity but low theoretical information. In this study prediction is more important than parameter estimation, and thus with the refinement model, causal predictive analysis of the role of the enacted capabilities are analyzed separately. Most IS researchers have introduce and add new variables to the IS adoption behavior model to provide greater understanding of IS adoption behavior by individuals and organizations, particularly when investigating IS adoption behavior in different context, population and cultural setting. Prior studies reveal that there are other variables that may predict IS adoption behavior by individuals and organizations, and thus provide a better understanding of the IS adoption behavior phenomena. Most notably, these prior studies reveal the salient importance of organizational factors such as support from external experts, top management skills and knowledge and trust both in trading partners and technology. Organizations intention to adopt and use innovation will increase if they feel they have more capability and skill to use such innovation. People normally avoid tasks that they perceived to be outside their ability (Dijk, Peters, and Ebbers 2008; Yuen et al. 2010). Thus, IS researchers collectively agree that most IS adoption behavior model should be further validated. SMEs face different challenges (that is, regulation, restriction on capital or information, and crisis) and opportunities (i.e., information, resource, and technology) to use IS related innovation that may significantly influence their decision-making process (Damanpour and Schneider 2006). As SMEs have unique characteristics and features; there is a need to explore and delve the IS enacted capabilities that may be able to capture the role of internal factors that affect SMEs extent of enablement. Therefore, these IS enacted capabilities are empirically tested on their relationships on extent of enablement to shed some light on SMEs' IS adoption behavior.

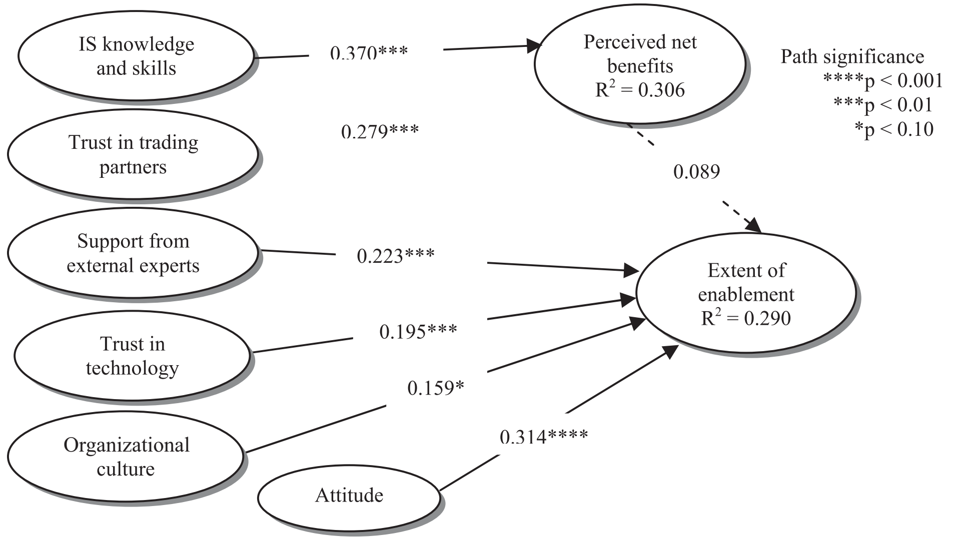
PLS analysis was again performed on the research model to obtain a refined model, that is, the most plausible statistical model for the phenomena under investigation (Chin 1998). In refining the structural model Path estimates (β) that are not significant ($p > 0.10$) are excluded from the model (Pulos and Rogness 1995). Furthermore, this study decides to test the strength of the direct associations between all the enacted capabilities and the extent of enablement because this study is interested to observe the direct effect of the individual perceived enacted capabilities on the extent of enablement as opposed to their indirect effects through perceived net benefits. The process of selecting the associations is based on a well-grounded knowledge of the phenomena and theoretical rationale from prior studies on IS adoption. Prior studies suggest potentially direct associations between these enacted capabilities (e.g., top management IS skills and knowledge, support from external experts) and the adoption decision (for example, Thong 2001). Thus, the direct associations were tested between these enacted capabilities and the extent of enablement.

Cohen (1988) suggests the following guidelines about the strength of the relationship (correlation): $r = 0.10$–0.29 as small; 0.30–0.49 as medium; and 0.50–1.00 as large. Intuitively, any correlation values between $+0.30$ and $+1.00$ will be considered for the introduction of direct associations between enacted capabilities and extent of enablement in the refined model as these values indicate the strength of the relationship between constructs (Ketterlinus et al. 1989). Thus, the correlations among independent latent constructs and dependent latent constructs greater or equal to 0.30 as recommended by Cohen (1988) are used to suggest the introduction of new paths (that is, between enacted capabilities and extent of enablement). At the same time, the relationships between these constructs must be theoretically justifiable as well (Min and Galle 2001). Initially, only the structural model is refined. However, once a plausible alternate model had been derived, the measurement model is reassessed to ensure none of the scale reliability and validation criteria were violated.

As shown in Figure 4, after excluding the non-significant paths ($p > 0.10$), top management IS skills and knowledge still significantly affects perceived net benefits ($\beta = 0.370$; $p < 0.01$). This result was also supported by comments from adopters during the follow-up interviews. For example, Interviewee 20 remarked that, "*I am personally keen on learning the new technologies and a bit of IT savvy*." The path from trust in trading partners to perceived net benefits emerged significant ($\beta = 0.279$; $p < 0.01$). Both factors jointly explained 30.6 percent of the total variance in perceived net benefits. The path from attitude to extent of enablement is also still significant.

Three new paths, support from external experts ($\beta = 0.223$; $p < 0.01$), trust in technology ($\beta = 0.195$; $p < 0.01$), and organizational culture ($\beta = 0.159$; $p < 0.10$) to extent of enablement emerged as significant. However, the path from organizational culture to extent of enablement has to be interpreted with caution because of its low proportion and level of significance. Taken together, these enacted capabilities and attitude explained 29 percent of the variance in the

Figure 4
PLS Analysis of the Refined Structural Model at the Time of Enablement (Enacted Capabilities Examined Separately)



extent of enablement. Thus, though these enacted capabilities do not affect extent of enablement via perceived net benefits, they appear to affect extent of enablement directly.

The refined model represents a more parsimonious depiction of the variables under investigation. The enhanced parsimony of the refined model is illustrated by the fact that these variables account for more of the variance in extent of enablement (29 percent) than was previously explained in the initial model (15.8 percent). Thus, the refined model presents a most plausible, more parsimonious, and theoretically justifiable explanation for the phenomena under investigation.

Discussion

The objective of this paper was to examine and predict the relationship between enacted capabilities to perceived net benefits, and the relationships between perceived net benefits and attitudes to extent of enablement. Specifically, this study is concerned with the importance of enacted capabilities (that is, top management IS knowledge and skills, support from external experts, trust in technology, trust in trading partners, and organizational cultures) on perceived net benefits and extent of enablement.

The Role of Enacted Capabilities on Perceived Net Benefits and Enabled for Use

The results of the overall model reveal that enacted capabilities possessed by SMEs affect perceived net benefits of becoming IS enabled. These findings clarify the distinct and important roles enacted capabilities play, and that is, as mechanism for enhancing the perceived net benefits of SMEs. The findings suggest that SMEs with higher levels of enacted capabilities perceived higher net benefits of the IS. In this context the high level of enacted capabilities indicate the ability of SMEs to develop high-order capabilities, such as enacted capabilities from the complementarities between IS and other firm capabilities. The findings are consistent with those from previous IS studies on adoption behavior, in that when firms are able to develop higher-order capabilities from the IS and other firms' capabilities, there is positive impact on SMEs' perception of the net benefits (Barua et al. 2004; Melville, Kraemer, and Gurbaxani 2004; Pavlou 2002).

The results indicate that top management IS skills and knowledge together with trust in trading partners dominate the effect on perceived net benefits. The findings suggest SMEs with more knowledge and more skillful with IS are more likely to perceive the potential benefits the system has to offer. Within this context, having the desired enacted capability in turn establishes the need for improving or developing specific competencies. Equally, an SME's current enacted capability will be either an enabler or an inhibitor in terms of the goals it can actually achieve, at least in the short term. For example, an SME's enacted capability of top management has the capacity to understand, appreciate and coordinate the technological needs of the business will have a better understanding of the net perceived benefits of IS innovations and in most instances will be more comfortable to adopt and enabled for use (e.g., Chang, Jackson, and Grover 2003; Thong 2001). A lack or lower level of IS skills and knowledge possessed by top management creates insufficient awareness of the potential benefits and costs (e.g., Chang, Jackson, and Grover 2003). Thus, SMEs that lack or have lower levels of IS skills and knowledge are likely to perceive less net benefits in adopting and being enabled for use of innovative IS (Kendall et al. 2001).

Based on this study, enacted capabilities are a meta-level construct. For example, competing organizations can have a trust in trading partners' capability; however, the competencies underpinning this capability are likely be resourced differently in different organizations and the resources integrated and coordinated in different ways, depending on the context of each organization, including its history, people, and structural characteristics. Indeed, the capability itself may not be recognized directly by external entities, as each SME collectively assesses its trading partner will perform potential transactions as expected, irrespective of their ability to fully monitor the trading partners. For example, typically, SMEs maintain long-term, pleasant relationships with their trading partners for a guarantee of stable business collaborations, allowing the SMEs the chance to nurture trust with their trading partners (Chan and Lee 2002; Ratnasingham and Phan 2003; Tan and Thoen 2001). In other words, the longer the relationship the SME has with a particular trading partner, the more the SME is familiar with the trading partners, and will have the ability to build trust (Venkatesh, Speier, and Morris 2002). With this trust, when trading partners start to provide the alternative of online procurement, SMEs will be more likely to switch to the new channel without hesitation (McKnight, Choudhury, and Kacmar 2002; Pavlou 2002). In addition, having trust that SMEs develop with their trading partners to facilitate one's job and advance the business environment is also relevant in the evaluation of perceived net benefits. These expectations of the net benefits then allow SMEs to be comfortable and confident. This aspect ultimately leads them to be IS enabled. Thus, the findings confirm the role of top management IS skills and knowledge and trust in trading partners as effective mechanisms to overcome adopters' initial inertia in enabling for use, as argued by prior studies (Chan and Lee 2002; Pavlou 2002; Ratnasingham 2003; Thong 2001).

On the contrary, support from external experts, trust in technology, and organizational culture was not a contributing factor to perceived net benefits. Although Attewell (1992) emphasizes the importance of support from external experts' capability as mediators that compensate for the lack of skills and knowledge, and thus play a critical role in lowering and evaluating the knowledge barriers toward IS diffusion, they become less significant at the enablement stage. As Kwon and Zmud (1987) argue the importance of support from external experts in evaluating perceived benefits becomes less significant when SMEs' top management has sufficient IS skills and knowledge. This assertion is evidenced in this study by the association between top management IS skills and knowledge and perceived net benefits being strongly supported. However, there are evidences from the interviews on the influence of trust in technology and organizational culture. As for trust in technology and organizational culture capabilities, it appears that a SME's adopting and utilizing an IS will examine the perception of the net benefits which is influenced more by technical skills and specific managerial actions (Stock and McDermott 2000) rather than by the perception on security mechanisms (i.e., encryption, UserID, and passwords) and cultural orientation.

In the refinement models, particular enacted capabilities are found to contribute to extent of enablement within SMEs. It seems, therefore, that certain enacted capabilities have a direct effect on adoption behavior responses, rather than the indirect effect through perceived net benefits. The findings reveal that the underlying enacted capabilities will determine the innovative adoption behavior, especially enabled for use. What distinguishes SMEs deriving significant value from innovative IS is not technical wizardry but the way they handle their IS activities (Dvorak et al. 1997). SMEs must do more than excel at investing in and deploying innovative IS. They must combine these enacted capabilities with excellence in collecting, organizing, and maintaining information as an enterprise-wide capability to leverage technology to differentiate from competition (Bharadwaj 2000). More significantly, the findings provide evidence on the importance of enacted capabilities in institutionalizing and sustaining the IS adoption behavior of SMEs. Support from external experts and trust in technology are salient for enabled for use. SMEs usually seek support from external experts to compensate for the lack of internal IS skills and knowledge.

The finding demonstrates that qualified external support is very important in assisting SMEs to prepare themselves for enablement and utilization activities. These experts act as mediators compensating for the lack of internal IS skills and knowledge and play a critical role in lowering and evaluating the knowledge barriers toward IS diffusion in SMEs (Attewell 1992). The support from the external experts makes it easier for SMEs become enabled for use. This finding is consistent with, and reaffirms the findings of, previous studies (Chang, Jackson, and Grover 2003; Ettlie 1991; Raymond and Bergeron 1996; Senn and Gibson 1981). Support from external experts' capability includes the tasks and responsibilities of the external experts in providing consultancy services specifically to help businesses to implement effective IS (Thong 2001). The tasks include performing information requirement analysis, recommending suitable computer hardware and software, and managing the IS implementation (Attewell 1992). As part of these tasks the external experts may take on such responsibilities as providing the computer hardware, software packages, and technical support, training of users, and maintaining a good working relationship among the parties (i.e., SMEs and external experts) in the IS implementation (Caldeira and Ward 2003; Thong and Yap 1995).

Concerning the effect of trust in technology, once SMEs trust the technology, the full potential of IT/IS capabilities increase their comfort level and ultimately increases the extent of their enablement ability and utilization of the system. Prior studies also found a strong positive relationship between implementation success and trust in technology (Chan and Lee 2002; Ratnasingham 2003). Trust in technology capability provides the mechanisms that structure and shape procedures such as digital signatures, encryption mechanisms, authorization mechanisms (via UserIDs and passwords) and best business practices (via regular audit, top management commitments, standards, and contingency procedures) (e.g., Bhimani 1996; Jamieson 1996; Marcella et al. 1998). Organizational culture was also the factor underlying adoption behavior. The findings demonstrate that the cultural orientation does play a crucial role in impacting the IS adoption behavior in future. The findings support Boynton, Zmud, and Jacobs (1994) recommendation that emphasizes the importance of organization culture in determining IS adoption behavior. However, organizational culture and IS adoption are intricately and intriguingly interrelated that may require more empirical research to achieve more in-depth understanding.

Relationships between Perceived Net Benefits, Attitude, and Adoption Behavior

The results suggest that attitude at the time of initial adoption is one of the salient antecedents to, and a major stimulant of, becoming IS-enabled. These findings are consistent with those from many previous IS studies (for example, Al-Gahtani and King 1999; Chau and Hu 2002). However, perceived net benefits do not affect extent of enablement. One explanation could be, at the enablement stage, rather than trying to examine the perceived net benefits of becoming enabled, firms focus on just becoming enabled for use as they have made the decision to adopt the system in the first place. Moreover, evidence from the interviews indicates that there are enabled adopters that have become enabled for use but they are not actively using the systems. As argued by DeLone and McLean (2003), organizations that utilize more of the IS will perceive that more benefits will be derived from the active utilization. The findings are consistent with those from previous studies on IS success, in that when IS is perceived to have benefits, firms will utilize the systems, and when they utilize the systems, they develop a higher-order expectation of the perceived benefits, and will continue to use the system (DeLone and McLean 2003).

Moreover, in this study, perceived net benefits are represented by a broader scope of indirect benefits (that is, improve accuracy of sales and collection data, allow for wider market coverage and speed up sales orders) that can be gained from extent of IS enablement as compared to direct benefits such as reduced administrative and operation costs. The nonsignificant relationship between perceived net benefits and extent of enablement suggests that the system is considered by SMEs as a tool to enhance operations efficiency and reduce operations cost, rather than as a tool to enhance relationship with their trading partners and improve services to gain strategic benefits in the long run. SMEs tends to be more focused on day-to-day operational efficiency and hence concentrate on immediate direct benefits rather than indirect benefits (Chau and Hu 2002; Teo, Lin, and Lai 2009). Therefore, when considering the enablement of IS, SMEs may be more concerned with the direct benefits that the IS can bring and how it can provide operation efficiency and reduced cost. Another possible reason could be that as the benefits tend to be widely reported, SMEs are generally aware of benefits, and hence perceived net benefits become irrelevant as determinant of IS adoption. Furthermore, as the system is initiated by government, the system would definitely have several benefits, even though SMEs may not be satisfied with the system.

In addition, this study investigates the effect of attitude on perceived net benefits, which may in turn affect extent of enablement. It assumes that adopters with a more positive attitude toward IS are likely to view the system to be more useful (Guimaraes and Igbaria 1997). However, there was no support for this relationship. The nonsignificance between attitude and perceived net benefits perhaps can be explained by SMEs needing to have a positive attitude when they decide to adopt electronic procurement. With this positive attitude at the time of adoption, SMEs are likely to be more satisfied with the new system and to perceive the net benefits as they are enabled for use as argued by Guimaraes and Igbaria (1997). It seems that SMEs do still perceived the benefits of being enabled for use. However, they are dissatisfied with the way the implementation is being conducted. As this e-procurement system is a mandatory system to be used by SMEs, if they want to become government suppliers, they still need to use the system as they do perceive the benefits that can be gained from being enabled for use.

Rather than the proposed indirect effect of attitude via perceived net benefits, the findings support the direct effect of this form of attitude on extent of enablement. The findings suggest that this instance of attitude at the time of adoption is one of the salient antecedents to, and a major stimulant of, the extent of enablement. These findings demonstrate the salient role of attitude in influencing extent of enablement and the findings are consistent with those from previous IS studies (Al-Gahtani and King 1999; Chau and Hu 2002). They still consider that their attitude at the time of adoption was positive. However, at present they were not satisfied with the manner in which the implementation of the system has proceeded. Thus, as SMEs are not really satisfied with the implementation process of the systems by the government, they did not think that perceived net benefits that can be derived from IS adoption actually influence their decision to be enabled to use the system.

Conclusions and Implications

This study finds that SMEs' IS enacted capabilities play an important role in the initial decision to be contractually committed to an IS. Apart from requiring good ideas (that is, new operational and/or administrative processes and practices) and financial resources, SMEs also require an extended learning process to help them to efficiently and effectively become IS enabled and ultimately actively utilize IS. For example, acquiring and sharing new IS knowledge with external experts will result in SMEs understanding the right and suitable IS for their firms as well as the administrative and technical requirements that they need to consider for successful adoption and utilization of IS. This extended learning process can also be conducted through seminars and workshops for the CEOs/owners of SMEs, so that they can acquire knowledge and skills. The acquisition and transformation of new knowledge will allow CEOs/owners to take better leadership, and be able to manage their IS adoption process. In conclusion, SMEs adopt and utilize an IS because they possess certain IS enacted capabilities (such as trust in trading partners; top management IS skill and knowledge' trust in technology, and organizational culture orientation) that enable them to deploy and mobilize IS. This study provides evidence that perceived net benefits and the extent of IS enablement are determined by the SMEs' IS enacted capabilities. The findings have important practical implications. Enablement of IS in SMEs require identifying and understanding the enacted capabilities that are unique to SMEs. Such an understanding can assist system developers in the planning of intervention mechanisms through training. First, during training sessions, the systems' developers can educate SMEs about the technology by explaining the structural and technological safeguards that may be used to promote trust in technology. A better understanding of the technological safeguards will increase the level of trust in the technology. Furthermore, system developers need to focus on building SMEs' trust in trading partners. The building of trust in trading partners is of particular importance as the findings of this study indicate that enabled adopters have stronger beliefs about the reliability, competence, and integrity of their trading partners. Thus, systems developers may need to join forces with trade associations to enhance SMEs' perceptions of the competency, integrity, and reliability of the trading partners.

Second, this study highlights a strong need for external experts' IS support (i.e., consultants and vendors) to assist SMEs in their enablement of IS efforts. There may be some SMEs that are reluctant to hire consultants because of the cost and associated risks (Zinatelli, Cragg, and Cavaye 1996). Consultants and/or vendors may often be reluctant to provide services to SMEs because of low potential for profit. As this particular IS implementation was a government effort, support has been provided to SMEs and delimits these dilemmas. However, strategies are required to make existing external IS support that that has been set up by regulators to be both profitable for the vendors and affordable for SMEs.

In summary, this study contributes to the collective knowledge about IS adoption behavior by SMEs. Using well-accepted theoretical foundations and results of prior studies, this study extends the theory of IS adoption behaviors by specifying new construct, that is, enacted capabilities, and by evaluating the effect of the IS enacted capabilities construct on existing constructs from prior studies, that is, perceived net benefits and their subsequent effects on adoption behavior by SMEs. Enacted capabilities emerge as salient construct that drive perceived net benefits related to IS enablement. IS enacted capabilities also ultimately affect the extent of enablement. From a predictive perspective, the theoretical model facilitates researchers and practitioners in providing a better understanding that IS enacted capabilities are crucial in determining perceived net benefits and extent of enablement and thus, SMEs need to develop and learn to acquire these IS capabilities. In addition, the findings help increase our understanding of the variance explained in IS adoption behavior by SMEs.

Additionally, this study represents a contribution in the area of IS adoption behavior research within SMEs in two ways. First, this study found that enacted capabilities display important roles as antecedents to perceived net benefits, and stimulators for extent of enablement. Thus, apart from requiring good ideas and financial resources, SMEs also require enacted capabilities that lead to extent of enablement and utilization of IS. A firm is successful in adopting and utilizing IS because the firm has developed capabilities (that is, top management IS skills and knowledge, support from external experts, trust in technology, trust in trading partners, and organizational culture orientation) that enable them to deploy and mobilize IS.

The results show the salient effect of trust in trading partners on perceived net benefits, suggesting SMEs that consistently have a positive relationship with their trading partners tend to create a foundation of "familiarity." This familiarity in turn develops a positive perception that the trading partners are reliable, predictable and trustworthy. The building of trust toward their trading partners will lead to SMEs' perceived benefits derived from the IS adoption. Bahmanziari, Pearson, and Crosby (2003) speculate that the familiarity and perceptual stances of SMEs toward trading partners create the tendency for adopters to implement and actively utilize IS. Our results confirm this speculation and indicate that trust in trading partners by SMEs can reduce uncertainties and thus create a perception of the benefits that significantly affect their adoption behavior. This finding indicates that future development of theories on IS adoption behavior should incorporate inter-organizational trust.

Limitations and Future Research

This study has the following limitations. First, the use of government suppliers and one IS artefact may limit the generalizability. Future research could examine SMEs in different roles other than as government suppliers and in volitional settings rather than a mandatory setting, to explain the links between IS enacted capabilities, perceived net benefit, and the extent of enablement. Future research could also focus on the different types of electronic procurement activities (for example, e-auction, e-tendering, etc.) in the research model as all these different types of electronic procurement activity have different characteristics and information requirements. Future research could also include the SMEs' business characteristics, such as the number of employees, size, and locations, as moderator variables to explore the effect of enacted capabilities on the extent of enablement and usage. Further, future research should focus on the owners of SMEs to truly capture the individual and organizational perception and attitude of SMEs.

Second, measurement of attitude is operationalized at the individual, which may be less appropriate as about 50 percent of the informants are middle managers. Future research could focus on the definition and operationalization of the attitude measure at the organizational level. Moreover, the measure for perceived net benefits and IS is dynamic, thus the use of cross-sectional research may not fully capture the complexity or periodicity of the adoption and utilization process. Future research can be conducted using longitudinal studies where causality can be established, and thus, would provide more conclusive evidence as to the process through which enacted capabilities affect everyday business practices.

Third, this study uses a simple scale of SMEs' perceptions of their ability to use the systems. Future research could examine other forms of usage such as integrative use and emergent use (Saga and Zmud 1994) and diversity and intensity use (Thompson, Higgins, and Howell 1991). The use of these extended dimensions of usage may provide a deeper understanding of the IS adoption behavior by SMEs.

Fourth, this study uses the variables from the technology acceptance model framework and the technology, organizational, and environment framework. Future research could examine other factors associated with electronic procurement using different theoretical lenses by extending the resource-based view of the firm. Furthermore, future research could examine other factors that are salient to government suppliers such as government policy/regulation and technology sophistication. Moreover, the relationship between organizational culture and the extent of enablement should be more closely investigated. SMEs with an entrepreneurial culture are encouraged to try new things to meet environmental demands and they are much more likely to be successful in adopting and using IS. Future research is needed to better conceptualize the influence of organizational culture and the dimension of cultural orientation within SMEs. Further refinement of the organizational culture construct is needed to ensure the proper domain and measurement that represents organizational culture of SMEs. Future research could focus on redefining and refining the attitude for competitive advantage construct. The attitude for competitive advantages constructs employed in this study is rather a new concept. Thus, it would be appropriate in the future to focus on the measurement and operationalization of the construct. In addition, the association between attitude and perceived net benefits needs to be empirically retested by conducting a longitudinal study to identify whether the attitude they have now is the same as when they decided to adopt IS innovation.

Finally, this study restricts the focus to five specific enacted capabilities, without any consideration to effects of demographic factors such as type of industry, type of business, and number of employees. Future research could extend this theoretical model by incorporating these variables as moderating or control variables.

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Appendix A—Sample Questionnaire

Electronic Procurement—Extent of Enablement

Our company has the ability to use the ePerolehan system to

a. receive and process orders from purchasers.
b. process and send invoices to purchasers.
c. receive and process payment digitally from purchasers.
d. provide product catalogs containing pricing and discount information.

Attitude Toward Adoption from a Competitive Perspective

All things considered, being able to use the ePerolehan system to conduct procurement online was a

a. wise move for our company when dealing with trading partners to whom we supply goods and services.
b. foolish move if our company is to maintain our trading partners in current business environment.
c. wise move if our company is to be efficient when engaging in online procurement transactions with trading partners to whom we supply goods and services.
d. wise move if our company is to be effective when engaging in online procurement transactions with trading partners to whom we supply goods and services.
e. foolish move if our company is to be successful in the current business environment.
f. wise move if our company is to remain competitive in the current business environment.

Perceived Net Benefits

Adopting the ePerolehan system to conduct procurement online

a. would reduce total business cost.
b. would reduce administrative overheads.
c. would reduce the cycle time for filling orders.
d. would allow for wider market coverage.
e. would improve accuracy of sales and collection data.
f. would speed up sales orders and sales invoices processing.
g. would result in secure payment via the Internet.
h. would be a productive way of doing business on the Internet.
i. would be an important way for doing business on the Internet in the future.
j. would allow our company to increase future technological collaboration with trading partners.
k. would improve our company's image.
l. would also benefit our other business practices.

Top Management Information Systems Skills and Knowledge

Our top management had the capacity to understand and appreciate the

a. information systems technological trends.
b. implementation, operation, and maintenance issues relating to information systems.
c. general-purpose software requirements of our company (e.g., spreadsheet, word processing, and so forth).
d. specialized software requirements of our company (e.g., accounting software, ePerolehan system).
e. organizational information systems and information technology requirements needed to remain competitive.
f. organizational information systems and information technology requirements needed to obtain competitive advantage.

Support from External Experts

Our company had received

a. enough technical support.
b. good-quality technical support.
c. enough training concerning the operation and use of the software.
d. good-quality training concerning the operation and use of the software.
e. adequate guidance in the selection of appropriate hardware, software, printer, etc. to interface with the ePerolehan system.
f. a specific contact person (group) for assistance with software, hardware, and operational difficulties encountered with the ePerolehan system.

Trust in Technology

Our company had complete confidence in the

a. use of encryption to protect the electronic procurement transactions.
b. use of encryption to protect the content of messages against unauthorized reading and copying.
c. use of encryption to assure electronic procurement transactions have not been altered or deleted.
d. use of other technological aids (e.g., User IDs and passwords) to protect the content of messages against unauthorized reading and copying.
e. use of other technological aids (e.g., User IDs and passwords) to validate the trading partner's online procurement transaction. Use of other technological aids (e.g., User IDs and passwords) to protect electronic procurement transactions against weaknesses in transmission (e.g., viruses, other securities breaches, worms).

Trust in Trading Partners

Our company had complete confidence with regard to

a. technological skills and technological knowledge of our trading partners with regards to electronic procurement activities.
b. competency of our trading partners to appropriately undertake electronic procurement activities.
c. reliability of our trading partners to appropriately undertake electronic procurement activities.
d. reputation of our trading partners to appropriately undertake electronic procurement activities.
e. our trading partners not having an attitude of partiality and giving special treatment in managing electronic procurement activities.
f. security of payments from our trading partners when undertaking electronic procurement activities.

Organizational Culture

My company can be described as

a. highly structured and systematic.
b. creative and innovative.
c. procedural and regulated.
d. risk-taking.
e. result-oriented.
f. stimulating and challenging.
g. enterprising and driving.
h. supportive and trusting.
i. relationships-oriented and collaborative.
j. safe and encouraging.

Appendix B—Sample Semi-Structure Interview

Enablement Questions

(1) Listed below are the set of issues that can influence your decision to be enabled for the ePerolehan system. Please rank each of these issues to indicate how important they are to you when you decide to become enabled. (1 = most important to 5 = least important)

Your top management's IS skills and knowledge
Support available from external experts
Trust in the technology to be used
Trust in trading partners
Culture of your organization

(2) What other factors affected your decision to become enabled for the ePerolehan system? (List up to 3)
(3) What was your main motivation for becoming enabled to use ePerolehan?
(4) Listed below are the set of issues that could have influenced your perceived net benefits enablement for ePerolehan. Please rank each of these issues to indicate how important they were to you when you become enabled (1 = most important to 5 = least important)

Your top management's IS skills and knowledge
Support available from external experts
Trust in the technology to be used
Trust in trading partners
Culture of your organization

(5) What were the three (3) most important benefits that you perceived you would receive when deciding to become enabled?
(6) What were the three (3) largest risks you perceived about becoming enabled for ePerolehan?
(7) What were the three (3) most important benefits that you perceived you would receive when deciding to become enabled?
(8) What have been the three (3) largest problems/difficulties encountered during or after becoming enabled?
(9) How long do you consider that you have been enabled?
(10) During the time you have been enabled has the frequency of use of ePerolehan increased? Our company now uses the ePerolehan system
(11) Are you considering unregistering for ePerolehan? If so when? and what is your main reason why?
(12) Have the cost associated with enabled for use been greater than you thought? If so in what way? And by approximately how much?
(13) As registering and becoming enabled for ePerolehan has your attitude toward adoption become more or less positive?
(14) What are the three main reasons for the change in attitude?
(15) What other factors affected your attitude toward adoption from a competitive advantage to improve the effectiveness and efficiency of your business? (List up to 3)
(16) At the time of becoming enabled for ePerolehan did you expect that you would increase the number of times you were used as a supplier of goods/services to the government? If so, by approximately how much?
(17) At the time of becoming enabled for ePerolehan what percentage of your revenue (approximately) were you hoping will come from supplying goods/services to the government in the future?
(18) After becoming enabled for ePerolehan approximately how often have you been a supplier of goods/services to the government?
(19) After becoming enabled for ePerolehan what percentage of your revenue (approximately) comes from supplying goods/services to the government?

None at all	Seldom	Sometime	Half of the time	Often	Very often	All the time

Appendix C—Demographic Summary of Survey Respondents (N = 206)

Demographic Variables	Frequency	Percent
Respondent		
Owner	84	40.8
CEO	122	59.2
Level in the organisation hierarchy		
Middle management	102	49.5
Strategic management	104	50.5
No. of employee		
Less than 10	82	39.8
11 to 30	63	30.6
31 to 45	8	3.9
46 to 75	15	7.3
76 to 120	3	1.5
More than 120	35	17.0
No. of year established		
1 to 2 years	12	5.8
3 to 5 years	58	28.2
6 to 10 years	48	23.3
11 to 15 years	33	16.0
More than 16 years	55	26.7
No. of year established		
1 to 2 years	12	5.8
3 to 5 years	58	28.2
6 to 10 years	48	23.3
11 to 15 years	33	16.0
More than 16 years	55	26.7
Type of industry		
Servicing	99	48.1
Manufacturing	21	10.2
Trading	62	30.0
Other	24	11.7
Type of business		
Sole proprietor	40	19.4
Partnership-based	19	9.2
Small corporation	147	71.4
Estimated total annual revenue		
Less than RM50,000	12	5.8
More than RM50,000 to RM100,000	14	6.8
More than RM100,000 to RM150,000	18	8.7
More than RM150,000 to RM250,000	23	11.2
More than RM250,000 to RM500,000	38	18.4
More than RM500,000 to RM1.5 million	33	16.0
More than RM1.5 million to RM5 million	29	14.1
More than RM5 million	39	18.9
No. of years the company has registered for the ePerolehan system		
1 to 4 months	40	19.4
5 to 8 months	16	7.8
9 to 11 months	28	13.6
12 to 24 months	74	35.9
More than 24 months	48	23.3

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Nature of Buyer–Supplier Relationship: Small Businesses in a Small City

by Venkatesh Murthy and Bino Paul

If the proposition of Williamson that "highly standardized transactions are not apt to require a specialized governance structure" (1979, p. 248) is to be accepted, then a discrete transaction market between small business owners and their suppliers can be easily organized in the market. This view essentially nullifies the possibility of there being a relational transaction. In this backdrop, this research attempts to explore the small buyer–supplier relationship in the context of a small city. Keeping embeddedness (Granovetter, Am. J. Sociol.*, 1985; 91: 481–510) as a theoretical foundation, we explore the social content in an apparently pure economic exchange. Although, earlier attempts (Khoja and Kauffman,* J. Small Bus. Manag.*, 2012; 50: 20–40; Uzzi,* Am. Socio. Rev.*, 1996; 61: 674–698) conformed to embeddedness in transactions between a buyer and a supplier among businesses of various sizes, they largely ignored very small-size buyers and suppliers owing to the miniscule size of business transactions and less frequent interactions between buyers and suppliers. Based on the grounded theory approach (Strauss and Corbin, Basics of Qualitative Research-Grounded Theory Procedures and Techniques, 1990), in this study, we conducted in-depth interviews with 57 very small business owners to develop detailed narratives. These narratives were organized under four themes: Contractual relationship, Strategic information sharing, Caste as a proxy, and Trust Factor. The findings clearly indicate that small business owners foster continued relationships with their suppliers, owing to social conditioning factors.*

Introduction

A recent study (Khoja and Kauffman 2012), drawing on extant literature, has observed that the buyer–supplier relationship within a small business context has largely been neglected in the literature. It assumed that perspectives of large-scale businesses can be applied to understand how small businesses function as well. The research also showed that "small buyers can also foster long-term relationships with their respective suppliers" (Khoja and Kauffman 2012, p. 21). However, Khoja and Kauffman's study does not necessarily represent the businesses as in the present study. According to their definition, a small business comprises less than five hundred employees. In this study, however, this definition fails to hold good, because the maximum number of employees in our study is thirty and the minimum is one (Appendix 2). The businesses in our study are of a smaller in size than that perceived in Khoja and Kauffman's work.[1] By following the transactional cost economy line

Venkatesh Murthy is assistant professor at the Business Environment department in IIM Rohtak, MDU Campus, Rohtak, Haryana 124001, India.

Bino Paul is professor in Tata Institute of Social Sciences, School of Management and Labour Studies, Mumbai, Maharashtra, India.

Address correspondence to: Venkatesh Murthy, IIM Rohtak, Business Environment, MDU Campus, Rohtak, Haryana 124001, India. E-mail: venkateshmurthyr@gmail.com.

[1]Khoja and Kauffman's sample consisted of manufacturing firms, whereas this study included manufacturing firms, retail and wholesale businesses as defined by National Industrial classification (NIC).Khoja and Kauffman had used perceptual data to measure their hypothesis. As we know, it is hard to obtain quantitative data on issues of this kind, and collection of perception-based data becomes inevitable.

of argument, Khoja and Kauffman concluded their study by viewing the long-term relationship between buyers and suppliers as a commitment emanated through increased or maintained asset specificity. Once again, Khoja and Kauffman have objectively constructed the relationship between the buyer and the supplier by not giving due importance to buyers' perceived notion of relationship with their suppliers. In another recent study conducted on small independent apparel stores in the United States, it was found that supplier transaction-specific investment has a positive impact on the dependence of small retailers on their suppliers (Chung 2014). This view once again invokes the logic of institutional economics whereby economic performance becomes a precursor to gauge the trust between two business parties. These arguments once again invokes the reasoning that the relationship between two individuals remains transactional as is evident in Williamson's (1981, 1985) argument that an idiosyncratic relationship is possible only when three dimensions of a transaction, such as specialized exchange, concurrent nature of exchange and involvement of a high degree of uncertainty, are met. Williamson further viewed that any discontinuity in a contractual relationship may hamper the profitability of the supplier and buyer, which in turn jeopardizes the relationship. Over a period of time, this contract-based relationship, under the economic conditions of cost and profit, turns out to be idiosyncratic, because both the supplier and the buyer are locked into a contract where the loss for both parties becomes inevitable if there is a discontinuity or breach of the contract by either party. This implies that an interpersonal relationship is possible only when sufficient measures are taken to discourage opportunism.

It becomes clear that the conditions set in institutional economics to understand the interpersonal relationships in a large-scale business exchange are quite apparent, whereas in a small business context, the very idea of personal relationships loses its meaning and essence if we impose the three conditions of institutional economics (i.e., asset specificity, frequency and uncertainty). This is because small businesses do not engage in specialized exchanges, and the nature of their business activities is more general. As these small businesses do not deal in specialized products, the frequency of the exchange and uncertainty involved would be too low. More importantly, for small buyers, numerous suppliers are available in the market and vice versa. This basic characteristic of the exchange scenario in the small business sector makes it a peculiar context to explore and unravel the possibilities of exchange-led relationships between the buyer and the seller.

In this study, we define a small business as an activity that is independently owned and operated by individuals or a family. These businesses are not dominant in their field of operation (Amboise and Muldowney 1988) and involve wholesale, retail and manufacturing. The very nature of these businesses qualifies them as trading enterprises (Appendix 2). Business activities are carried out mostly by family members or with the help of hired workers (National Sample Survey 2002). Another important quality of these small businesses is that they are the primary sources of income for the family. The owner perceives the business as an extension of his or her personality, intricately bound to family needs and desires (Carland et al. 1984). As these businesses entail selling of goods and services and manufacturing, on a day-to-day basis, owners have an opportunity to come into contact with input suppliers. Small business owners interact with multiple suppliers from different regions, to procure commodities and services. This study is an attempt to capture the nature of the relationship between these two economic agents—small business owner and input supplier.

From Table 1, it is clear that the relative dominance of one agent over the other plays an important role in deciding the comparative advantage for both the buyer and the supplier. In this study, from the perspective of power, neither the supplier nor the buyer possesses a relative advantage over the other. This is because switchover costs are too low. As shown in Table 1, low power possession of both the parties makes the transaction independent. For such a given precarious nature of power structure in transactions, it is quite interesting to assess the views of buyers on their relationships with their suppliers.

As against the general view that "organizations build ties with other organizations that have complementary resources and capabilities..." (Gulati and Gargiulo 1999, p. 1476), small businesses may not have a large array of choices. This is true because small business resources, both human and capital, are limited. As small businesses lack these critical resources, they may resort to making quick decisions on supplier selection based on certain cues such as some gathered information

Table 1
Attributes of Buyer and Supplier Power

Attribute of buyer power relative to supplier	High	**Buyer Dominance** • Few buyers/many suppliers • Buyer has a high percent share of the total market for the supplier • Suppliers are highly dependent on buyers for revenue with limited alternatives • Supplier switching costs are high • Buyer switching costs are low • Buyer's account is attractive for the supplier • Supplier offerings are standardized • Buyer's search costs are low • Supplier has no information asymmetry advantages over the buyer	**Interdependence** • Few buyers/few suppliers • Buyer has a relatively high percent share of the total market for the supplier • Suppliers are highly dependent on the buyer for revenue with limited alternatives • Supplier's switching costs are high • Buyer's switching costs are high • Buyer's account is attractive to the supplier • Supplier's offerings are not standardized • Buyer's search costs are high • Supplier has significant information asymmetry advantages over the buyer
	Low	**Independence** • Many buyers/many suppliers • Buyer has a relatively low percent share of the total market for the supplier • Suppliers are not dependent on buyers for revenue and have many alternatives • Supplier's switching costs are low • Buyer's switching costs are low • Buyer's account is not particularly attractive to the supplier • Supplier's offerings are standardized • Buyer's search costs are relatively low • Supplier has only limited information asymmetry advantages over the buyer	**Supplier Dominance** • Many buyers/few sellers • Buyer has a low percent share of the total market for the supplier • Suppliers are not at all dependent on the buyer for revenue and have many alternatives • Supplier's switching costs are low • Buyer's switching costs are high • Buyer's account is not attractive to the supplier • Supplier's offerings are not standardized • Buyer's search costs are very high • Supplier has high information asymmetry advantages over the buyer
		Low	High
		Attribute of supplier power relative to the buyer power	

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through peers and friends, or knowledge gathered through experiences in earlier professions. At the same time, suppliers are keen to establish relationships with small sellers to sell their products to the end customers. In a way, it is apparent that both parties have a "want" factor.

In this study, we made an attempt to integrate the social aspects of individuals with their economic aspects. We drew from the perspective of embeddedness (Granovetter 1985) and tried to build on the same lines of thinking by arguing that the social and economic behaviors of individuals are interconnected and indivisible. Based on this line of argument, Uzzi (1996, 1997) demonstrated that the social and economic aspects of individuals are interlinked. Uzzi's study is based on samples drawn from manufacturing firms that deal with relatively highly specialized products. In these circumstances, a breach of a contract by either party would affect the business. It is also viewed that economic performance is a precursor to judge whether a buyer and supplier can be relied on. This articulation of the buyer and the supplier once again invokes the dominance of economic behavior over social relationships. Thus, the argument presented by Uzzi falls in line with institutional economics. Therefore, in this study, we made an attempt to build a social cover around an economic activity in the context of a small business owner and supplier. The small business buyer–supplier segment is largely ignored even in domains such as economic sociology. Therefore, in this study, we made an attempt to fill the gap by demonstrating that even in such small economic exchanges, relational factors dictate economic transactions.

We drew upon subjective notions of buyers' relationship with their suppliers. Using those notions, we tried to understand as to what kind of perceived relationship exists between the buyer and the supplier. During our data collection, constructs such as contract, caste, trust, and communication (Tantoush, Lettice, and Chan 2009) emerged as core themes. Based on Uzzi's (1996, 1997) ethnographic evidence in terms of narratives to develop a broad understanding of the buyer–supplier relationship, in this study, we applied the grounded theory method (Glaser and Strauss 1967; Strauss and Corbin 1990), and attempted to present respondents' answers in a narrative form.

This paper is organized as follows: Introduction, Small Businesses, Theoretical Framework: Embeddedness Approach, Embeddedness of Business Relationships, Research Methodology, Findings, and Concluding Remarks.

Small Businesses

Small businesses have been regarded as means of better resource allocation and income distribution in poor countries as they employ more labour than do capital-intensive larger firms (You 1995). Small entrepreneurs in the United States (Petersen and Rajan 1994), Central and Eastern Europe, Russia (Gibb 1996), China and Japan (Vepa 1988), and India (Liedholm and Mead 1999) have contributed largely to the growth of their economy. Small businesses are future giants of an economy (Petersen and Rajan 1994) as they contribute nearly 38.5 percent of the Gross Domestic Product (GDP) and employ half of the workforce in a country. During late 2000, similar trends were observed in small business segment (Carree and Thurik 2010, p. 557).

If we look at the global small business sector, Japan and Italy have, comparatively, a larger small firm sector among the developed countries. Japan's example suggests that strategies of larger firms can significantly influence the viability of small firms, whereas the Italian example shows the importance of local institutions. More similarly to the Italian Experience, China had adopted the "The Four Local" strategy, which entailed local raw materials, local skills, local finance and local markets. This strategy helped China to boost its business activities (Marton 1999). Small businesses in Japan and Italy, as against the economic theory[2,3] of inter-firm interaction, emerged with new networks or inter-personal cooperation. By taking the example of the Japanese (sub-contract system) and Italian industrial (industrial district) integration model, You (1995) argues that if inter-firm cooperation is more widespread, small firms can flourish. In a modern economy, emergence of small business networks in the form of decentralized structures or sub-contracting is a

[2]In India, the net small business growth in terms of annual mean growth rate of employment has been 16.1 percent (Liedholm and Mead 1999).

[3]Theory of inter firm-cooperation suggests that interactions between firms take place only through anonymous market transactions as per the principle of competition (You 1995).

rising phenomenon (Gerlach 1992; Perrow 1993, p. 111) and is inevitable in today's business scenario (O'Donnell 2014).

In India, within non-agricultural business ecology, the majority of small businesses operate throughout the year in particular business premises. Seven areas were identified to be major non-agriculture business establishments (Government of India 2005). Among these, in both rural and urban settings, retail trade (41.83 percent) accounts for a large number of business establishments, followed by the manufacturing sector (23.28 percent), which accounts for the second largest number of economic activities (Government of India 2005). The first feature of India's business ecology is its rural and urban divide of business activities. In the rising global economic scenario, India's small businesses (employee sizes of 1–10 and 10–49) are faced with constraints of various kinds including those related to financial and human resources, and as a result their performance was worse during 2006–2010 than during 2000–2005 (Das and Das 2014).

India's business segments are deeply rooted in its religious and historical social stratification. Peculiarly, India's small- and medium-size businesses cannot be understood devoid of social characteristics involved in them. One of the interesting macro-features in India's business sector is its caste group-based ownership of small businesses. Upper caste groups own a large number of business activities in the country. It was revealed in the Economic Census (Government of India 2005) that just the backward caste groups, such as Scheduled Castes (SC) and Scheduled Tribes (ST), own around 12 percent of the small businesses, though they represent 25 percent of India's total population (Census 2011). Moreover, in recent times, their ownership size is shrinking further (Deshpande and Sharma 2013). It is interesting to note that such changes have occurred because of a close networks formed among businesses held by upper caste Hindus. This close social grouping of business activities among members of one caste may prevent entry to those of another caste (Gupta and Levenburg 2010). This is probably one of the reasons as to why historically India had low entry rates for the formation of new enterprises (Ghani, Kerr, and O'Connell 2014a, 2014b). However, as is evident today, raised education levels and urban agglomeration are factors that are boosting the entry of new entrepreneurs into India's business domain (Ghani, Kerr, and O'Connell 2014a, 2014b).

Theoretical Framework: Embeddedness Approach

Objective versus subjective interpretations has been a long contested subject matter. For Weber individuals' interpretations of economic terminologies is not void of subjective judgment (1947, p. 158). Primarily, individuals' subjective interpretation of the world stems from stories and conversations that individuals come across in day-to-day life. This denotes an interactive social system implying that the meaning construction of conversations limits an individual's capacity to visualize the objective meaning attributed to certain commonly used constructs. This further indicates that economic action of individuals cannot be explained with reference to individuals' economic motives alone (Granovetter and Swedberg 1992, p. 9). Therefore, in analysing individuals' notions on economic behavior, non-economic actions need to be kept in view (Weber 1947, p. 159). Isolating individuals from social fabrication and treating their economic actions away from social web of behavior give rise to cunning and self-centric individuals.

The exchange relationship between the buyer and the supplier seems to be a clear economic action; in reality, however, it is a socially embedded action. In this connection, Parsons and Smelser (1956) view individuals as being surrounded by sociological institutions. "Family" is the very first institution that every individual is exposed to, and it helps shape social consciousness. It is this very social consciousness that continues to influence all actions of individuals. Even in the case of plain economic exchange, social consciousness plays a vital role in subjective interpretations of apparent objective notions, such as in economic exchange. This is where the work of Granovetter and Swedberg (1992, p. 9), reflects upon how an individual's every behavior is embedded in the social world.

Embeddedness of Business Relationships

Most importantly, the true characteristics of embeddedness could only be understood by taking a particular context into account (Halinen and Törnroos 1998). Embeddedness in the business world represents an interactive structure among individuals or businesses (Halinen and Törnroos 1998). As is evident from contexts such as those related to Italy and Taiwan, more context-sensitive factors for each individual economy are necessary for precisely explaining economic structures because these factors emerge historically in different societies (Orru 1991). Historically, it is viewed that bazaar economies of the Eastern world make information a costly commodity, however, Geertz (1978) concedes that to gain access to any piece of information it is essential to develop personalized relationships in a bazaar economy. In line with the logic of bazaar economy, small business owners strive to develop a close relationship with their sales persons (suppliers) to gain access to strategically important pieces of information.

Primarily, it is quite well established that an activity such as business or entrepreneurship begins with interactions (Greve and Salaff 2003). Indeed, such people-centric approaches bring in more sociological explanations for the creation and sustenance of a business. As is further evident in Italian industrial districts, regular interactions and meetings among competitors and other business parties in different forms of social gatherings emanate trust among interacting parties (Harrison 1994). Often, such interactions facilitate the exchange of new ideas. By juxtaposing small business performance, and social capital, it was viewed that even weak forms of social networking are truly beneficial for new small firms, whereas strong forms of networking are obviously beneficial in the case of older small firms (Stam, Arzlanian, and Elfring 2013).

As uncovered among cross-industry groups in Japan, close commitment and communication between buyer and supplier are the leading factors in a firm's innovative strategy development (Fukugawa 2006). Importantly, as observed in economies such as the United States, Japan, and Korea, an open conversation between the parties is essential in attaining trustworthiness in an exchange relationship (Dyer and Chu 2003). This is simply because a social logic can predict the outcome of a business exchange through its own calculability in contexts, as happens in China (Chung and Hamilton 2001). The very first thing that Chinese who engage in a small business with other people would attempt to do is to classify these people as outsiders and insiders using social logic as a way to minimize possible threats of dealing with absolute strangers (Landa 1981).

To understand India's business and entrepreneurial aspect, one must almost inevitably take a note of India's cultural belief (Dana 2000a). This is quite evident in the usage of religion-specific expressions. As is evident in the work of Dana (2000a, 2000b, p. 20), this is part of the Bazaar nature of Eastern economies. The Hindus worship Rama, Shiva or Krishna, and other gods and goddesses whereas Islamists worship Allah as their source of faith and belief. This occurs commonly in day-to-day transactions in emanating faith between two parties. Among small businesses run by Turkish ethnic minorities, it was observed that commonly shared religious values emanate trust among trading parties (Altinay, Saunders, and Wang 2014).

Economic actions are not stand-alone acts of individuals, rather, economic actions fall within the realm of perceived social world of individuals. Taking the embeddedness approach to understand interactions between social and economic actions of individuals, we attempt to explore control of social actions over economic actions in the context of independent buyer and supplier relation within small business. We use narratives as data to demonstrate how embedded economic life is within a perceived social world of individuals. As Weber observes, subjective interpretations are key to explaining objective reality (Weber, 1947, p. 158).

Research Methodology

In this section, we briefly describe the place of the study, data collection, and analysis procedures.

Region of Study and Rationale

Data collection was performed in Udupi, a small city in Karnataka, India. Udupi has a historical lineage of its own kind. Popularly known as a temple city, Udupi has given birth to one of the Hindu religious cults, *Dvaita* (dualistic) school of Philosophy (Founder father, Madhvacharya 1238–1317)[4] in 13th century AC. Since then, the city has been considered to be one of the most famous tourist destinations. The city's entire urban space is surrounded by temples and *Mathas* (monasteries) (Bhatt and Gopal 2006, p. 370). In recent times, Udupi is also surrounded by several small- and medium-sized manufacturing firms. Udupi city resembles a small business hub and consists of varied small business activities, in retail, wholesale and small-scale manufacturing (Central Statistical Organization, 2008).

[4]He is the founder of *Dvaita* (dualistic) School of Philosophy and Religion. Accessed on http://dvaitavedanta.files.wordpress.com/2007/10/madhva_basics.pdf.

Udupi was chosen for the study mainly for two reasons: (1) prior research experience in the area and the familiarity with Kannada (one of the authors is a native speaker of Kannada, the language spoken in this part of the country), (2) Udupi's unique institutional structure including its industrial, financial, educational and religious institutions.

As a small city Udupi appears to be a unique setting with a long lineage of spiritual and religious institutions. In a comparative sense, Udupi also stands out to be a very forward-looking small city with matured industrial estates around the city. If we put together all varieties of businesses, in 2012, there were 9,467 business units in Udupi. The city also consists of six large-scale private and public sector units. The city primarily exports products such as cashew kernels, plastic, fish net, fish meal and oil, and frozen fish. From the financial front, Udupi gave birth to two nationalized banks: the Corporation Bank and the Syndicate Bank. Today, it houses 187 commercial banks, 15 rural banks and 34 co-operative banks (MSME-Development Institute, 2013). Although at present conventional business entities, such as the tile factory, sugar factory and beedi industry, are losing their significance, service sector industries, including those related to communication, real estate, housing, hotels, and restaurants, have witnessed an impressive growth in Udupi (Government of Karnataka 2008). Its connectivity to other geographies including Kasaragod (in Kerala state), Mangalore, Goa, and Mumbai makes Udupi business friendly and well suited for the regular inflow and outflow of commodities.

Comparatively, as per the 2004–2005 data, Udupi city accounted for INR 1,879.04 Per-Capita Consumption Expenditure (MPCE) (Government of Karnataka 2014). This number is higher than the MPCE of some of the large cities of India, such as Chennai (INR 1,596), Greater Mumbai (INR 1,570), Kolkata (INR 1,520), Jaipur (INR 1,048), and Agra (INR 1,393). However, some of the small cities of a similar size, such as Kurukshetra (INR 2,851) and Rajnandgaon (INR 1,934), have recorded a higher MPCE than Udupi has. The MPCEs of small cities such as Thiruvananthapuram (INR 1,867) and Ludhiana (INR 1,835) are quite comparable to that of Udupi (National Sample Survey 2007).

On the demographic characteristic front, as per the 2011 census, the population of Udupi was 125,350. Udupi city ranks among the top cities in literacy with 93.89 percent of the population being literate. In a comparative sense, Udupi city is quite ahead of even-larger cities such as Nagpur (93.13), Pune (91.61), Chennai (90.33), and Bangalore (87.67) (Census 2011). It is also observed that the higher the education level, the higher would be the chances of people participating in entrepreneurial activities (Ghani, Kerr, and O'Connell 2014a, 2014b). This is quite evident in the Udupi brand of restaurants, a business that is flourishing worldwide. The majority of people in Udupi city are the working class, primarily involved in non-agricultural activities. In 2004–2007 Udupi had witnessed a slow growth in employment (1.6 percent) as compared to the overall state growth (2.5 percent). Interestingly, about 96 percent of Udupi's population was engaged in full-time employment (Government of Karnataka 2008).

Data Collection and Analysis

Having chosen a place for data collection, we adopted a probing method using an unstructured data collection schedule (Appendix 1). As opposed to hypothetic-deductive approaches of quantitative studies, qualitative studies provide a detailed description of an entrepreneurial environment that accounts for cultural, social, political, and relational elements of a given business and individual context (Dana and Dana 2005). Also, qualitative research brings out narratives of the respondents that provide readers with more specific perceptual data (Dana and Dana 2005). In qualitative research, one of the essential features is to compare emerging concepts with those of the extant literature and further establish a comparative and contrasting linkage based on narratives (Eisenhardt 1989).

Before we interviewed the respondents, we asked them to recollect supplier details, not necessarily the most frequent ones; rather any supplier whom they thought supplied products of any kind to their shop. In addition, respondents were told to focus on suppliers who had supplied them products and still continue to do so. We explained the word *supplier* to them by drawing a similarity with that of a sales person, dealer, wholesaler and manufacturer. Since the enquiry pertained to the buyer's relationship with suppliers, the respondents were asked to recollect their interactions and meetings with the people whom they considered as their prominent suppliers. During the interview, although some respondents did not reveal details of their suppliers, they constantly referred to those suppliers with whom they share a certain degree of knowingness. This constant reference helped us to understand that the data were authentic. The point of contact for a supplier has always been the owner of the small business (buyer). Interactions of representatives of suppliers have therefore always been with the owners of small businesses. All respondents in the study were men, and they virtually owned all shops and carried out all business deals.

Because small firms have a varied product range, they generally may have more than one supplier. However, small business owners whom we interviewed had chosen one or two suppliers as their prominent supplier(s). For example, in general, a barber will look out for a supplier who sells essential items such as soap, foam, powder and other cosmetic products, and a restaurant owner will want to have a supplier who sells essential items such as grocery and vegetables. When restaurant owners talked about their suppliers, they kept these products in mind whereas responding to the interviewer's questions. Importantly, the businesses that were passed on to the next generations by their ancestors already had their set list of suppliers. This helped the new entrepreneurs to continue doing business with the already existing suppliers. The new group of business owners, who established businesses on their own, met their suppliers through third party referral systems or through a known personal contact or they used their own knowledge to identify a suitable supplier.

We initially started our interview with a broad theme, that is, contract relationship between the buyer and the supplier, which in turn led to newer themes (Figure 1). Then, using ATLAS.ti software, we coded the data using open code, axial code and selective code principles (Figure 1). This process helped us to understand how various categories and subcategories were linked (Eisenhardt 1989). We then used narratives to carefully develop the argument. We simultaneously continued performing data collection, data transcription into a Microsoft document, data labeling (open code), and identification of broader categories (axial code). Overall, we interviewed 57 small business owners in Udupi (Appendix 2), and realized that data saturation was attained by the 50th interview. However, to further cross-check and strengthen our findings, we continued to interview seven more business owners. We started the data collection process in May 2011 and continued for 6 months, and we conducted the last interview in January 2012.

Findings

The findings of the study are discussed under four broad themes: (a) Contractual relationship, (b) Strategic information sharing, (c) Caste as a proxy, and (d) Trust factor.

Contractual Relationship

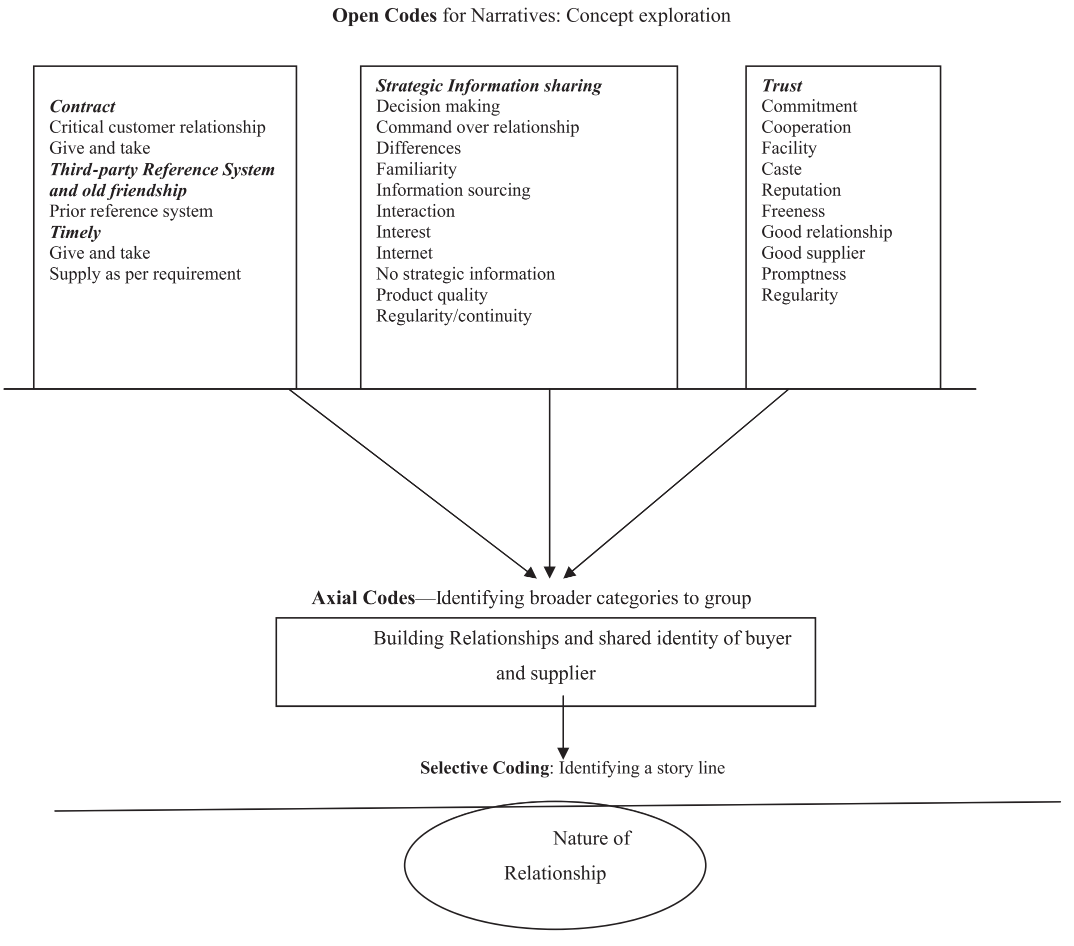
Nature of the Contractual Relationship between the Buyer and the Supplier

In general, the idea of a "contract" comes into existence to create a compelling environment between two or more than two parties with appropriate systems devised to ensure the completion of an accepted role in a give-and-take activity. This becomes quite vital in an exchange involving a high degree of uncertainty and risk.[5] This alone is sufficient to explain why a contract becomes necessary in certain cases and why it is unnecessary in certain other cases. Given this brief background for "contract," in this study, we probed to ensure whether the practice of entering into a contract—written or oral—prevails among small business owners. The first round of interviews involving franchises[6] and stand-alone businesses revealed that

[5]Classical economists view a "contract" as a system that is carefully worked out with all future contingencies in place, which provides the parties with a legal framework with court ordering as a solution for breach of contract. This group of thinkers discards the possibility of personal-level resolution for any disagreements that may occur between parties in the course of business. To make this more progressive, neo-classical economist introduced the possibility of mediation in the contracting. Later thinkers introduced the idea of relational contracting against classical and neo-classical views (Barnett 1992; Macneil 1974-as cited by Williamson 1985). As a further progression, Williamson in his series of works defines contract as a mixed product, both transactional and relational, depending on the degree of dimensions (frequency, uncertainty and asset specificity). In recent years, economic sociologists (mainly Granovetter and Uzzi) describe a contract as a system embedded in an ongoing interaction between people.

[6]Franchise business included branded watch sales and services, telecommunication products, gas services, fertilizers and cement.

Figure 1
A Brief Description of the Data-Coding Procedure



the former perceive a higher risk and hence entered into written contracts with their suppliers. Based on these initial revelations from the data, franchise businesses were not investigated further because a written contract provides an essential structure that does not allow the parties to deviate in their business transactions. On the contrary, an unwritten contract keeps options for transactions with other parties open for both groups.

As is evident from one of the responses, "word of mouth" in an act of business exchange between two parties is crucial. The course of interaction is simpler, and may take place at the business premise of either party or at a neutral place. The idea of a contract is so fluid that it does not legally or invisibly bind the parties for an exchange. As there is no uncertainty involved in the transaction, it becomes obvious to rule out any form of serious discussion on the topic. However, it is important to examine the nature of the relationship before arriving at a conclusion. We begin our exploration by presenting the following narrative of a respondent, which sets the initial tone on the nature of the contract between the buyer and the supplier:

> Our way of striking contracts is simple; we arrive at timely contracts through word of mouth. At times, it may be a face-to-face conversation or a telephonic conversation. Whenever we are in need of goods, we talk to them and give them a brief description of the product that we

need. Our relationship is such that just one phone call is enough for them to send the products that we need.

The point to be made here is that the contract that is in an implicit form, known only to the two parties concerned, does not have any enforceability; hence, either party can refrain from fulfilling the oral contact. However, from the narrative, it is clear that each party fulfils its promise as a gesture of honor to its commitment to the person(s) they deal with.

Despite noting that transactions performed by small business owners do not involve any serious uncertainty and risk, it has to be noted that there is a certain degree of cost involved in the whole process. For instance, if there is an order placed by a buyer (e.g., a cloth shop merchant ordering 100 silk saris) from Udupi with a seller in Bangalore (the distance between Bangalore and Udupi is 400 kilometres), if the product arrives and the party at Udupi rejects it, the product has to be sent back to Bangalore. This implies a serious loss to the supplier who supplies products without having any visible contract with the buyer (a retail cloth merchant) at Udupi. This instance not only affects the business credibility of the buyer but it also jeopardizes future transactions with this particular supplier as well as with the other suppliers who may be known to the first supplier.

It also becomes clear that the nature of exchange between the supplier and the buyer may be such that it does not warrant a situation where a written contract becomes a vital aspect of a particular business. As viewed by a respondent who has a textile business, because of the availability of multiple suppliers for the product, entering into a written contract with one supplier may curtail the opportunities[7] to explore options prevailing outside a contractual boundary.[8] However, this does not mean that there is an abrupt switch-over from one supplier to the other. As he/she also views, there is continuity in business ties with the same supplier for several years.[9]

> Given the kind of transaction that takes place between us (buyer [respondent]–supplier), there is no need to have a written contract. We are known to each other for many years; we just cannot afford to jeopardize the relationship. Whenever we need products, we work together on an acceptable price for a particular dealing. Not having a written contract may help us to see different patterns of cloth available with other textile suppliers.

Two points need to be noted here: (a) if suppliers anticipate a serious loss, they might take precautions by insisting on deposits or advance payments from the buyer. Instead, what needs to be looked at is a form of implicit trust that prevails between these two parties. This implicit nature of trust is indicative of the successful completion of a contract between the two parties. This can be termed "workable trust." (b) A buyer would essentially like to keep his/her options open. However, this essentially does not translate into a situation where the buyer would switch over to a new supplier. Instead, preference to continue to deal with one supplier seemed to be an implicit philosophy.

An obvious view is that small businesses are expected to act as links between the producer and the end consumer. In this case, some thinkers might like to assume an apparently obvious point that suppliers looks out for sellers for their products. In search of a middle agent between the producer and the end consumer, it is often assumed that suppliers take a risk by trusting the middle agent, that is, a small business owner. However, it is to be noted that there are numerous small business owners who are also equally seriously in search of a worthy supplier. Therefore, the switch-over cost for a supplier seems to be almost nil. This view that the supplier-and-buyer relationship is independent clearly nullifies a relational-based contract. Despite such assumptions, there are relational elements that provide an impetus to a steady

[7]"[S]mall businesses are concerned that increasing commitment to particular suppliers may entail a greater degree of risk than they are willing to take" (Khoja and Kauffman 2012, p. 31). In other words, by perhaps fully entrusting their purchases of a particular commodity to one supplier, they become totally dependent on that supplier for continued supply of products.

[8]Uzzi (1996) calls this embeddedness *till the point of threshold*. Too much of embeddedness beyond the point of threshold in the network or relationship may curtail exposure to anything that lies beyond the network.

[9]Quite a significant number of supplier–buyer relationships have been found to have a high level of trust and informal commitment (Mudambi and Helper 1998).

and continued relationship between the supplier and the buyer.

Interestingly, there are social proxies that create a trustful relationship between a buyer and a supplier. According to one grocery shopkeeper, a construct, such as caste, plays an important role in the context of a small city.

> In my case, my rice supplier belongs to my caste. This fact (buyer–supplier belonging to one caste) makes things easier between us. In this business (with reference to other suppliers), it is all about trust without which no business is possible. There are, of course, always small problems between us and them. But we do not make this a big issue; rather we make necessary adjustments at different levels and move on. We do not need to get into any written contract in this business. So far, I have not seen my suppliers cheating me in any sense.

If we emphasize risk as a defining element in a contractual relationship (Williamson 1985), we may tend to overlook the dynamics of contractual relationships involved in small businesses. Although a written contract is something that is rare, and is also considered unnecessary among small businesses, there are other issues that need to be taken into account. For instance, factors such as caste, as viewed by our respondents, become crucial in defining the beginning and the sustenance of an exchange between two parties who have similar interests—accomplishing the goals of their business activity. Small business owners in Udupi have been able to evolve their relationships with their suppliers more in line with the bazaar economy. As is evident in Dana (2007, p. 1), this kind of relationship can be termed a symbiotic relationship as against a contractual relationship.

For small-business owners, caste is more like a gate pass to access resources that are prevalent within the caste boundary.[10] This also helps business owners to build a certain degree of confidence in exchanges that take place between them.

Strategic Information Sharing

Suppliers' Voluntarism and Information Sharing

Sharing of information plays a key role in trusting a supplier: "the acquisition of information may be used to partially offset the risks inherent in granting trust or to complement the trust that exists in the relationship" (Gundlach and Cannon 2010, p. 413). In an exchange between two business parties, information on certain key issues, such as price variation for product/service, mobility or transport of goods, product quality, technical descriptions of the product and change in composition of the product's assembly line, become vital in dealing effectively with buyers (small business owners in the study). Importantly, a study reports that for independent department stores, obtaining a knowledge of these issues was the biggest challenge (Keep, Hollander, and Dickinson 1998). The supplier of a product or service is therefore expected to share this information.

The answer to the question "What can a piece of information do?" lies in the views of the respondents. For business owners, information from a supplier clearly means that there will not be any surprises relating to the product or service market. It only means that the information is critical for avoiding unexpected changes in the market. This allows small business owners to efficiently plan their future sales of goods and services.[11]

> My suppliers voluntarily offer their service to us on various market trends and trajectories. Since my suppliers inform us on all the market variations as far as supply of different commodities is concerned, we are not caught unawares by changes in the market. Usually, they inform us about

[10] As noted by Mehta, *HalariOswal Jains* in East Africa built a strong network of business communities from their own caste, implying a sharing and exchange of resources for each other's needs (Mehta 2001).

[11] Exchange of quality information is possible only under circumstances wherein a buyer's perceived trust is high. Although in the opposite circumstances, as findings in a recent study reveals, "under lower trust circumstances, information exchange does not provide significant enhancements to performance.... In all likelihood, under low trust circumstances, information generated through information exchange has less credibility and therefore may have little impact on behaviour" (Gundlach and Cannon 2010, p. 412). Therefore, a high degree of trust becomes the cornerstone.

> the price change in products, change in production methods, and change in prices of inputs. Of course, price is such a factor that goes on increasing. Our supplier frequently keeps us informed about this.

Complementing the above view, other respondents opine that the information from a supplier serves as a credible and relevant input in making futuristic decisions. The most important concern of small business owners is to manage their business by lowering risks and other complications. In this regard, information becomes a key in planning for the future stock of products, and sales.

> My supplier visits our shop every week and informs us about the market variations. They (suppliers) inform us about the price hike and its possible future implications. This helps us to acquire the stock of products in advance. They also give us some key information like how to manage sales when the stock of a particular product is less. As far as my experience goes, there was a price hike in this product only in the last year. There is no hike in this ongoing year.

When receiving information from suppliers, small business owners have to foresee the kind of information being expected by their customers. It thus becomes necessary to gain sufficient knowledge on various products and services, because buyers (small business owners) have to answer customers' queries. Usually, such knowledge comes from suppliers; of course, this does not imply that this knowledge may not emanate from sources such as family elders who were involved earlier in this business, friends and known social groups within a city vicinity and written or visual media.

> Our customers ask us different types of information on product pattern, colour combination and new offers available in the market. When we can provide them with the needed information, they go away happily. My suppliers usually inform me about new offers or differences in colour paints.

A respondent views that their suppliers (often sales representative) come to their doorstep to provide necessary information. It is important to note that "the criticality of the attitude and the supplier's compliance in the evolution of the relationship" (Gedeon, Fearne, and Poole 2009, p. 221) becomes vital, especially the supplier's employee and his/her attitude toward the buyer is important in deciding the direction and course of the relationship (Gedeon, Fearne, and Poole 2009).

> I discuss with the company representatives. They come and give us the necessary information on a regular basis. Most of the time, I keep on asking them about different patterns in the product. They are very friendly with us. This friendly nature helps us to interact with them comfortably. They also introduce us to new products.

One buyer is of the opinion that there are elements that dictate the course of information sharing, for instance, a continued relationship with the supplier for a long time may boost the confidence of the supplier, which in turn ensures sharing of key information so as to help the buyer (small business owner/respondent) to plan his/her course of business activities. Continued relationships also empower buyers to control the situation if there is anything seemingly going wrong.

> If our sellers irritate us, I know how to command them. It is all about continued relationships. . . . My suppliers never hike the price of the product without giving me prior information. (Also) I get information well in advance.

It becomes clear that small business owners tend to trust their suppliers more if there is regular exchange of information between them. Information forms a basis for small business owners strategic planning of business and execution. Having agreed in general that information is a corner stone for a healthy relation between buyer and supplier, the discussion above clearly brought out a view that suppliers need to be proactive in providing necessary information to small business owners. This point raised a new question that What if suppliers do not volunteer to provide the necessary information to "small buyers"? Will this tempt these small buyers to look for new suppliers?

We will deal with these issues in the following section.

Non-Volunteer Suppliers and Compromising Attitude of Buyers

On the one hand, it is argued that the lack of information might lead to poor planning and execution of a business. On the other hand, because only small businesses are involved, one might even downplay the importance of strategic information as a crucial tool in business planning for small business owners. However, on the contrary, small business owners perceive information as a necessary input to formulate their plans. Having said this, what happens to a buyer–supplier relationship if the supplier is less active in providing the necessary inputs to small business owners?

An important issue in sharing key information, as one respondent views, is the lack of familiarity and comfort level at which buyers interact with their suppliers. In such a case, information flow is at risk, which may in turn affect the course of a business at a given point in time.

> We are supplied with products from far-off places. This has two implications: firstly in the form of a delay in delivery of the product, and secondly, we, at times, could not understand the sudden rise/fall in the price of the product. When we notice a hike in the price of a product in the bill, we seek clarifications from our suppliers. Quite often, they do not inform us of such changes. We get most of the information from television.

> They (Suppliers) inform us about market changes for different products. However, they often remain silent about market variations; they do not share any information. However, I do not think there have been any disagreements or fights between us concerning this matter.

Despite such weak responses from suppliers, small business owners did not easily wish to curtail business links with their suppliers. Instead, they seem to have had alternative sources in place or had identified other sources to access information. In the absence of obtaining timely information from the supplier, application of the rule of thumb, guesses and predictions of their own kind seem to be instrumental. In this case, business owners preferred to bank on their own experience to make timely decisions.

> Using my experience, I manage this business on my own. So far, I have 20 years of experience. That is enough to make any necessary strategic moves in my business (Ayurveda business). Therefore, I do not seek any sort of information from any external person.

In general, when there is a lack of information flow between suppliers and buyers, respondents view that their suppliers may try to cheat buyers by tampering with market-led margins on sale of goods and services. However, this view does not allow buyers to blame their suppliers; instead they view such practices as being common in business.

> My suppliers do not inform us, even when the prices are low in the market, and they may quote a high price. We cannot help it. Such things are common in business.

Coupled with experience and modern technologies, such as the Internet, information can be easily accessed by small business owners. In such cases, it is recommended that business owners educate themselves through books, journals and magazines. It thus becomes clear that flow of information from suppliers to buyers, though paramount (Uzzi 1997), does not solely dictate the relationship between the buyer and the supplier. Small business owners had therefore identified their own methods and means to obtain information on the issues concerning their strategic behavior.

> Books and TV advertisements are quite important sources of information for us as far as this business (utensils and metal merchants) is concerned. These sources help us to understand designs and patterns in the metal industry.

Small business owners seemed to be more concerned about maintaining their long-term relationship with their suppliers. The former did not seem to place great importance on receiving information that their suppliers wished to proactively share.

> Our suppliers provide good materials. On a regular basis, we ask them about prices of different commodities. There is a constant increase in prices of commodities like sugar. They tell us about the price when we go to their shop, but they do not voluntarily do so. We have no choice but to compromise with our suppliers. We have a long-term relationship with them; we cannot just end it for reasons of undisclosed information. I believe we still have a good relationship.

In both situations where information freely flows from suppliers to buyers and the other situation wherein the information flow is quite rigid, the relationship between two trading parties is very important. Taking information as a proxy to assess the strength of the relationship between small business owners and their suppliers may be a misleading proposition.

Caste as a Proxy

A notion such as "people like us"—Homophily—(Mcpherson, Smith-lovin, and Cook 2001, p. 416) can connect people through sociological characteristics such as gender, race, ethnicity, marriage and family friendship. The same feeling—"people like us"— (Mcpherson, Smith-lovin, and Cook 2001) continues to connect individuals on an economic front, too. Caste has been an inherent quality of the Indian society for several centuries. In essence, it means that the Hindu religion has subgroups, that is, there are four caste descriptions—Brahmins, Kshatriyas, Vaishyas, and Shudras. Each of these caste groups has further subgroups, within which there are many smaller caste groups. Although each group does not differ in totality, there are minor and major ritual practices that differentiate among these caste groups. Importantly, as per traditionally defined caste practices, India is known to have occupation-based caste divisions. In the present context, we made an effort to link caste characteristics to the supplier–buyer relationship, as emerged from the narratives.

"Caste" imposes selection-related restrictions in buyers' choice of their suppliers. An alternative way of interpreting this view is that business owners tend to consider caste while initially selecting a supplier. For instance, tendency of striking a business exchange with a supplier from the same caste within the barber community is quite apparent in research.

> In our society's shop (which supplies necessary materials for a saloon shop), we often do not find many varieties. However, we continue to buy products from there. Since we buy everything from our own society, there is no question of going in for a new supplier. In a way, we support each other and grow together. It is almost certain that individuals from any other caste would not want to venture into this business. Even if this does happen, they may not sustain their business for long.

As viewed by a respondent who belongs to the barber community, there is only a remote possibility of diverting supply linkage to other sellers. Caste as a factor often creates a communitarian feeling that generates a feeling of belongingness.

It is perceived that buyers tend to identify themselves with suppliers who belong to the same caste and vice versa; thus, caste as an identity may infuse a certain degree of faith and confidence in the minds of the buyer and supplier. According to a restaurant owner, the fact that he and his supplier were of the same caste, might have played a role right from the beginning.

> My supplier belongs to my caste. When I started this business, I had very little money with me. My supplier told me not to worry. He offered to help me in terms of giving me as much credit as I wanted. This created an initial sense of loyalty towards my supplier.

Buyer is quite considerate of the fact that his/her supplier belongs to the same caste. It is apparent from the narrative that the small business owner perceived the help offered by a supplier based on caste considerations. This essentially means that caste creates highly intense sentiments.

It is to be pointed out that the buyer–supplier relationship is not a preplanned strategy. Apparently, it is coincidental that a person from the same caste selling a product may create a certain degree of comfort in a buyer (small business owner), easing complications[12] that may otherwise emerge in the business. This is probably one reason why the relationship between buyers and suppliers of the same caste seems to be stronger and quite continuous. Although prevalence of the buyer–supplier relationship is quite evident, it has to be noted that a caste-based buyer–supplier relationship in small businesses is not a general trend. Caste as a component of social capital, on the one hand, it is argued that social networking or building of interpersonal relationships based on strong personalized characteristics is powerful enough to give birth to an entire industrial set-up as was evident in the case of Venza Po's jewelry district in Italy (Gaggio 2006), on the other hand, it was observed among the Alutiiq people that social capital alone did not give rise to any viable commercial activities (Light and Dana 2013). However, Light and Dana (2013) concede that building social capital facilitates economic activity. In the case of caste, a kind of social capital, this is a given fact and also has a religious sanction. Hence, the challenge for buyers and suppliers is to embark and strengthen such existing shared identities. Shared sentiments, such as "my person," and "person from my caste," become quite prominent in at least supporting each other in difficult economic situations.

Having explored caste-based loyalty and trust between the buyer and the supplier, we set out to explore stand-alone trust. In other words, we examined "trust" as an explanatory variable, by trying to explicate the nature and implication of trust in a buyer–supplier relationship in a small business.

Trust Factor

Trust can be defined as the confidence level of the buyer in relation to a supplier's reliability and integrity (Morgan and Hunt 1994). As articulated by Doney and Cannon, trust is a combination of credibility and benevolence. Credibility however refers to the extent to which a partner's promises (written or oral) can be relied on, and benevolence may be viewed as a partner's genuine interest in mutual gain and welfare of the party concerned (1997).

In the absence of a critical size of a transaction, small businesses cannot afford to adopt a governance structure. Therefore, importantly, the kinds of goods and services being exchanged between the buyer and the supplier do not carry a greater risk of rejection. However, the context of these small businesses is such that they receive goods from a supplier who resides at different locations. This definitely includes a certain degree of transportation risk from one destination to the other, whereas the supplier faces uncertainty in terms of safety of the product and its payment if the product is supplied on credit; the buyer is also equally concerned about the timely arrival of the product. It is also important to note that, in certain cases, small business owners may have prior commitments with the end consumers to deliver the product on time. Any failure in this would tarnish a firm's image, and thereby its reputation. It is in this context that one has to look at the implications of trust-based trade between a buyer and a supplier. This argument qualifies the point that there is a certain degree of uncertainty involved even in such small exchanges. It is under these circumstances that trust as a unit irrespective of its degree—weak form, semi-strong form, and strong form (Henry Xie, Suh, and Kwon 2010)—needs to be looked at as a core definer of the relationship between small business owners (buyers) and their suppliers. This is one reason why trust becomes a powerful tool to explore the antecedents of the buyer–supplier relationship, especially the buyer's perceptions (Tantoush, Lettice, and Chan 2009). Putting this in perspective, trust can be viewed in two broad ways: negatively and positively. The former implies that accepting to trust a business party is also about exposing oneself to vulnerability. On the contrary, a positive outlook of trust is such that it does not view an individual as a self-interested seeker with guile, and hence, in this view, trust can be interpreted as an output of the relationship between the buyer and the supplier with neither party having control over the other's actions (Goel and Karri 2006).

The significance of trust in business was well explicated by a respondent, who compared trust to a wheel of a vehicle without which a business cannot be sustained. One does not see any difference between the nature of trust existing between two parties in a business and that seen in general social relationships. One views this as being the same. This indicates that small

[12] Complications may include issues such as the quality of the product and timely delivery.

business owners do not seem to draw a line between usual human relationships and business relationships.

> Our business runs on the wheels of two factors: trust and cooperation. Always all kinds of relationships begin with trust, so also does our business relationship. In the process of business, trust develops through our interactions that further leads to a personal rapport in the business, which explains the good relationship between us.

The beginning of a relationship with a supplier is often subject to a few conditions and preliminary tests. One way of establishing trust with small buyers is to offer them initial small-time credit facility. A time-bound return of credit might sow seeds of trust between two parties.

> In the beginning, our suppliers wanted to test us, so they gave us some product with a little credit; once we repaid this fully, trust started building.

This is the reason why it is argued that trust may also emanate from previous experiences (Goel and Karri 2006). Once, sufficient trust is built between the buyer and the supplier, it becomes important to maintain this in business and strengthen this in the long run.

> In my experience, trust in the relationship with the supplier is a result of continued exchanges—long-lasting strong ties—and prompt payment.

Overall, what we see in the discussion here, and as viewed by Hite (2005), is that this form of trust can be termed personal competency trust: "based on a history of dyadic economic interaction, network ties developed a direct, personal knowledge of and trust of each other's competency. The personal competency trust was built over a time through repeated interactions, such that the routines and processes of the interaction became known, understood and expected" (p. 130–131).

Although, buyers' trust toward their suppliers largely depends on the comparative performance of suppliers, what is quite important is that small business owners (buyers) tend to acknowledge the existence of a construct such as trust even in an apparently transaction-based exchange indicating that once there is a preliminary establishment of the feeling of trust through a better performance, it takes a transactional relationship to the next level and transforms it into a relationship-based transaction ensuring a continuity in dealings. This is simply because, an economic transaction is often dictated by relationship or by personal alliance (Dana, Etemad, and Wright 2008). As against firm type or typical market economy of the West, markets in the East revolve around interaction between the seller and the buyer. There is always room for negotiation. This is where cultural and social elements emerge and further give rise to relational transactions (Dana, Etemad, and Wright 2004, 2008) and emanate trust in a transactional relationship.

It is important to note that an important construct such as trust plays a vital role in the entire process of building relationships and to an extent in developing a quasi-relational structure that is well controlled by a self-governance system by the parties in the contract. In fact, general behavioral traits such as the "...perceived benevolence...will increase over time as the relationship between the parties develop" (Mayer, Davis, and Schoorman 1995, p. 722). Accepting the middle range of altruism, where individuals resort to reciprocate what is being received by them, then, "long-term partners are likely to possess a detailed understanding of the inter-firm transactions..." (Martin, Mitchell, and Swaminathan 1995, p. 609). As explained by Gaggio (2006), this study also extends the meaning of trust as perceived by the actors themselves. Perceived or perceptual trustworthiness plays a pivotal role in the reduction of transaction cost (Dyer and Chu 2003).

Concluding Remarks

The absence of any legally enforceable or predetermined explicit commitment exposes the buyer to a certain degree of uncertainty and vulnerability. Despite this scenario, what is being observed in this study is that buyers will not want to break relationships with their suppliers even if the latter exhibit odd behavior. Probably, one reason for this is to expect a no-change scenario in behavior even in the new supplier relationship, implying the understanding that there may be symmetric behavior among the entire group of suppliers. This point does not necessarily downplay the importance of relationships in the form of established familiarity (Gulati and

Sytch 2008), trust (Mayer, Davis, and Schoorman 1995) with the volition to take risk.[13] More prominently, even for a discrete market structure of this form, sociological elements such as caste and trust play a vital role in sustaining a business relationship for a long time. Within the realm of economic sociology, this study extends the work of Uzzi (1997) and argues that even the smallest retail, wholesale and manufacturing businesses are also likely to build their exchange relationship with their trade partners based on social cues rather than on economic performance alone. The present study also adds to the existing substantive view that personalized exchange is a pivotal characteristic of a bazaar economy implying a cultural and a social integration of people who participate in an act of exchange (Dana 2002, p. 10; Dana 2005, p. 7). This is because relational elements in every form of exchange stem from the historical foundation of a given business environment (Dana 2000b).

It becomes clear from the above discussion that there are interpersonal and trust-based beliefs among small business buyers that regulate their transaction behaviors. As a recent study argued that even in the context of the end consumer and retail seller (e.g., farmer and fertilizer seller), there are interpersonal characteristics that lead to the development of trust between the seller and the end user (Waheed and Gaur 2012). Hence, it is not surprising that social cues are instrumental in initiating individual relational factors that lead to the exchange relationship between a small buyer and a seller.

Importantly, the genesis of these views of small business owners may have roots in their family. When we view a family as a hub of interactions among various actors for multiple reasons, including economic and social, there comes a greater understanding and attachment towards their family members implying that "relationships are at the heart of family" (Cooper, Upton, and Seaman 2005, p. 244). This view implies that relationships gain importance in the business sphere too. Hence, these chains of interaction right from the family to the buyer–supplier are embedded in their ongoing social life.

Hite (2005) viewed that embeddedness can be understood through two core parameters: (a) first, it is important to observe probable evidence of the influence of social relationship on economic actions of a business unit (Uzzi 1996, 1997) and (b) second, the researcher has to observe a possible relational exchange as opposed to a neo-classical contractual relationship (Williamson 1973, 1985). If these two conditions are satisfied, one can argue that there are embeddedness in an exchange relationship between two or more parties in a particular trade (Hite 2005). As is evidenced, small business owners perceive their relationship with their supplier to be embedded in their ongoing interactions based on sociological characteristics. This explicates an important cultural element that individualistic and collectivist approaches in the life of individuals may shape their behavior in economic persuasion. This is because people with collectivist values might tend to have economic dealings based on informal trust rather than on individualistic cultures where people tend to exercise caution and tend to guard against uncertainties (Goel and Karri 2006).

This research contributes to economic sociology by extending the logic of embeddedness to a discrete exchange market scenario. We have given ample evidence to clearly show how social constructs control the economic actions of individuals, whereby we conclude that even in a discrete small business exchange context, personal relational exchange scenarios prevail.

Although our study establishes that even in arm's length transactions sociological explanations become pertinent in providing an insight into economic transactions, the findings cannot be generalized to one-time transactions. Our study does not include narratives of suppliers to compliment or contradict stories of buyers (small business owners). Future research must focus on presenting stories from both buyers and suppliers to develop a holistic understanding of arm's length economic transactions that could be based on sociological explanations. In addition, the present study clearly demonstrates the presence of a structural embeddedness between the buyer and the supplier. Future studies must place emphasis on the application of concepts such as cultural and political embeddedness in similar contexts.

[13]This is because speaking in quite economic terms "a firm can save time and opportunity costs by establishing supplier relationships with the future in mind" (Beekman and Robinson 2004, p. 72).

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Appendix 1—Open-Ended Data Collection Schedule

1. Whom do you consider as your prominent supplier?
2. Why does this particular supplier become prominent to you?
3. What are the characteristics that put this supplier on top of every other supplier?
4. Did you strike a contract with your supplier? If yes, tell us the nature of the contract? If no, tell us about your way of handling the business with your supplier.
5. Did you already have a supplier or did you have to find one?

Questions that evolved through probing

6. Describe your relationship with your supplier.
7. Tell us about the factors that affect your relationship.
8. How often do your interact with your supplier?
9. Does your prominent supplier share crucial information with you on strategic aspects of the business?
10. What is the role of social constructs such as caste and trust in a buyer-supplier relationship?

Appendix 2—Details of In-Depth Interviews: Basic Features of Respondents' Businesses

Sl. No.	NIC 4 Digits[a]	Type of Business Description as per NIC 2 Digits	Actual Business	Business's Birth Year	Number of Employees[b]
1.	4771	Retail and Wholesale	Tailoring and Cloth Sales	1984	2
2.	4752	Retail and Wholesale	Hardware and Fittings	1941	2
3.	4752	Retail and Wholesale	Glass Cutting and Sales Glass Materials Building	1970	1
4.	1071	Manufacturing	Bakery Food Item	1998	14
5.	5610	Accommodation and Food Service Activities	Restaurant	2004	24
6.	4761	Retail and Wholesale	Gift and Fancy Store	2005	1
7.	4789	Retail and Wholesale	Electronic Services and Sales of Electronics	1990	3
8.	4759	Retail and Wholesale	Consumer Durables Electrical Sales	1986	12
9.	4752	Retail and Wholesale	Glasses and Mirror	1944	1
10.	4321	Other Service-Related Categories	Electrical Contractor and Marriage Decoration	2007	9
11.	1811	Manufacturing	Printing and Binding	2007	2
12.	4773	Retail and Wholesale	Jewelry Work and Sales	1968	1
13.	9609	Other Service-Related Categories	Saloon Shop	2006	1
14.	7420	Other Service-Related Categories	Photo Studio	1925	2
15.	4763	Retail and Wholesale	Bicycle Shop (Multi-Brand and One Dealer Supplies)	1942	8
16.	4763	Retail and Wholesale	Sports Goods (Non-Franchise)	1989	1
17.	5510	Accommodation and Food Service Activities	Hotel/Lodging	2002	24
18.	4773	Retail and Wholesale	Jewelry Marketing	1995	1
19.	4762	Retail and Wholesale	Cassette Sales	1985	7
20.	1030	Manufacturing	Pickles Sales	2000	2
21.	4662	Retail and Wholesale	Metal Shop	1910	6
22.	4721	Retail and Wholesale	Vegetable Shop	1984	4
23.	4763	Retail and Wholesale	Sports Goods (Non-Franchise)	2000	2
24.	4761	Retail and Wholesale	Books and Stationary	1980	1
25.	1010	Manufacturing	Chicken and Mutton Stall	1970	3
26.	4751	Retail and Wholesale	Readymade Garments and Kids Wear	2003	8
27.	4773	Retail and Wholesale	Bangles Stores	1948	1
28.	4759	Retail and Wholesale	Furniture Shop	1997	4
29.	1071	Manufacturing	Sweets Shops	1998	14
30.	4721	Retail and Wholesale	Grocery and General Items	2005	1
31.	4771	Retail and Wholesale	Footwear	2006	1
32.	4762	Retail and Wholesale	Cassette/CD Selling Business	2006	3
33.	4530	Retail and Wholesale	Automobiles	1935	2

Appendix 2 Continued

Sl. No.	NIC 4 Digits[a]	Type of Business Description as per NIC 2 Digits	Actual Business	Business's Birth Year	Number of Employees[b]
34.	4752	Retail and Wholesale	Marbles and Floor Materials	2006	30
35.	4759	Retail and Wholesale	Mattresses, Pillows, and Bed Sheets	2000	5
36.	4530	Retail and Wholesale	Automobile Spare (Generic)	1985	2
37.	8219	Other Service-Related Categories	Photocopying and Stationery	2005	5
38.	9602	Other Service-Related Categories	Ladies Beauty Parlor	1999	2
39.	5630	Accommodation and Food Service Activities	Wine Shop	1975	4
40.	4761	Retail and Wholesale	Fancy Store: Handy Crafts Making	1985	2
41.	4764	Retail and Wholesale	Toys and Bangles	2006	2
42.	1071	Manufacturing	Bakery Items	1992	3
43.	4741	Retail and Wholesale	Aquarium and Mobile Sales	2005	2
44.	4759	Retail and Wholesale	Musical Instrument Repair and Sales	2001	1
45.	4772	Retail and Wholesale	Ayurveda Products	1986	1
46.	4530	Retail and Wholesale	Automobile Spare Parts	1993	2
47.	4759	Retail and Wholesale	Utensils and Metal Merchant	1910	7
48.	4752	Retail and Wholesale	Hardware Paints	2006	1
49.	4741	Retail and Wholesale	Computer Sales and Services	2000	5
50.	4772	Retail and Wholesale	Medical Store	2000	2
51.	5630	Accommodation and Food Service Activities	Bar Restaurant	1975	15
52.	4759	Retail and Wholesale	Water Purifier Equipment	2001	6
53.	5911	Manufacturing	Video, Shooting and Mixing	2006	2
54.	4773	Retail and Wholesale	Flower Shop	2006	1
55.	1811	Manufacturing	Printing Press	1993	5
56.	4759	Retail and Wholesale	Refrigerator for Industries	2004	2
57.	4721	Retail and Wholesale	FMCG Products	2005	2

[1]Source: Primary data.

[2]NIC: National Industrial Classification.

[a]NIC 4 digits are used as reference points and description of NIC 2 digits is given in table for broad classification of businesses.

[b]Number of employees includes the owner of the business as the size of the business appears to be small, business owners themselves mange all the activities.

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*Effectuation, Exploratory Learning and New Venture Performance: Evidence from China**

by Li Cai, Runping Guo, Yupeng Fei, and Zhao Liu

This paper examines the effect of effectuation on new venture performance in the context of Chinese transitional economy. To determine how new ventures benefit from effectuation, we examine the role of exploratory learning as a key mediator. Using data from 266 Chinese new ventures, our results show that effectuation has a positive effect on new venture performance. Exploratory learning plays a fully mediating role in the relationship between effectuation and new venture performance. This empirical evidence contributes to the development of the theory of effectuation and also provides managerial guidelines for new ventures facing uncertain business environments like transitional economies.

Introduction

The theory of effectuation as an emerging entrepreneurship theory has drawn increasing attention from scholars and moved toward an intermediate state of development (Fisher 2012; Perry, Chandler, and Markova 2012; Reymen et al. 2015; Sarasvathy et al. 2014). Effectuation which involves selecting between possible goals that can be created with the given set of means provides new ventures with a useful strategic decision logic to cope with uncertainty (Chandler et al. 2011; Sarasvathy 2001). To contribute to the development of effectuation research, it is necessary to empirically examine the consequences of effectuation in different contexts (Perry, Chandler, and Markova 2012). Prior research on effectuation has a clearly distinct bias toward mature market economies. Unlike the relatively stable environment in mature economies, new ventures in transitional economies face higher environmental uncertainty given that the market and institutional environments are constantly evolving and quickly changing with the transition from planning economies to market economies (Dixon, Meyer, and Day 2010; Peng 2003; Tan 2001; Webb et al. 2013). According to the theory of effectuation, it is reasonable to expect greater variance in performance when effectuation is used under high levels of uncertainty (Chandler et al. 2011; Read, Song, and Smit 2009; Wiltbank et al. 2006). Therefore, effectuation might be of greater help for new ventures by increasing the probability of achieving higher performance in transitional economies. However, prior empirical research has focused little attention in this regard.

Following the research stream of effectuation, it is important to provide insights into the underlying mechanisms through which effectuation influences

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Li Cai is a professor at Jilin University, School of Management, Changchun, Jilin, China. She is also the director of Entrepreneurial Research Center at Jilin University.

Runping Guo is a lecturer at Jilin University, School of Management, Changchun, Jilin, China.

Yupeng Fei is an associate professor at Jilin University, School of Management, Changchun, Jilin, China.

Zhao Liu is a lecturer at Jilin University, School of Philosophy and Society, Changchun, Jilin, China.

Address correspondence to: Runping Guo, Jilin University, School of Management, Department of Technological Economics and Management, Changchun 130022, China. E-mail: grp0925@163.com.

new venture performance. Consistent with emergent strategies, effectuation opens the door to exploratory learning in terms of searching, recognizing, and understanding new entrepreneurial knowledge to quickly response to changing environments (March 1991; Mintzberg, Ahlstrand, and Lampel 1998; Politis 2005; Wiltbank et al. 2006). New ventures primarily engaging in exploratory learning are able to sense and seize new opportunities for wealth creation under uncertainty (Shane and Venkataraman 2001; Zahra 2012). As such, exploratory learning is the missing link between effectuation and new venture performance in challenging business environments. The role of exploratory learning is particularly crucial for new ventures in transitional economies given their lack of market competition experience and high uncertainty caused by the unique market and institution (Dixon, Meyer, and Day 2010; Hoskisson et al. 2013; Luo and Peng 1999). However, few scholars have paid attention to the mediating role of exploratory learning in the relationship between effectuation and new venture performance especially in transitional economies.

Consequently, the purpose of this study is to explore the influence mechanism of effectuation on new venture performance in transitional economies like China. This study seeks to contribute to the literature in two folds: first, our results help provide empirical evidence that effectuation can predict new venture performance in transitional economies. Second, our results offer deeper insights into the missing link between effectuation and new venture performance under high uncertainty by examining the mediating role of exploratory learning.

This paper is organized as follows: in the next section we discuss the theoretical background of this research and propose hypotheses that link effectuation, exploratory learning, and new venture performance. The third section illustrates the methodology employed in the empirical analysis of a survey conducted in China that tests our hypotheses. Then, the results of data analysis are presented, followed by a discussion of key findings and conclusions. Finally, our paper concludes with limitations and implications for future research.

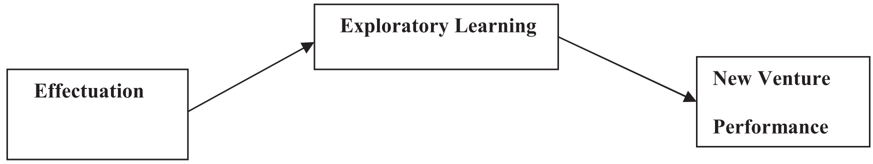
Theoretical Background and Hypotheses

According to the theory of effectuation, the selection of ends for new ventures is endogenous to the strategic management process, given a set of particular means (Reymen et al. 2015; Sarasvathy 2001; Venkataraman and Sarasvathy 2001). Effectuation provides new ventures with an emergent strategic decision logic to quickly adapt to unpredictable environmental changes and even construct new environments based on creative human actions (Sarasvathy 2001; Wiltbank et al. 2006). By emphasizing the logic of control, effectuation allows new ventures to creatively combine the resources at hand to take advantage of contingencies. Given the rapid institutional and market shifts as well as strong resource constraints in transitional economies (Chiles, Bluedorn, and Gupta 2007; Webb et al. 2013), effectuation is particularly critical for new ventures to survive and pursue profitable growth with limited resources.

The key goal of strategic management is to pursue effective responses to the environmental changes (Covin and Slevin 1989). According to organizational learning theory, learning helps organizations develop better understanding and interpretation of environment with increased knowledge (Fiol and Lyles 1985). Consistent with emergent strategies, effectuation allows new ventures to engage in exploratory learning for strategy formulation when facing high uncertainty (Mintzberg 1978; Mintzberg and Waters 1985; Sarasvathy 2001). Exploratory learning in new ventures is the process of gaining new entrepreneurial knowledge which involves searching, recognizing, and understanding new knowledge beyond existing knowledge base (Autio, Sapienza, and Almeida 2000; Lane, Koka, and Pathak 2006; March 1991; March and Simon 1958; Politis 2005). Given that uncertainty refers to the difference between the amount of information required to perform the task and the amount of information already possessed (Galbraith 1974), effectuation facilitates exploratory learning so as to obtain and internalize new knowledge regarding the development of opportunity and resource to reduce uncertainty.

As the rate of environmental change accelerates, exploratory learning increases in importance (McGrath 2001). Exploratory learning results in greater variance in both the novel knowledge and routines created so as to generate internal variety to deal with rapid rates of changes and thus gain new competitive advantages (March 1991; McGrath 2001). Given that strategic variety is required under high dynamism (Larrañeta, Zahra, and González 2014), those new ventures that engage primarily in exploratory learning have more competitive

Figure 1
Research Framework



advantages under uncertainty. Not surprisingly, exploratory learning is expected to contribute to new venture performance in challenging business environments (Su, Li, Yang, and Li 2011). Overall, exploratory learning is the key avenue to understanding the influence path of effectuation on new venture performance. Given the higher uncertainty caused by emerging markets and rapid shifts in institution (Ahlstrom and Bruton 2010; Hitt, Li, and Worthington IV 2005), new ventures benefit from effectuation through exploratory learning particularly in transitional economies.

Applying the theory of effectuation and organizational learning, we construct the research framework to explain how effectuation impacts on new venture performance. First, we examine the effect of effectuation on new venture performance. Then, as shown in Figure 1, we examine the mediating role of exploratory learning in the relationship between effectuation and new venture performance. Given that effectuation and exploratory learning are both relevant to uncertainty (Chandler et al. 2011; Sarasvathy 2001), we will discuss the research framework in the context of transitional economies characterized with turbulence and changes (Ahlstrom and Bruton 2010; Li et al. 2008; Tan 2005).

Effectuation and New Venture Performance

Effectuation is a formative construct that consists of four dimensions: experimentation, affordable loss, flexibility and pre-commitments and strategic alliance (Chandler et al. 2011; Fisher 2012). These dimensions are outlined by Chandler et al. (2011) based on original work on the theory of effectuation proposed by Sarasvathy (2001). In general, effectuation focuses on "short-term experiments, projects where the loss in a worst-case scenario is affordable, pre-commitments, and strategic alliances to control an unpredictable future, and also exploiting environmental contingencies by remaining flexible" (Chandler et al. 2011). As an important strategic decision logic to deal with uncertainty (Wiltbank et al. 2006), effectuation enables new ventures to discover and create opportunities such as new products, services and markets for wealth creation with the resources at hand particularly in transitional economies.

Specifically, experimentation refers to a series of trial and error changes pursued along various dimensions of strategy, over a relatively short period of time, in an effort to identify and establish a viable basis for competing (Chandler et al. 2011; Nicholls-Nixon, Cooper, and Woo 2000). The effectuation process as a series of experiments with business models allows new ventures to formulate and crystallize strategic goals in an unpredictable future (Chandler et al. 2011; Larrañeta, Zahra, and González 2012). Given the turbulent business environment in transitional economies (Tan 2005), predetermined strategic goals do not always work well. Experimentation is particular essential for new ventures to quickly sense and develop viable opportunities to adapt to the frequent changes (Andries, Debackere, and Looy 2013; Lau 2011).

Affordable loss involves effectuators estimating what they might be able to put at risk and examining what they are willing to lose to follow a particular course of action (Chandler et al. 2011; Dew et al. 2009). New ventures using the affordable loss principle only commit limited amounts of resources to new projects at a time to control the risk (Fisher 2012). Given the great risk of failure constrained by limited financial and human resources (Stinchcombe 1965), affordable loss helps increase the possibility of new ventures' survival by stretching resources (Dew et al. 2009; Sarasvathy 2001). For new ventures in transitional economies, it is particularly expensive and difficult to obtain valuable resources from undeveloped factor markets (Ahlstrom and Bruton 2010; Guo, Cai, and Zhang 2016; Webb et al. 2013). As a result, the affordable loss principle is particularly crucial for new ventures to capture the unpredictable upsides of new opportunities at a low cost in resource constrained environments like transitional economies.

Flexibility implies that new ventures adapt what they are doing to the resources they have with the structure of new ventures dependent on contingent opportunities and the particular investments made by the stakeholders (Chandler et al. 2011; Sarasvathy 2001). Flexibility facilitates new ventures' responses to environmental changes so that they can quickly take advantage of contingencies without restrictions under uncertainty. Moreover, flexibility also helps combine the resources at hand creatively to address to unexpected opportunities (Wiltbank et al. 2006). Given that the liberalization of markets increases market opportunities and the level of competition in transitional economies (Lukas, Tan, and Hult 2001; Smallbone and Welter 2001; Tan and Zeng 2009), flexibility allows new ventures to recombine the resources at hand, and thus adapting to emerging opportunities for profit and growth in the marketplace.

Pre-commitments and strategic alliances allow new ventures to build new competitive advantages by obtaining unique strategic resources prior to having a fully developed products or services from potential suppliers, competitors and customers (Chandler et al. 2011). By establishing pre-commitments and alliances with strategic partners, new ventures are able to design the future and build entry barriers of industries through the interactions with the stakeholders who are "stitched together" (Wiltbank et al. 2006). In transitional economies, most new ventures lack the necessary resources given that inadequacies of legal and basic supporting systems for economic activities, inefficient information disclosure and market imperfections are common (Choi, Lee, and Williams 2011; Zahra, Abdelgawad, and Tsang 2011). Therefore, pre-commitments and strategic alliances are particularly important for new ventures to shape and seize new opportunities by obtaining competitive resources from external stakeholders in this context.

Accordingly, effectuation allows new ventures to sense, shape and seize new opportunities for creating and capturing value particularly in the context of transitional economies. These discussions lead to the following hypothesis:

H1: Effectuation has a positive effect on new venture performance.

The Mediating Role of Exploratory Learning in the Relationship between Effectuation and New Venture Performance

Consistent with emerging strategies, effectuation provides new ventures great opportunities to engage in exploratory learning to search, recognize and understand new entrepreneurial knowledge in an effort to quickly response to rapid environmental changes. Exploratory learning serves as the key action directed by effectuation logic to formulate and crystallize strategic goals for wealth creation in terms of gaining new entrepreneurial knowledge to reduce uncertainty. Accordingly, it is important to examine the antecedent effect of effectuation on exploratory learning in new ventures. Specifically, as the principles of effectuation, experimentation, affordable loss, flexibility, and pre-commitments and strategic alliances facilitate exploratory learning particularly in transitional economies.

First, effectuation focused on experimentation allows new ventures to engage in exploratory learning in terms of gaining new knowledge necessary for developing effective strategic goals over a relatively short period of time. Experimentation as a method of probing into the future motivates new ventures to search new knowledge about new products/services, technologies and markets by interacting with suppliers, customers and competitors to recognize as many business models as possible (Chandler et al. 2011; March 1991; Zahra, Sapienza, and Davidsson 2006). Further, experimentation also generates new knowledge about cause-effect relationships between different business models and their outcomes to determine which one does and does not work in the marketplace (Nicholls-Nixon, Cooper, and Woo 2000). Through recognizing and understanding these new knowledge, new ventures are able to internalize them to develop viable business models (Lane, Koka, and Pathak 2006). Given that most new ventures in transitional economies facing rapid shifts in market and technology, in particular, lack sufficient experiences to determine viable business models (Dixon, Meyer, and Day 2010; Tan 2005), experimentation is of greater importance for them to engage in exploratory learning to quickly seize valuable opportunities.

Second, using the affordable loss principle, effectuation enables new ventures to engage in exploratory learning to evaluate opportunities with the resources they afford to lose. Given that entrepreneurs in new ventures may be suspicious of the information needed to find new opportunities worth plunging into (Dew et al. 2009), new ventures are required to search, recognize, and understand the knowledge generated from the outcomes and inputs of incremental resource investment (Dixit 1994). Based upon these knowledge, new ventures are able to better evaluate opportunities and reject those that cause the risk out of their control. Especially for new ventures facing stronger resource constraints in transitional economies (Bruton and Ahlstrom 2003; Gedajlovic, Cao, and Zhang 2012), affordable loss facilitates exploratory learning to avoid large resource loss that they cannot afford caused by new opportunities development.

Third, effectuation emphasizing flexibility facilitates the process of new knowledge exploration in new ventures for generating internal variety to adapt to changes. When adaptation requires the creation of variety, exploration is crucial (Bock et al. 2012; March 1991; McGrath 2001; Sanchez 2004). Flexibility contributes to exploratory learning in terms of gaining new knowledge for building a variety of new capabilities rather than fall into the "competence trap" to be proactive or quickly adapt to rapid changes (Hitt, Keats, and DeMarie 1998; Levinthal and March 1993; Politis 2005). Moreover, flexibility allows new ventures to have structures dependent on contingencies so as to promptly gain and internalize new knowledge of unexpected changes which serves as a basis to combine resource creatively for addressing new challenges (Baker and Nelson 2005; Hitt et al. 2011).To cope with rapid shifts in institution and market in transitional economies (Dixon, Meyer, and Day 2010; Peng and Luo 2000), flexibility enables new ventures to engage in exploratory learning for capability building and creative resource combination.

Finally, through establishing pre-commitments and strategic alliances, effectuation helps new ventures to engage in exploratory learning by creating a variety of external knowledge sources (Chandler et al. 2011; Fisher 2012). Pre-commitments and strategic alliances allow new ventures to search, recognize, and understand tacit and unique knowledge from strategic partners through interacting with external stakeholders (Hitt, Li, and Worthington IV 2005; Larrañeta, Zahra, and González 2012; Zahra, Ireland, and Hitt 2000). To gain new knowledge externally is more critical for new ventures in transitional economies given that they cannot solely learn from their own experiences because much of that is outdated and outmoded in the increasingly open market (Zhao, Li, and Lee 2011). As such, pre-commitments and strategic alliances provide new ventures with heterogeneous external knowledge sources to fill their knowledge gap quickly in transitional economies.

Given that performance is a function of potential benefit and current capability (March 1991; Davidsson, Steffens, and Fitzsimmons 2009), exploratory learning is important to create variety and enlarge the potential benefit in the long run (March 1991; Sirén, Kohtamäki, and Kuckertz 2012). New ventures focusing on exploratory learning are able to acquire pertinent knowledge and ways of knowing that will raise performance (McGrath 2001; Uotila et al. 2009). To establish and sustain competitive advantages, new ventures are required to continually obtain new entrepreneurial knowledge to create new capabilities for quickly transforming new ideas into successful products or services in the marketplace. Exploratory learning is more crucial for new ventures to create wealth in transitional economies given that existing knowledge cannot be applied to new circumstances in emerging markets (Dixon, Meyer, and Day 2010; Tan 2005). New ventures that prove to engage in more effective exploratory learning will be better able to adapt to changing circumstances (McGrath 2001). As such, exploratory learning is essential for new ventures' survival and growth particularly in transitional economies.

Consequently, exploratory learning as the process of gaining new entrepreneurial knowledge is a full mediator in the relationship between effectuation aggregated by the aspects above and new venture performance. In particular, the role of exploratory learning is more crucial for new ventures in transitional economies given their less experience in market competition and higher uncertainty exhibited by the institutional and market environments compared with those that in mature economies (Dixon, Meyer, and Day 2010). Thus, the following hypothesis is proposed:

H2: Exploratory learning plays a fully mediating role in the relationship between effectuation and new venture performance.

Methodology

Sample and Data Collection

Data for this study were obtained through an interview survey instrument implemented in China. To ensure the validity and generality of our data, we choose two cities in China as our survey locations: Changchun city (the capital city of Jilin Province) and Beijing City (the capital of China). These two regions have significant differences in levels of entrepreneurial activities and economic growth. CPEA (China Private Entrepreneurship Activity) is used to measure the level of entrepreneurial activities in each region of China. Data from Global Entrepreneurship Monitor China 2011 indicates that Beijing (the capital of China) which has one of the highest values of the CPEA though Jilin Province has a much lower value of CPEA among the regions in China. Additionally, Changchun has a GDP of only 332.9 billion RMB, which is about 23.59 percent of the GDP of Beijing (1411.36 billion RMB) (Jilin Province Statistical Yearbook, 2010). Our sampling follows the criteria in the sample selection principle: the greater the differences in the sample, the greater the validity of the results (Strauss and Corbin 1998). Based on a growing consensus about classifications of new ventures (Brush 1995; Zahra, Ireland, and Hitt 2000), we consider companies six years of age or younger to be new ventures. Consequently, we selected our sample from lists of local new ventures in these two cities and then surveyed the entrepreneurs and top management team members of those ventures. The data collection occurred from May 2012 to October 2013. The entrepreneurs and top management team members from 400 new ventures in these two cities received the interview survey. We received 266 valid questionnaires, for a valid respondent rate of 66.5 percent. The average age of responding companies is 3.64 years (S.D. = 2.21). Most responding companies (94.2 percent) are small and medium-sized enterprises that have fewer than 200 employees. The companies mostly engage in manufacturing (25.7 percent) and transmission or computer services and software industries (30.0 percent).

Questionnaire and Measures

We developed the questionnaire based on the theoretical literature and related widely used questionnaires. The questionnaire was first developed in English and then translated into Chinese. The Chinese version was subsequently translated back into English by a third party to compare with first English version. The process was repeated until the two versions showed few substantive differences. After the translations were finalized, we sent the questionnaires to three professors in this field to review, and we revised the questions with their suggestions. Then a pilot test was conducted with 12 entrepreneurs in new ventures until we no longer obtained new feedback from new respondents. The questionnaires were revised according to the feedback from the pilot study. To ensure the accuracy of the data, all the interviewers received training on the background of the survey, interviewing skills, and the meaning of each item in the questionnaire.

All the items measuring effectuation, exploratory learning and new venture performance on five point scales are displayed in the Appendix. Entrepreneurs and top management team members were asked to score effectuation and exploratory learning according to their views of the items measuring them on scales from 1 (strongly disagree) to 5 (strongly agree).The items measuring effectuation were selected from the items proposed by Chandler et al. (2011). Effectuation is a formative construct including experimentation, affordable loss, flexibility and pre-commitment and strategic alliances, which are all widely accepted by scholars (Fisher 2012; Perry, Chandler, and Markova 2012). In this research, we consider effectuation to be a combination of these elements. We aggregated all the items measuring dimensions of effectuation in an effort to measure it completely. The survey items measuring exploratory learning in new ventures based on measures in the literature (Kim and Atuahene-Gima 2010; Land, Engelen, and Brettel 2012; Politis 2005). These items are widely accepted by the scholars in the research (Molina-Castilloa, Jimenez-Jimenezb, and Munuera-Alemana 2012; Li et al. 2014).

New venture performance was measured using six items drawn from the literature. Entrepreneurs and top management team members were asked to score new venture performance on a scale from 1 (extremely low) to 5 (extremely high). To ensure that the measurement was suitable for new ventures in a mature market economy and those in transitional economies, we selected the items used in the research on new venture performance in both China and the United States (Li and Zhang 2007; Zahra, Ireland, and Hitt 2000). Based on the extant research on

Table 1
Descriptive Statistics and Correlation[a]

Variables	Mean	S.D.	1	2	3	4	5	6	7
1. Effectuation	3.42	0.58							
2. Exploratory learning	3.59	0.67	0.43**						
3. Age	3.64	2.21	−0.06	−0.10					
4. Size	1.62	1.01	−0.12	−0.15*	0.26**				
5. Industry	0.56	0.51	0.06	0.03	−0.22**	−0.18**			
6. Location	0.37	0.48	0.05	0.07	0.19**	−0.29**	−0.17**		
7. Entrepreneurial experience	0.24	0.44	0.12	0.15*	0.02	0.01	0.02	−0.01	
8. New venture performance	3.26	0.73	0.28**	0.38**	−0.06	−0.12	0.08	−0.06	0.18**

[a]$N = 266$; $^*p \leq .05$; $^{**}p \leq .01$.

new venture performance, the measure includes the items that commonly reflect the profitability and growth of new ventures. Items associated with the profitability of new ventures are net profit rate, investment return rate and market share rate (OP3). Items relevant to the growth of new ventures are sales growth speed (OP4), new employees growth speed (OP5) and market shares growth speed (OP6). Market shares growth speed was used to reflect the growth of new ventures in the market competition given that China is the largest emerging market (Li and Zhang 2007).

This study includes controls for several variables that might affect the hypothesized relationships, including company age, company size, and entrepreneurial experience, industry and location. Company age, was measured by the number of years a firm has been in existence (Su et al. 2011; Zahra 2012). Company size, represented by the number of full-time employees at a company (Zahra 2012), was divided into six groups (1 = "less than 20 employees"; 6 = "more than 1000 employees"). Entrepreneurial experience is a dummy variable, with a value of "1" assigned when the entrepreneur has prior entrepreneurial experience. Industry is a dummy variable, with a value of "1" assigned when the venture is in a high-tech industry. Location is a dummy variable, with a value of "1" assigned when the venture is located in Beijing.

Analysis and Results. Table 1 displays the descriptive statistics and correlations of all the variables in this study. Consistent with the theoretical logic we proposed, effectuation is positively associated with exploratory learning and new venture performance and exploratory learning is positively associated with new venture performance. Moreover, the results also show that company age is negatively associated with exploratory learning. This finding is consistent with the literature that younger new ventures have advantages in learning (Zahra, Sapienza, and Davidsson 2006). As a company's age increases and organizational routines are established, it is more difficult for them to explore new things (Ebben and Johnson 2005).

As shown in Table 2, coefficient alphas of most variables are well above 0.70. These results suggest that the theoretical constructs exhibit high reliability. Factor loadings and the accumulative variances can indicate the construct validity of items. Most of the loadings are well above 0.70. Moreover, the accumulative variances are above 50 percent. Consequently, our results imply a statistical significance of the relationship between the items and constructs and a reliability of individual items. A Harmon's one factor test was also run to test the potential common method bias. In the test, the first factor explains 24.40 percent of variance for all the items. The results suggest that the potential common method bias is not a serious problem in these data.

Multivariate linear regression analyses were run to test hypotheses. The results of multiple regression analyses appear in Table 3. In model 1, new venture performance was regressed on the control variables. In model 2, new venture performance was regressed on effectuation and control variables to test H1. To test the mediating effect of H2, we adopted the widely used procedures developed by

Table 2
Standard Estimates and Coefficient Alphas

Items	Factor Loading	Alpha	Accumulative Variance Explained
Effectuation			
Experimentation			
EX1	0.77	0.67	59.97 percent
EX2	0.78		
EX3	0.78		
Affordable Loss			
AF1	0.83	0.71	63.33 percent
AF2	0.82		
AF3	0.73		
Flexibility			
FL1	0.73	0.70	52.82 percent
FL2	0.72		
FL3	0.78		
FL4	0.68		
Pre-commitments & Strategic Alliances			
PS1	0.73	0.78	52.92 percent
PS2	0.75		
PS3	0.72		
PS4	0.70		
PS5	0.75		
Exploratory Learning			
EL1	0.67	0.77	46.83 percent
EL2	0.70		
EL3	0.72.		
EL4	0.66		
EL5	0.65		
New Venture Performance			
NVP1	0.74	0.84	55.22 percent
NVP2	0.74		
NVP3	0.76		
NVP4	0.72		
NVP5	0.71		
NVP6	0.79		

Baron and Kenny (1986). In model 3, the mediator (exploratory learning) was regressed on the controls and the independent variable (effectuation). In model 4, the independent variable (new venture performance) was regressed on the mediator (exploratory learning) and control variables. Finally, effectuation was added into model 5 based on the variables in model 4. Inspection of factor inflation variables (NIF) (all below 2) suggests that multicollinearity is not a concern in the dataset. We also added histogram curves to discuss the normality of data in the analysis section in Figure 2. The graphs show that the data of each variable follow normal distribution.

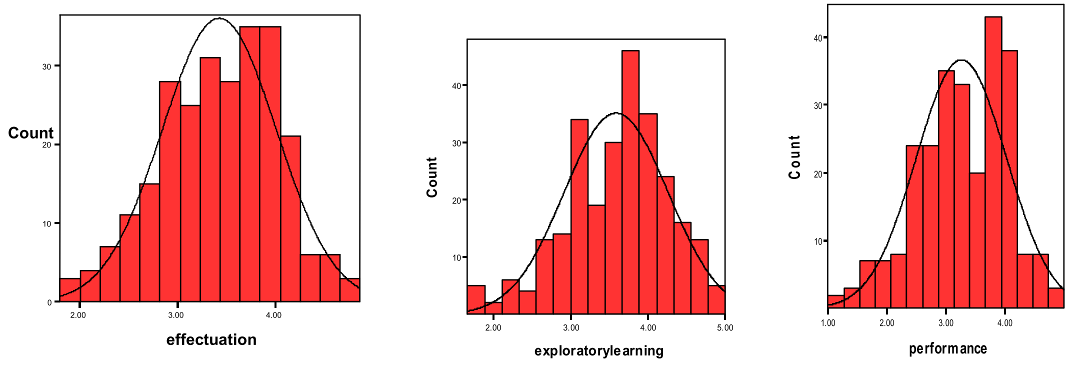
Model 1 reveals that the control variables of age are negatively associated with new venture performance. Model 2 shows a significantly positive effect of effectuation on new venture performance ($\beta = 0.24$, $p < .001$). Therefore, H1 is supported. According to the logic of this procedure for testing mediation effect (Baron and Kenny 1986), full mediation is suggested if the following conditions are met: (a) the independent variable is a significant predictor of both the dependent variable and mediator, (b) the

Table 3
Multivariate Linear Regression of the Relationship between Effectuation, Exploratory Learning and New Venture Performance[a]

Variables	New Venture Performance				Exploratory Learning		New Venture Performance			
	M1	VIF1	M2	VIF2	M3	VIF3	M4	VIF4	M5	VIF5
Age	−0.01	1.21	0.01	1.20	−0.10	1.20	0.02	1.22	0.04	1.22
Size	−0.13	1.27	−0.12	1.26	−0.06	1.27	−0.11	1.28	−0.10	1.27
Industry	0.05	1.53	0.03	1.57	0.10	1.57	0.01	1.55	−0.01	1.59
Location	−0.12	1.65	−0.11	1.68	0.01	1.67	−0.11	1.68	−0.11	1.68
Entrepreneurial Experience	0.18**	1.00	0.16	1.02	0.10	1.02	0.12	1.03	0.13	1.03
Effectuation			0.24***	1.03	0.38***	1.03			0.11	1.21
Exploratory Learning							0.35***	1.06	0.34***	1.25
R^2	0.05		0.11		0.21		0.17		0.20	
Adjusted R^2	0.03		0.09		0.19		0.15		0.18	
ΔR^2			0.06		0.16		0.12		0.15	
F value	2.7*		5.00**		10.36***		8.15***		8.52***	

$N^a = 266$; $^*p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$.

Figure 2
Histogram Curves of Effectuation, Exploratory Learning, and New Venture Performance [Colour figure can be viewed at wileyonlinelibrary.com]



mediator is a significant predictor of the dependent variable, and (c) the effect of the independent variable on the dependent variable is no longer significant when the mediator is added into the model. As shown in model 2 and model 3, effectuation has a significant positive effect on both new venture performance ($\beta = 0.24$, $p < .001$) and exploratory learning ($\beta = 0.38$, $p < .001$). The first criterion that Baron and Kenny (1986) proposed has been met. Model 4 indicates that exploratory learning has a significantly positive effect on new venture performance ($\beta = 0.35$, $p < .001$).The second criterion is fulfilled. Model 5 reveals that the effect of effectuation on new venture performance becomes nonsignificant ($\beta = 0.11$, $p > .05$) due to the mediating effect of exploratory learning ($\beta = 0.34$, $p < .001$). The third criterion is also met. In sum, all the criteria proposed by Baron and Kenny (1986) were met. Thus, these results support H2.

Discussion and Conclusions

The results of this study provide an empirical test of H1 and H2. According to the results of the data analysis, the hypotheses are supported. The empirical evidence obtained from our research has great implications for the extant theoretical studies. First, using the data from China, our results indicate that effectuation has a positive effect on new venture performance in transitional economies. As effectuation research has moved into an intermediate state, it is imperative to examine the consequences of using effectual logic in different contexts by collecting data through questionnaires (Perry, Chandler, and Markova 2012). Although there is a growing body of literature focused on mature economies (Brettel et al. 2012; Harms and Schiele 2012), few scholars have examined if effectuation could be a predictor of new venture performance in transitional economies. Compared to mature economies, transitional economies exhibit higher uncertainty due to the emerging market and undeveloped institution systems (Ahlstrom and Bruton 2010; Zahra, Abdelgawad, and Tsang 2011). Accordingly, our findings help develop this research stream by extending the application of the effectuation theory in transitional economies. Moreover, many scholars have noted that effectuation logic is likely to be more effective in settings characterized by greater levels of uncertainty compared to causation (Perry, Chandler, and Markova 2012). Consistent with planned strategies, causation focused on selecting between means to create the given effect might be ineffective under high uncertainty (Fisher 2012; Sarasvathy 2001). It has been argued that uncertainty is negatively related with causation and positively correlated with effectuation in new ventures (Chandler et al. 2011; Sarasvathy 2001). Our findings provide supports for the extant theoretical arguments by demonstrating the positive effect of effectuation on new venture performance in transitional economies, which might differentiate effectuation from causation.

Second, our results also indicate that exploratory learning has a fully mediating role in the relationship between effectuation and new venture performance. To develop the research stream of effectuation, it is crucial to explore through what actions new ventures benefit from effectuation (Venkataraman and Sarasvathy 2001). Surprisingly, in view of the extant literature, few scholars have focused on this regard. As such, our research help uncover the missing link by demonstrating the mediating role of exploratory learning. Moreover, according to Perry, Chandler, and Markova (2012), since the extant literature does not provide clear information to estimate the likely effect of effectuation, the goal of data analysis at the intermediate state would be to provide preliminary evidence of the relationships between effectuation and theoretically appropriate constructs such as organizational learning. In our research, the results of the data analysis provide evidence that exploratory learning as a kind of organizational learning crucial for new ventures is greatly facilitated by effectuation in transitional economies characterized with high uncertainty. Thus, our results help tie effectuation research to organizational learning theory and also encourage relevant empirical examinations in different contexts.

Our results also have implications for entrepreneurial practices in challenging business environments like transitional economies. Based on entrepreneurial practices in China which has the largest transitional economy (Cai and Shan 2013; Li et al. 2014), we can find cases to strongly support our results. Alibaba Group, the global leader in B2B e-commerce listed on the New York Stock Exchange in 2014 serves as a good example to illustrate our findings. Given the unpredictable changes in consumer demand and technology in emerging markets (Atuahene-Gima and Li 2006; Yu et al. 2013), Alibaba, China's the largest Internet company, benefits a lot from effectuation through exploratory learning. Specifically, new ventures benefit from experimentation through exploratory learning because they cannot know what to do next without jumping into the water in emerging markets like China. Jack Ma, the founder of the Alibaba Group knew nothing about Internet based entrepreneurship since the internet market did not exist in China when he first recognized the potential market of Internet in 1995. Ma and his team took a few experiments such as establishing China Pages and joining China International Electronic Commerce Center from 1995 to 1999. In so doing, the founding team gained new knowledge of Internet market and thus realized that business-to-business (B2B) would be a viable business model in e-commerce. Hence, Alibaba Group was established in 1999, which achieves great success in the global B2B e-commerce market. Moreover, affordable loss allows new ventures to make better opportunity evaluation through exploratory learning. After Alibaba got $5 million in funding from investors in 1999, the CEO from Softbank wanted to provide Alibaba with a financial investment of $40 million in 2000. It would be a great opportunity for Alibaba to expand business. By using affordable loss principle, Ma gained new knowledge from the Chief Financial Officer of Alibaba to evaluate the risk. Finally, Ma only accepted the investment of $20 million from Softbank to avoid large loss of control rights.

Given that the shifts in market demand and technology are quite unpredictable in transitional economies like China, flexibility enables new ventures to behave better than other competitors in the marketplace through exploratory learning. By emphasizes being flexible to embrace changes, Alibaba is able to quickly search, recognize and understand new knowledge of customer demands to exploit contingencies. With these knowledge internalized, Alibaba launched Taobao marketplace in 2003 and Alipay in 2004 to provide online shopping and third-party online payment services to seize emerging opportunities and even shape opportunities in e-commerce. Pre-commitments and strategic alliances also contributes to new venture performance through exploratory learning in this context. Through obtaining pre-commitments from investors such as SoftBank and Goldman Sachs from 1999 to 2000, Alibaba expands quickly through gaining new knowledge of resource combination from these investors. Furthermore, the strategic alliance with Yahoo in 2005 allows Alibaba to build new competitive advantages through acquiring new knowledge of search engine technology from Yahoo.

In conclusion, the results of our research using data from China suggest that effectuation has a positive effect on new venture performance. This research also demonstrates the fully mediating role of exploratory learning in the relationship between effectuation and new venture performance. Our research contributes to extending the application of effectuation theory in transitional economies and also provides managerial guidance for how new ventures benefit from effectuation particularly in transitional economies.

Limitations and Implications for Future Research

This study has several limitations and also implications for future research. First, our research only examines the link among effectuation, exploratory learning and new venture performance in transitional economies like China. However, the results might be different in mature market economies where external environmental conditions are likely to be more stable and a stronger recent tradition and experience of entrepreneurial activity exists (Smallbone and Welter 2001). Further studies should compare the relationships above between transitional economies and mature economies. Second, the research data were collected from primarily the same source and also collected at one point in time in this research. As such, we were unable to capture the evolution of the relationship between key variables in this research. In the future longitudinal studies, it would be important to use multiple sources of data such as using panel data to explore the dynamic relationship between key variables. Finally, the measurement of effectuation is a little weak. Besides the dimensions we use measure effectuation, another aspect of effectuation is beginning with the means at hand (Chandler et al. 2011; Perry, Chandler, and Markova 2012). Further research should add items focusing on this dimension to measure effectuation more comprehensively.

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Appendix : Variables Measurement Scales

Variables	Items	Literature Sources
Effectuation Experimentation	1. We experimented with different products and/or business models.	Chandler et al. 2011
	2. The product/service that we now provide is substantially different than we first imagined.	
	3. We tried a number of different approaches until we found a business model that worked.	
Affordable Loss	4. We were careful not to commit more resources than we could afford to lose.	
	5. We were careful not to risk more money than we were willing to lose with our initial idea.	
	6. We were careful not to risk so much money that the company would be in real trouble financially if things did not work out.	
Flexibility	7. We allowed the business to evolve as opportunities emerged	
	8. We adapted what we were doing to the resources we had.	
	9. We were flexible and took advantage of opportunities as they arose.	
	10. We avoided courses of action that restricted our flexibility and adaptability.	
Pre-commitments & Strategic alliances	11. We used pre-commitments from customers and suppliers as often as possible	
	12. We used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty.	
	13. Network contacts provided low cost resources.	
	14. By working closely with people/organizations external to our organization we have been able to greatly expand our capabilities.	
	15. Our partnerships with outside organizations and people play a key role in our ability to provide our product/service.	
Exploratory Learning	1. We would like to try new and different ideas.	Kim and Atuahene-Gima 2010; Land, Engelen, and Brettel 2012
	2. We are taking activities about new products/services development	
	3. We search for new information useful for acquiring and allocating new resources	
	4. We search for new information useful for exploring new fields	
	5. We search for new information useful for meeting market demands	
New Venture Performance	1. Net profit rate(OP1)	Li and Zhang 2007; Zahra, Ireland, and Hitt 2000
	2. Investment return rate(OP2)	
	3. Market share rate (OP3)	
	4. Sales growth speed (OP4)	
	5. New employees growth speed (OP5)	
	6. Market shares growth speed (OP6)	

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Variance of Firm Performance and Leverage of Small Businesses

by Daisuke Tsuruta

We investigate the relationship between leverage and firm performance using small business data from Japan by estimating the effects of leverage on both average firm performance and the variance of firm performance. We find that leverage has a negative effect on average firm performance and a positive effect on the variance of firm performance. This suggests that the problem of moral hazard is severe for highly leveraged firms. However, when highly leveraged firms have sufficient collateral assets, the effects of leverage are positive for average performance, but negative for the variance of performance. This implies that when small firms have sufficient collateral assets, highly leveraged businesses are better performers.

Introduction

In this paper, we investigate the performance of small business firms after they became highly leveraged. Despite the Modigliani–Miller theorem supporting its irrelevance, many empirical studies assert that high leverage is costly for firms. For example, Opler and Titman (1994) show that highly leveraged firms, which are more likely to be financially distressed, lose sales and operating income in industry downturns. As a result, they tend to lose substantial market share to their more conservatively financed competitors. Similarly, Lang, Ofek, and Stultz (1996), Aivazian, Ge, and Qiu (2005), Ahn, Denis, and Denis (2006), and Cai and Zhang (2011) identify negative relationships between leverage and firm performance using data on listed firms. In addition, Graham, Hazarika, and Narasimhan (2011) show that high levels of leverage increased the probability of firms becoming distressed during both the Great Depression (1928–1938) and the more recent Great Recession (2008–2009).

For the most part, these studies demonstrate that the performance of highly leveraged firms is lower on average than that of less highly leveraged firms. Many theoretical studies show that the variance in firm performance of highly leveraged firms is also an important concern, especially for small businesses. First, more highly leveraged firms have an incentive to select risky projects, which means that lenders face the problem of dealing with moral hazard. In the case of small businesses, the asymmetric information problem between lenders and borrowers is severe, so the moral hazard problem can be especially serious.[1] In this case, the effects of leverage on average firm performance are negative, and the variance in firm performance is greater because leveraged firms can acquire large cash flows if their investment projects succeed. In addition, the effects of leverage on the probability of payments being postponed are positive if the moral hazard problem is significant.

Second, the high leverage of small businesses can result from improved credit availability. Banks mitigate information problems using a variety of lending technologies, including developing lending relationships, collateral lending,

Daisuke Tsuruta is a professor at the College of Economics, Nihon University.

Address correspondence to: Daisuke Tsuruta, College of Economics, Nihon University, 1-3-2 Misaki-cho, Chiyoda-ku, Tokyo 101-8360, Japan. E-mail: tsuruta.daisuke@nihon-u.ac.jp.

[1]See Freixas and Rochet (2008) regarding a simple model of a credit market with moral hazard.

and so on (Berger and Udell 2006). These technologies enhance credit availability for small businesses, relax their credit constraints, and raise the levels of leverage. Firms then tend to invest more and enjoy better performance. In addition, leverage can be a proxy for investment opportunities because firms may become highly leveraged to undertake capital investment. Thus, high leverage and firm performance can exhibit a positive relationship on average. Further, the probability of a delay in the repayment of loans in this situation is lower for highly leveraged firms. This is because small businesses do not select risky projects, as banks can prevent the moral hazard problem using lending technologies. Therefore, there are no major variances in firm performance for highly leveraged firms.

Third, as Myers (1977) argues, debt overhang problems create underinvestment problems and can cause poor firm performance. The debt overhang problem means that highly leveraged firms are unable to obtain enough credit from lenders, even if they have new projects with positive net present values (NPVs). As new creditors obtain only small initial payments from the earnings of new projects, they do not offer credit to highly leveraged firms, despite the firms having projects with positive NPVs. As a result, highly leveraged firms can miss potential profits because they are unable to take advantage of profitable investment opportunities. If the underinvestment problem is serious, this can have a negative effect on the performance of leveraged firms on average. However, the variance in the performance of leveraged firms is not great because these same firms do not have an incentive to select risky projects.

This discussion suggests that leverage has effects on not only the level of firm performance, but also the variance of firm performance. However, previous studies using small business data—for example, Weill (2008), Agostino and Trivieri (2010), and Tsuruta (2015)—have focused only on average firm performance. Further, although many existing studies show that the cost of high levels of leverage is significant, the discussion of credit availability implies that highly leveraged firms are not always poorer performers. To determine which particular interpretation of the effects of leverage has empirical support, we investigate the relationship between leverage and firm performance by including both the average (or mean) of firm performance and the variance in firm performance. For this purpose, we employ the regression model with multiplicative heteroscedasticity proposed by Harvey (1976).[2] This model can investigate not only the average effects of leverage on firm performance, but also its effects on the variance in firm performance. As existing studies consider only the average effects, applying a regression model with multiplicative heteroscedasticity represents a novel contribution to the leverage–firm performance literature.

In addition, we investigate the relationship between high levels of leverage and firm performance when firms have high levels of collateral assets (and therefore the firms have better credit availability) and when firms are able to undertake capital investments. We focus on small businesses because the information gap is larger there than in the case of large businesses, and therefore the moral hazard problem is likely to be especially severe. In addition, existing lending technologies are useful for small business finance, so the leverage of small businesses serves as a proxy for credit availability.

Using data on small businesses in Japan from 2003 to 2009, we obtain the following results. First, focusing on the average effects of leverage, we find that highly leveraged firms suffer from poorer performance in terms of operating incomes and sales growth. However, the effects on operating income become positive after controlling for firm fixed effects and endogeneity. In addition, the variance in firm performance is higher if firms are highly leveraged. Further, the probability of default is higher for highly leveraged firms, so our estimation results suggest that these firms also face greater risk. Overall, these results support the moral hazard account of firm leverage. Second, these effects are more significant when firms have negative cash flows. This suggests that the moral hazard problem is more severe when firms do not earn sufficient cash flows, and this is consistent with the prior studies reviewed by Freixas and Rochet (2008).

Third, our estimation results show that if firms have large collateral assets, the average effects of leverage on firm performance becomes positive and the effects of leverage on

[2]Cerqueiro, Degryse, and Ongena (2011) use the regression model with multiplicative heteroscedasticity to examine the determinants of loan rate setting by banks.

the variance of firm performance becomes negative. These results imply that collateral assets mitigate the moral hazard problem. Further, some highly leveraged firms are also high-performing low-risk firms, a result that contrasts with the findings of previous studies.

Fourth, the effects of leverage on average firm performance are neither positive nor negative if firms can undertake capital investment. This implies that highly leveraged firms are not economically distressed if the high level of leverage results from large capital investments. Conversely, the effects on the variance of firm performance are positive, which suggests that highly leveraged firms that undertake capital investments are likely to be either very high or very low performing firms, depending on their investment success.

Our results have some implications for studies investigating firm performance of small businesses (De Massis et al. 2015; Pirolo and Presutti 2010). Many studies estimate the average effects for profitability or sales growth. Our estimation results show that not only leverage, but also firm size, firm age, and year dummies also have significant effects on the variance of firm performance. As such, a number of variables influence the variance of firm performance.

The remainder of the paper is organized as follows. The second section describes our hypothesis, while the third section details the data set. In the fourth section, we examine the effects of leverage on the performance of firms using the regression model with multiplicative heteroscedasticity. The fifth section provides the estimation results concerning the effects of leverage on the probability of default. The final section concludes the paper.

Hypothesis Development

Based on the existing literature, the effect of capital structure on leverage and firm performance can be either positive or negative. In this section, we discuss the theory relating to the relationship between capital structure and firm performance, namely, the problems of moral hazard, credit availability, and debt overhang. As the pecking order theory argues, the causes of high levels of leverage include large investments and low cash flows.[3] We also argue that the relationship between firm performance and leverage varies depending on the original reason(s) for the high levels of leverage.

Moral Hazard

In a perfect credit market, lenders can observe information about borrowers, which leads to an efficient market. However, as Stiglitz and Weiss (1981) argue, in reality lenders often cannot obtain information about borrowers. That is, lenders cannot observe the borrowers' ex-post actions when they make their lending decisions. Borrowers may prefer risky projects because they are not obligated to meet debt payments if they earn cash flows less than their value. In contrast, lenders prefer low-risk projects because they experience large losses in the event of debt payment default. Nevertheless, lenders cannot avoid all risky investments because of information asymmetry. As Berger and Udell (1998) conclude, the information asymmetry between borrowers and lenders is especially severe if the borrowers are small businesses.

Nonetheless, the agency conflict between shareholders and managers is often not significant in small businesses because of the lack of the separation of ownership and control. However, this means that managers may select projects preferred by shareholders (themselves), not those preferred by debtors. This suggests that the asset substitution problem pointed out by Jensen and Meckling (1976) can be serious with small business finance. Because the debtors of leveraged firms obtain large payments from the firm's cash flows, the shareholders of leveraged firms do not obtain sufficient dividends if the firm's cash flows are small. In addition, shareholders have limited liability with respect to the firm's debts. In this case, the shareholders and managers (which are often the same in small businesses) have an incentive to select risky projects, which results in projects with a higher variance.

If the moral hazard and asset substitution problems are severe, the average firm performance (in terms of profitability and sales growth) is lower and the variance of firm performance is higher for highly leveraged firms compared with less leveraged firms. In addition, according to Freixas and Rochet (2008), these problems

[3]According to Frank and Goyal (2003), leverage is determined by cash flows, the annual change in fixed assets (as a proxy for investment), working capital, and long-term debt.

are especially severe if leveraged firms earn lower cash flows.

Credit Availability

The asymmetric information problem results in credit rationing for borrowers. As Berger and Udell (2006) argue, lenders mitigate the information problem using various lending technologies, such as relationship and collateral lending and credit scoring. Higher leverage indicates that firms can borrow sufficient funds from banks because these technologies help mitigate the information problem. As a result, the credit constraints for these highly leveraged firms are not severe, so the performance of more leveraged small businesses is on average higher. In addition, as pecking order theory argues that small businesses cannot obtain outside equity because of its relatively high cost, they tend to use large amounts of debt. As argued by Storey (1994), inside shareholder monitoring is weak in small businesses, so the discipline of debt is more effective in enhancing firm performance. This also leads to the suggestion that the average performance of highly leveraged firms is higher.

Furthermore, these small businesses do not have an incentive to choose risky investments because the lending technologies prevent the problem of moral hazard. For example, banks can monitor the activities of small businesses through their long-term relationships. In addition, if small businesses pledge their fixed assets (such as land and real estate) as collateral for a loan, they will not select risky investments. Therefore, if high levels of leverage are the result of actions to mitigate the information problem, then highly leveraged small businesses do not choose risky projects. As a result, we can observe that the average performance of highly leveraged firms will become higher. In particular, we observe the positive effects of leverage if firms have sufficient collateral assets. In addition, the variance of performance for highly leveraged small businesses is not significant.

A point related to the above discussion is that the high leverage can be caused by strong investment opportunities. Firms with positive NPVs and low credit constraints achieve more investments and enjoy higher performance. Therefore, if leverage is a proxy for investment opportunities, the performance of highly leveraged small businesses is on average higher. Further, the probability of default for highly leveraged small businesses is small.

In contrast, the literature on discouraged borrowers (Kon and Storey 2003) suggests that small businesses with strong investment opportunities do not apply for loans from banks. This is because they incur large application costs and face some possibility of application rejection, even when they have profitable investment opportunities available. Cosh, Cumming, and Hughes (2009) show that firms experiencing severe asymmetric information have a higher cost of seeking and obtaining external capital, the presence of discouraged borrowers in small business finance can be significant. In addition, the literature on overlending (De Meza 2002) suggests that firms with both good and bad projects can borrow funds from banks under asymmetric information, so the highly leveraged firms are not necessarily firms with better investment opportunities. If this holds, the performance of highly leveraged firms will not be better on average.[4]

Debt Overhang

The conflict of interests between new and existing debtors can induce the debt overhang problem. As Myers (1977) argues, debt overhang problems create problems with underinvestment and can cause poor firm performance. Even if small businesses with high levels of leverage have potential investment projects that generate positive NPVs, they cannot issue new junior debt. Because the earnings generated by new investment projects pay debts to existing debt holders, new junior debtors do not obtain adequate payments from the earnings of any new projects. Therefore, new debtors do not offer credit for new projects, despite the presence of positive NPVs. As highly leveraged firms cannot obtain sufficient credit, they can miss potential profits from being unable to take advantage of profitable investment opportunities. If the debt overhang problem is severe for small businesses, the performance of highly leveraged small businesses becomes lower on average. However, unlike the moral hazard

[4]In contrast, as Lang, Ofek, and Stulz (1996) argue, firms with strong investment opportunities may choose lower leverage because of the cost of high leverage. If correct, the performance of highly leveraged firms will be lower on average.

problem, the debt overhang problem does not lead small businesses to prefer risky projects. Therefore, the variance of performance will not be large, even if the debt overhang problem is severe.

Data

In this analysis, we use firm-level data on small businesses in Japan from 2003 to 2009. The data are from the credit risk database for Small and Medium Enterprises (CRD), established by several financial institutions and credit guarantee corporations under the guidance of the Small and Medium Enterprise Agency in Japan. The CRD Association manages the data.[5] The data collection process targets firms defined as small and medium enterprises under the Small and Medium Enterprise Basic Law.[6]

The CRD uses data on the small business clients of financial institutions with regular member status. These regular members have a duty to provide all of their small business client data in return for the CRD's credit-risk scoring service, statistical information, and other services. If these financial institutions cease transactions with a client firm, the collection of client data ceases, although the CRD includes some bankrupt firms because financial institutions sometimes continue their transactions with these firms. However, there is likely truncation in the data on high-credit risk firms because banks often cease transactions with risky firms. Furthermore, firm data starts to accumulate only after bank transactions commence. Therefore, the database may not include very young firms.

The data set used in this study includes only corporations operating for more than five consecutive years after 2000 in the CRD. We do this because we specify lagged variables in our analysis. Therefore, observations from 2003 to 2009 are available. We limit the sample to manufacturing firms. Further, some variables used in the econometric analysis include outliers, so we censor the data in the sample at the 0.5 percentile and 99.5 percentile. The data collected on the 85,300 firms includes their balance sheets and profit and loss statements.[7] The number of firm-year observations is 356,725. In terms of employee numbers, there are six employees in the first quartile of firms, the median is 14, and there are 35 employees in the third quartile. The distribution of employees suggests that the CRD data include many micro firms, which are typically more informationally opaque. However, the 99 percentile of employees is 287, which indicates that our sample includes some larger small businesses.

Leverage and Firm Performance

Estimation Strategy

To investigate the effects of leverage on firm performance, we estimate the regression model with multiplicative heteroscedasticity proposed by Harvey (1976).

$$\begin{aligned}&\text{Firm Performance}_{i,t-1\to t+1}\\&\quad=\beta_1\text{Leverage}_{i,t-2}+\boldsymbol{X}_{i,t-1}\beta_2+\varepsilon_{i,t}\end{aligned}\tag{1}$$

$$\log\sigma^2{}_{i,t}=\gamma_1\text{Leverage}_{i,t-2}+\boldsymbol{Z}_{i,t-1}\gamma_2\tag{2}$$

where $\boldsymbol{X}_{i,t}$ and $\boldsymbol{Z}_{i,t}$ are a matrix of control variables, $\varepsilon_{i,t}$ is the error term of firm i in year t from 2003 to 2009, and $\sigma^2{}_i$ is the variance of the error term for firm i in year t.

We refer to equation (1) as the "mean equation" and equation (2) as the "variance equation." Following Opler and Titman (1994), we define $Leverage_{i,t-2}$ as the book value of debt divided by the book value of assets in year t − 2. Following Opler and Titman (1994) and Molina and Preve (2012), we specify a dummy variable to indicate whether a firm's leverage is in the top two deciles for its industry in a particular year as a proxy for $Leverage_{i,t-2}$ (hereafter, we refer to this variable as the *high leverage*

[5]See http://www.crd-office.net/CRD/english/ (last access date: January 2014) for information about the CRD.

[6]According to the 2005 *White Paper on Small and Medium Enterprises in Japan*, "[U]nder the Small and Medium Enterprise Basic Law, the term *small and medium enterprise* (SME) refers in general to enterprises with capital stock of not in excess of 300 million or 300 or fewer regular employees, and sole proprietorships with 300 or fewer employees."..."Small enterprises are defined as enterprises with 20 or fewer employees."(p. viii).

[7]According to Sakai, Uesugi, and Watanabe (2010), the CRD covered about 60% of small incorporated firms in Japan in 2001. As we limit our analysis to firms operating for more than five consecutive years in the CRD, the sample size in our analysis is smaller than the full sample collected.

Table 1
Predicted Sign for Leverage

	Mean (β_1)	Variance (γ_1)
Moral Hazard	−	+
Debt Overhang	−	+ or −
Credit Availability	+	0 or −
Investment Opportunities	+	+ or −

dummy).[8] We regard firms for which the high leverage dummy has a value of one as financially distressed firms.

Table 1 summarizes the predicted signs for $Leverage_{i,t-2}$. If the moral hazard problem is severe, we expect that β_1 in the mean equation will be negative and γ_1 in the variance equation will be positive. Alternatively, if the debt overhang problem is severe, we expect that β_1 in the mean equation will be negative. Note that the predicted sign of γ_1 in the variance equation is ambiguous under the debt overhang problem. If high leverage is the result of better credit availability, highly leveraged firms face looser credit constraints. Therefore, these firms enjoy higher performance on average and β_1 in the mean equation will be positive and statistically significant. Further, these firms have little incentive to choose risky projects. We predict that γ_1 in the variance equation will be negative. In addition, when the high leverage results from capital investment, the coefficient for the effects of high leverage on average performance will be positive. The effects on the variance are ambiguous.

We use a negative cash flow dummy as a proxy for low cash flows, where the dummy takes a value of one if a firm's net income plus depreciation and amortization in year t – 2 is negative, otherwise zero. The proxy for high collateral assets is the high tangible fixed assets ratio dummy, which takes a value of one if the ratio of a firm's tangible fixed assets to total assets in year t – 2 is in the third quartile or higher.[9] As the proxy for investment opportunities, we use the high tangible fixed assets change dummy, which takes a value of one if the annual growth rate of tangible fixed assets (=[Tangible Fixed Assets$_{t-2}$ – Tangible Fixed Assets$_{t-3}$]/Total Assets$_{t-3}$) is in the third quartile or higher.[10] To confirm the hypotheses, we estimate coefficients for the interaction variables between leverage and each dummy.

As a proxy for firm performance, we use the industry-adjusted operating income ratio, which is the ratio of operating income to total assets, calculated by subtracting the mean value in the medium category in each industrial classification averaged over 2 years from year t to $t+1$. We use accounting profit because measures of firm value (such as Tobin's q) for small businesses are unavailable. Similarly to Opler and Titman (1994) and Molina and Preve (2012), we use industry-adjusted sales growth, defined as the growth rate of sales for the two years from t – 1 to $t+1$ ([sales$_{t+1}$ − sales$_{t-1}$]/assets$_{t-1}$), calculated by subtracting the mean value in the medium category in each industrial classification.

We use firm scale and its square, firm age and its square, and the current assets to total assets ratio in year t – 1 as control variables ($\boldsymbol{X}_{i,t-1}$) in the mean equation. We specify the ratio of a firm's current assets to total assets as our proxy for liquidity. Firms with high liquidity mitigate any severe credit constraint; therefore, the current assets ratio has a positive effect on firm performance. In contrast, managers with higher current assets would have a larger amount of free cash, which induces inefficient investment. If this is true, the current assets ratio has a negative effect on firm performance. In sum, the current assets ratio has some effects on firm performance, but the predicted sign can be either positive or negative. We also include 24 industry dummies, year dummies for all years (the first year is the reference year), and five regional dummies. The control variables in the variance equation ($\boldsymbol{Z}_{i,t}$) are firm scale and its square, firm age and its square, and the year dummies. The degree of asymmetric information determines the results for the variance equation results. We predict that the variance in firm performance is larger for younger and smaller firms, which makes the estimated coefficients for firm scale and age negative.

[8]Under this definition, the maximum (minimum) leverage for observations for which the high leverage dummy equals zero (one) is 1.0928 (0.8649).

[9]The value at the third quartile for the ratio of a firm's tangible fixed assets to total assets is 0.5371.

[10]The value at the third quartile of the annual growth rate in tangible fixed assets is 0.0095.

Table 2
Variables and Definitions

Variables	Definition
Default ($t-1 \rightarrow t+1$)	Dummy variable is 1 if firm delays payment by more than 3 months, is bankrupt or virtually bankrupt borrower, and/or are borrower for which credit guarantee corporations subrogated between year $t-1$ and $t+1$
Operating Income Ratio (t, $t+1$)	Ratio of operating income to total assets, calculated by subtracting the mean value in the medium category in the industrial classification averaged for 2 years from year t to $t+1$
Sales Growth ($t-1$ to $t+1$)	Growth rate of sales for the 2 years from $t-1$ to $t+1$, calculated by subtracting the mean value in the medium category in the industrial classification
Leverage	Ratio of the book value of a firm's debt to the book value of assets
High Leverage Dummy	Dummy variable to indicate whether a firm's leverage is in the top two deciles for its industry
Firm Scale	Natural log of (1 + firm sales)
Firm Age	Natural log of firm age
Current Assets	Ratio of a firm's current assets to total assets
ROA	Ratio of a firm's operating income to total assets
Negative Cash Flow	Dummy variable is 1 if a firm's net income plus depreciation and amortization in year $t-2$ is negative
High Tangible Fixed Assets Change	Dummy variable is 1 if the annual growth rate of tangible fixed assets (=[Tangible Fixed Assets in year $t-2$—Tangible Fixed Assets in year $t-3$]/Total Assets in year t – 3) is in the third quartile or higher
High Tangible Fixed Assets Ratio	Dummy variable is 1 if the ratio of a firm's tangible fixed assets to total assets in year $t-2$ is in the third quartile or higher

ROA, return on asset.

Table 2 details the definitions of all variables. Table 3 provides summary statistics for each variable. The medians and means of all the non-dummy explanatory variables are similar. This suggests that outliers are not a significant problem in our estimation.

Simple Observations

Figure 1 depicts box plots of the residuals from a regression of each firm's return on assets (ROA) on firm scale, firm age, current assets, and the year, regional, and industrial dummies. We divide the sample according to the tenth quantile for leverage (called the "leverage quantile rank"). As Figure 1 shows, the residuals have a wide range if the firms' leverage is in the higher leverage quantile rank. This suggests that the variance in ROA is high if firms have high leverage.

Figures 2–4 illustrate the box plots divided by the dummies for negative cash flow, high tangible fixed assets change, and the high tangible fixed assets ratio. Figure 2 shows that the distributions of the residuals of ROA have wider ranges if firms have negative cash flows. This implies that the variance in firm performance for highly leveraged firms is large if cash flow is negative. In contrast, Figure 3 shows that the distributions have narrower ranges if the tangible fixed assets ratios are high. This implies that if firms have higher levels of collateral assets, the variance in firm performance is lower. Figure 4 shows that the distributions of ROA are similar if we divide and compare the sample by the tangible fixed assets change dummy.

Table 4 provides the mean, median, and standard deviation (S.D.) of firm performance, being the operating income ratio and sales

Table 3
Summary Statistics

Variables	N	Mean	S.D.	Minimum	*p*1	*p*50	*p*99	Maximum
Default ($t-1$ to $t+1$)	356,725	0.00574	0.07555	0.00000	0.00000	0.00000	0.00000	1.00000
Operating Income Ratio (t, $t+1$)	356,725	0.00000	0.08625	−0.63876	−0.33049	0.00856	0.19217	0.36145
Sales Growth ($t-1$ to $t+1$)	354,682	0.00000	0.43196	−2.28123	−1.17735	−0.01850	1.51888	3.84833
Leverage	356,725	0.86284	0.40340	0.00000	0.15424	0.83951	2.48872	4.90226
High Leverage Dummy	356,725	0.20033	0.40024	0.00000	0.00000	0.00000	1.00000	1.00000
Size	356,725	12.26320	1.62363	6.55108	9.00822	12.16525	16.15732	19.40650
Firm Age	356,725	3.32071	0.75397	0.00000	0.00000	3.43399	4.26268	4.94876
Current Assets	356,725	0.52990	0.21337	0.00000	0.08684	0.52714	0.96154	1.00000
ROA	356,725	0.01614	0.09179	−0.75909	−0.31785	0.02042	0.24777	0.38060
Negative Cash Flow	356,725	0.16344	0.36976	0.00000	0.00000	0.00000	1.00000	1.00000
High Tangible Fixed Assets Change	356,725	0.25000	0.43301	0.00000	0.00000	0.00000	1.00000	1.00000
High Tangible Fixed Assets Ratio	356,725	0.25000	0.43301	0.00000	0.00000	0.00000	1.00000	1.00000

S.D., standard deviation.
This table provides summary statistics of the variables in the econometric models.

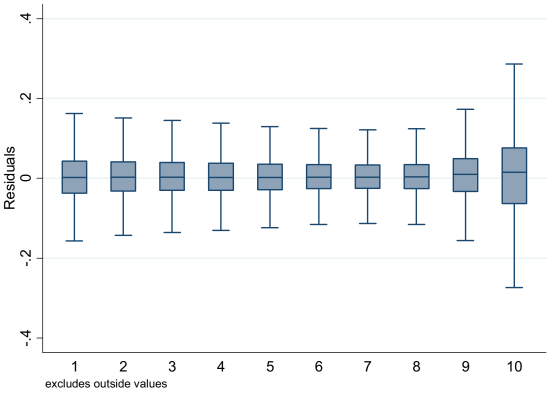
growth divided by the high leverage dummy. As shown, the means and medians of the operating income ratio and sales growth in the high leverage group are lower than those in the nonhighly leveraged group. The differences are statistically significant at the 1 percent level, which suggests that highly leveraged firms are poorer performers. Conversely, the S.D. of these variables for the high leverage group are larger than for the nonhighly leveraged group. These also imply that the variance of firm performance is larger if firms are highly leveraged.

Basic Results

Table 5 presents the results for the mean equation in columns (1) and (3) and the variance equation in columns (2) and (4). We simultaneously estimate the mean equations (columns 1 or 3) and the variance equations (columns 2 or 4) using a maximum-likelihood method. As proxies for firm performance, we use the operating income ratio in columns (1) and (2) and sales growth in columns (3) and (4).

In Panel A of Table 5, we present the results using leverage as an independent variable. If the operating income ratio is used as a proxy of firm performance, the coefficient of leverage is negative in the mean equation and positive in the variance equation (columns 1 and 2). This suggests that the average operating income for highly leveraged firms is low, whereas the variance in operating incomes for these firms is high. The estimation results suggest that a one-S.D. increase in leverage results in a 0.122 percent decrease in the operating income ratio. This implies that the negative effects of leverage on the operating income ratio are not very great. If we instead use sales growth as a proxy for firm performance, the effects of leverage are also negative for the mean and positive for the variance, which are statistically significant at the 1% level (columns 3 and 4).

Figure 1
Dispersion of Residuals and Firm Leverage [Colour figure can be viewed at wileyonlinelibrary.com]



Notes**: This figure presents box plots of the residuals from a regression of firm ROA on firm scale, firm age, currents assets, year dummies, regional dummies, and industrial dummies. The data are divided by the leverage quantile rank, which categorizes firm leverage by its 10 quantiles.**

To investigate the nonlinear effects of firm performance, we add the square for leverage in Panel B of Table 5. The coefficient of leverage turns out to be negative and that of its square is positive in the mean equation (column 1). In the variance equation, the effect of leverage is negative and that of its square term is positive (column 2). These imply that the positive effect in the mean and variance equations is increasing with leverage. However, if we specify sales growth as a proxy for firm performance, the coefficients for the square of leverage become negative (columns 3 and 4), which suggests that the nonlinear effects of leverage are ambiguous.

Panel C of Table 5 provides the results using the high leverage dummy. In columns (1) and (2), the coefficients of the high leverage dummy are negative in the mean equation (but not statistically significant), and positive and statistically significant at the 1% level in the variance equation. This also suggests that the operating incomes of highly leveraged firms exhibit greater variance. In columns (3) and (4), we estimate the effects on sales growth. The coefficients of the high leverage dummy are negative in the mean equation and positive in the variance equation, with both statistically significant at the 1% level. As noted, previous studies argue that firms with high leverage (firms for which leverage is in the top two deciles of each industry in a particular year) are financially distressed firms. The results in Panel C show that financially distressed firms are poorer performers in terms of both operating income and sales growth. Further, the variance in the performance of the financially distressed firms is greater. The performance of highly leveraged firms is lower on average and greater in terms of variance. These results are consistent with the hypothesis of moral hazard.

In addition to the effects of leverage, we obtain further interesting results in Panel A of Table 5. First, the effects of firm scale on the variance of both operating income and sales growth are negative. These results imply that larger firms are more stable in performance terms. However, the coefficients for the square of size are positive, which suggests that the negative effects of size are decreasing for larger firms. In addition, the coefficient for firm age is positive while that of its square is negative in the variance equations, which implies that the variances of firm performance and firm age have inverse quadratic relationships.

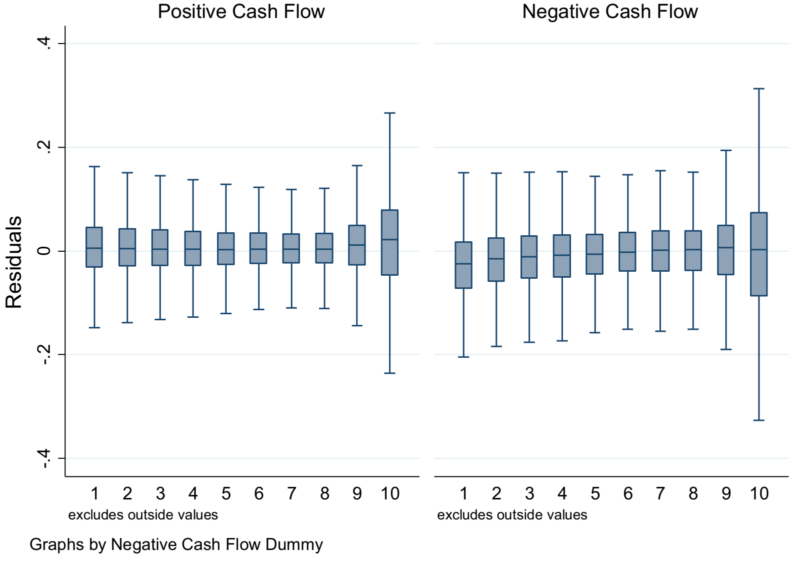
Second, focusing on the year dummies for 2008 and 2009, we can see that the coefficient for the operating income ratio is positive in the variance equation (column 2), which is statistically significant at the 1% level. In addition, the magnitude of this coefficient is larger than in other years. This suggests that during the Lehman shock (which took place in 2008), firm performance exhibited very large variance. One possible interpretation is that these firms invested in riskier projects during the deep recession following the Lehman shock.

Effects of Negative Cash Flow

Table 6 provides the results for the interactive variables for negative cash flow, the high tangible fixed assets ratio, and the change in the high tangible fixed assets. Similar to Table 5, we provide the results for the mean equation in columns (1) and (3), and those for the variance equation in columns (2) and (4).

In column (1) of Panel A, we use the operating income to total assets ratio as a proxy for firm performance. The estimated coefficient for leverage is negative and statistically significant at the 1% level. The coefficient for the

Figure 2
Dispersion of Residuals and Firm Leverage by the Negative Cash Flow Dummy [Colour figure can be viewed at wileyonlinelibrary.com]



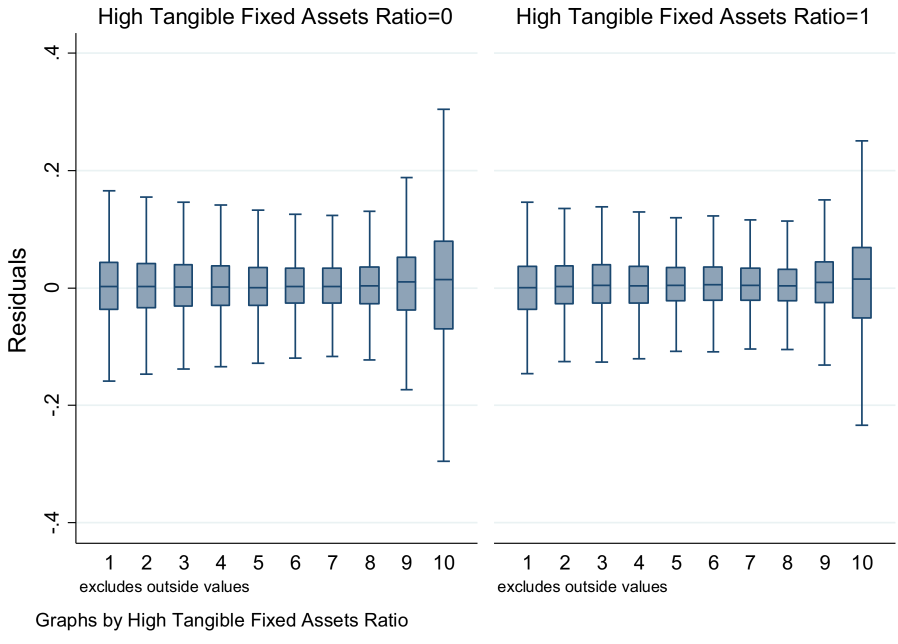
***Notes*: This figure presents box plots of the residuals from a regression of firm ROA on firm scale, firm age, current assets, year dummies, regional dummies, and industrial dummies. The data are divided by the leverage quantile rank, which categorizes firm leverage by its 10 quantiles. We show two figures divided by the negative cash flow dummy.**

interaction variable between negative cash flow and leverage is negative and statistically significant at the 1% level. These results suggest that leveraged firms with negative cash flows have lower operating incomes. In column (2), we estimate the effects for the variance. Similar to the results in Table 5, the estimated coefficient for leverage is positive. In addition, the coefficient for the interaction between negative cash flow and leverage is positive and statistically significant at the 1% level. These results suggest that the variance in operating income for leveraged firms is larger if their cash flow is negative. This implies that leveraged firms with negative cash flows select riskier projects. Moreover, the moral hazard problem is more severe if cash flow is negative.

In column (3) of Panel A, we specify sales growth as the proxy for firm performance. The coefficient for leverage is negative and statistically significant at the 1% level. The coefficient for the interaction variable between negative cash flow and leverage is negative and statistically significant at the 1% level, which suggests that sales growth for leveraged firms is lower on average when these firms have negative cash flows. Column (4) shows the results for the variance in sales growth. The estimated coefficient for leverage is positive and statistically significant at the 1% level. Focusing on the interaction with negative cash flow, we can see that the coefficient turns out to be negative, which suggests that the variance in sales growth for highly leveraged firms is less when they have negative cash flows.

Panel B of Table 6 provides the results for the interactions with the high leverage dummy. These results show that the coefficients for the interaction variable are negative for the mean equation (columns 1 and 3), and positive or negative for the variance equation (columns 2 and 4). These results are similar to those in Panel A.

Figure 3
Dispersion of Residuals and Firm Leverage by the High Tangible Assets Ratio Dummy [Colour figure can be viewed at wileyonlinelibrary.com]



***Notes*: This figure presents box plots of the residuals from a regression of firm ROA on firm scale, firm age, current assets, year dummies, regional dummies, and industrial dummies. The data are divided by the leverage quantile rank, which categorizes firm leverage by its 10 quantiles. We show two figures divided by the high tangible assets ratio dummy.**

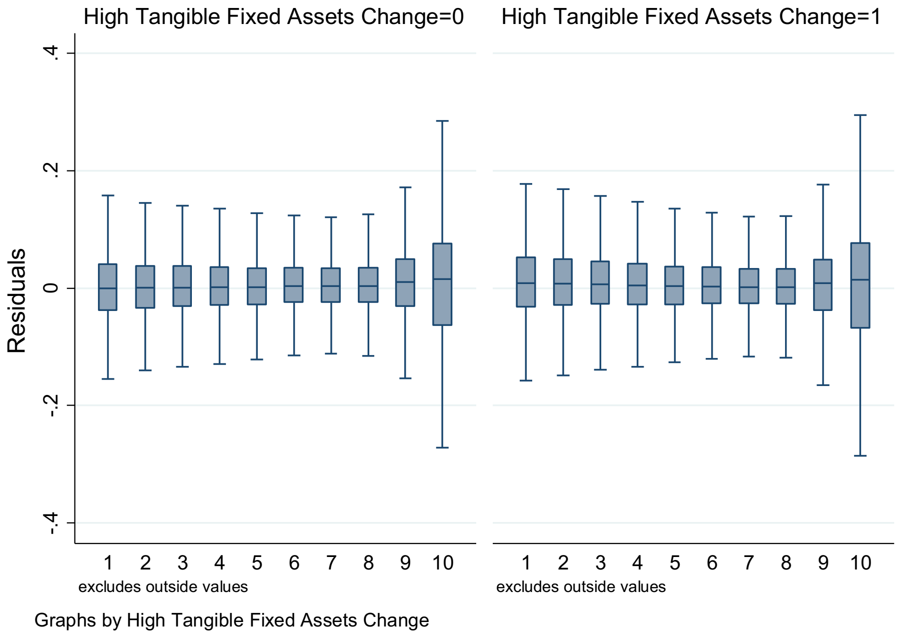
When highly leveraged firms have negative cash flows, firm performance is lower on average and the variance is higher. With sales growth, the variance of firm performance for highly leveraged firms is lower if they also have negative cash flows. This means that highly leveraged firms select risky projects, but many firms do not experience significant growth.

Effects of Investment Opportunities

To investigate the effects of high leverage resulting from large capital investments, we estimate the coefficients for leverage and the high tangible fixed assets change dummy. Column (1) in Panel A of Table 6 shows that the coefficient is positive and statistically significant at the 1% level. The net effect of leverage is 0.00026 ($= -0.00181 + 0.00207$), so the negative effects of leverage for operating incomes are not economically significant when highly leveraged firms undertake capital investments. Column (2) in Panel A shows that the coefficient for the interaction variable is positive and statistically significant at the 1% level. The variance of operating incomes for highly leveraged firms is then larger when the firms undertake capital investment. Columns (3) and (4) in Panel A show that the effects of leverage on the mean and variance are larger if we use sales growth as a proxy for firm performance.

When the past capital investments of firms are large, the effects of leverage for average firm performance in terms of operating income are neither positive nor negative. Conversely, the variance is larger, which implies that these firms can be very good performers, but if their investments fail, they become very poor performers.

Figure 4
Dispersion of Residuals and Firm Leverage by High Tangible Assets Change Dummy [Colour figure can be viewed at wileyonlinelibrary.com]



***Notes*: This figure presents box plots of the residuals from a regression of firm ROA on firm scale, firm age, current assets, year dummies, regional dummies, and industrial dummies. The data are divided by the leverage quantile rank, which categorizes firm leverage by its 10 quantiles. We show two figures divided by the high tangible assets change dummy.**

Panel B provides the results using the high leverage dummy. Columns (1) and (3) show that the average effects of leverage on firm performance are either positive or negative when firms have large changes in tangible fixed assets. Column (2) shows that the coefficient for the interaction variable with the change in tangible fixed assets is not statistically significant. As the coefficient for high leverage dummy is positive and statistically significant, the effect of the high leverage dummy for the variance is positive when the change in tangible fixed assets is one. Column (4) shows that the variance of sales growth is larger if firms achieve capital investments. The results for the high leverage dummy again imply that highly leveraged firms are either very good or very poor performers.

Effects of Collateral Assets

Finally, we investigate the effects of collateral assets using the high tangible fixed assets ratio dummy as a proxy for collateral assets. In column (1) in Panel A of Table 6, the coefficient for the interaction between leverage and the high tangible fixed assets ratio is positive and statistically significant at the 1% level. Similarly, column (3) shows that this coefficient is positive and statistically significant at the 1% level. These results suggest that highly leveraged firms enjoy better performance on average when they have more collateral assets. Columns (2) and (4) show that these coefficients are negative and statistically significant, which suggests that the variance of firm performance is lower for highly leveraged firms with more collateral assets. The

Table 4
Means, Median, and Standard Deviations of Firm Performance, by High Leverage Dummy

Panel A: Industry-adjusted Operating Income Ratio

	Mean	Median	S.D.
Non-high Leverage (A)	0.0047	0.0098	0.0757
High Leverage (B)	−0.0186	0.0008	0.1176
Total	0.0000	0.0086	0.0862
Difference (B − A)	−0.0232***	−0.0090***	0.0419***

Panel B: Industry-adjusted Sales Growth

	Mean	Median	S.D.
Non-high Leverage (A)	0.0081	−0.0121	0.4073
High Leverage (B)	−0.0324	−0.0517	0.5179
Total	0.0000	−0.0185	0.4320
Difference (B − A)	−0.0405***	−0.0396***	0.1105***

Notes: This table presents the means, medians, and standard deviations of sales growth and operating income ratio, divided by the high leverage dummy. The *Operating Income Ratio* is the ratio of operating income to total assets averaged for two years from year t to $t+1$. *Sales Growth* is the growth rate of sales for 2 years from $t-1$ to $t+1$ ([sales$_{t+1}$ − sales$_{t-1}$]/assets$_{t-1}$). *High Leverage Dummy* is a dummy variable indicating whether a firm's leverage in year $t-2$ is in the top two deciles of its industry in a particular year. *** denotes significance at the 1 percent level; S.D., standard deviation.

results using the high leverage dummy (described in Panel B) are similar to those shown in Panel A.

When highly leveraged firms have large collateral assets, average performance is higher and the variance of performance is lower, which is a situation that debtors generally prefer. This implies that collateral assets prevent the selection of risky projects and the occurrence of the moral hazard problem.

Robustness Check

Heterogeneous Effects by Firm Size. To check heterogeneous effects by firm size, we reestimate equations (1) and (2), dividing the sample by firm size. Following the definition in the Small and Medium Enterprise Basic Law, we categorize small firms as firms with 20 employees or fewer and medium firms as firms with more than 20 employees. Panel A in Table 7 provides the results using the observations for small firms. As shown, the leverage coefficients in the mean equations are either positive or negative, whereas those in the variance equations are positive (columns 1–4). In contrast, results for the medium firm sample (shown in Panel B of Table 7) indicate that the leverage coefficients in the variance equations are statistically insignificant. These results imply that only smaller highly leveraged firms undertake high-risk projects. The possible reason for the greater variance in firm performance for small firms is that as small firms are more informationally opaque, lenders have difficulty preventing high-risk projects. In columns (5)–(8) in Panels A and B, we estimate the interactions with leverage. In both the mean and variance equations, the results are similar for the small and medium firms. In addition, these results are similar to those in Table 6, which suggests that our earlier results are robust.

Table 5
Regression Results for the Effects of Leverage on Firm Performance

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Panel A: Leverage				
Leverage	−0.00302***	0.17707***	−0.00699***	0.21389***
	(0.00047)	(0.01315)	(0.00207)	(0.01517)
Size	0.05935***	−1.64905***	0.08132***	−0.86062***
	(0.00099)	(0.03385)	(0.00507)	(0.04498)
Size^2	−0.00185***	0.0512***	−0.00244***	0.02712***
	(0.00004)	(0.02265)	(0.00019)	(0.00181)
Firm Age	0.01409***	0.08354***	0.02471***	0.63040***
	(0.00053)	(0.02265)	(0.00316)	(0.02592)
Firm Age^2	−0.00401***	−0.03611***	−0.00909***	−0.20885***
	(0.00011)	(0.00475)	(0.00062)	(0.00566)
Current Assets	0.00901***		−0.02909***	
	(0.00056)		(0.00318)	
Year Dummy (2004)	0.00001	−0.00239	0.00071	0.00404
	(0.00040)	(0.02015)	(0.00247)	(0.02339)
Year Dummy (2005)	0.00133***	0.04895**	0.00797***	−0.01794
	(0.00040)	(0.02029)	(0.00241)	(0.02386)
Year Dummy (2006)	0.00247***	0.10514***	0.01073***	−0.02265
	(0.00040)	(0.01992)	(0.00237)	(0.02385)
Year Dummy (2007)	0.00418***	0.15914***	0.01721***	−0.03042
	(0.00040)	(0.01979)	(0.00234)	(0.02358)
Year Dummy (2008)	0.01084***	0.45551***	0.04240***	0.01327
	(0.00042)	(0.01922)	(0.00238)	(0.02177)
Year Dummy (2009)	0.01492***	0.59956***	0.04471***	−0.00947
	(0.00043)	(0.01854)	(0.00232)	(0.02174)
Number of Observations	356,725		354,682	
VWLS R Squared	0.0609		0.0094	
Panel B: Nonlinear Effects of Leverage				
Leverage	−0.00902***	−0.32786***	0.00233	0.39157***
	(0.00104)	(0.02973)	(0.00396)	(0.03559)
Leverege^2	0.00302***	0.19169***	−0.00410***	−0.06338***
	(0.00051)	(0.00780)	(0.00155)	(0.01032)
Number of Observations	356,725		354,682	
VWLS R Squared	0.0604		0.0095	
Panel C: High Leverage Dummy				
High Leverage Dummy	−0.00057	0.42485***	−0.01145***	0.17935***
	(0.00039)	(0.01226)	(0.00204)	(0.01506)
Number of Observations	356,725		354,682	
VWLS R Squared	0.0613		0.0095	

Notes: This table presents estimates from the regression model with multiplicative heteroscedasticity for the *Operating Income Ratio* and *Sales Growth*. We show the mean equation in columns (1) and (3), and the variance equation in columns (2) and (4). The *Operating Income Ratio* is the ratio of operating income to total assets averaged for 2 years from year t to $t+1$. *Sales Growth* is defined as the growth rate of sales for 2 years from $t-1$ to $t+1$ ([$\text{sales}_{t+1} - \text{sales}_{t-1}$]/ assets_{t-1}). *Leverage* is the ratio of a firm's total liabilities to its total assets in year $t-2$. *High Leverage Dummy* is a dummy variable that indicates whether a firm's leverage in year $t-2$ is in the top two deciles of its industry in a particular year. *Firm Age* is the natural log of firm age in year t−1. *Firm Scale* is the natural log of (1 + firm sales) in year $t-1$. *Current Assets* is the ratio of a firm's current assets to total assets in year $t-1$. Year Dummy (t) is a dummy variable equal to 1 if the year is t and zero otherwise. Standard errors in parentheses. *** denotes significance at the 1% level. Superscript 2 indicates the "square of X".

Controlling Firm Fixed Effects. In the previous subsection, we estimate the standard model introduced by Harvey (1976). However, unobserved time-invariant effects may also have some impact on the performance of small businesses. For example, the ability of a small business manager may have a significant effect on firm performance. To eliminate these unobserved time-invariant fixed effects, we estimate the following:

$$\Delta\text{Firm Performance}_{i,\ t-1\rightarrow t+1} = \beta_1 \Delta\text{Leverage}_{i,t-2} + \Delta \boldsymbol{X}_{i,t-1}\beta_2 + \Delta\varepsilon_{i,t} \quad (3)$$

$$\log \sigma^2{}_{i,t} = \gamma_1 \text{Leverage}_{i,t-2} + \boldsymbol{Z}_{i,t-1}\gamma_2 \quad (4)$$

where $\boldsymbol{X}_{i,t-1}$ and $\boldsymbol{Z}_{i,t-1}$ are matrices of control variables, $\varepsilon_{i,t}$ is the error term for firm i in year t from 2004 to 2009 and $\sigma^2{}_i$ is the variance of the error term for firm i in year t. The definitions of $\boldsymbol{X}_{i,t-1}$ and $\boldsymbol{Z}_{i,t-1}$ are the same as described earlier. In equation (3), we specify the difference in the independent and dependent variables from their values in the previous year. By using differences in equation (3), we can eliminate time-invariant unobserved effects for each firm.[11] Many firms do not change their location and industry during the sample period, so the industry and regional dummies for many observations do not change. As these will be highly correlated with the time-invariant fixed effects, we exclude these dummies.

Columns (1) and (2) of Panel A in Table 8 show that the leverage coefficients are positive and statistically significant in both the mean and variance equations. If we use sales growth as a proxy for firm performance, the positive effect on the variance equation is still supported (columns 3 and 4).[12] These results imply that the variance of highly leveraged firms is larger after controlling for unobserved time-invariant firm fixed effects.

Panel B in Table 8 provides the estimation results for the interactions with negative cash flow, the change in high tangible fixed assets, and the high tangible fixed assets ratio. The interaction coefficients for negative cash flow are negative in the mean equation and positive in the variance equation. In addition, those for the change in high tangible fixed assets are positive in both the mean and variance equation, but statistically significant only in the variance equation. Lastly, those for the high tangible fixed assets ratio are positive in the mean equations and negative in the variance equations. These results are similar to those in Table 6, which implies that the variance of performance in highly leveraged firms is larger when firms have negative cash flows, large capital investments, and/or low levels of collateral assets.

Endogeneity. In equation (1), following Opler and Titman (1994) we assume that leverage is exogenous. However, as Aivazian, Ge, and Qiu (2005) have pointed out, leverage can be an endogenous variable because firm performance has some effect on firm leverage. To our knowledge, a stylized estimation model for a regression with multiplicative heteroscedasticity and an endogenous variable is unavailable. Therefore, we use simple instrumental variables (IV) estimation with firm fixed effects, and we

[11] See Ch. 10 in Wooldridge (2010) for a detailed discussion.

[12] The results are similar if we use the high leverage dummy.

Table 6
Regression Results of the Effects of Leverage, Cash Flow, and Tangible Assets on Firm Performance

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Panel A: Leverage				
Leverage	−0.00181***	0.15610***	−0.00947***	0.46462***
	(0.00051)	(0.01579)	(0.00232)	(0.01792)
Leverage	−0.01471***	0.25561***	−0.01352***	−0.05187***
*Negative Cash Flow	(0.00041)	(0.01165)	(0.00190)	(0.01618)
Leverage	0.00207***	0.05235***	0.02647***	0.17752***
*High Tangible Fixed Assets Change	(0.00031)	(0.01194)	(0.00177)	(0.01545)
Leverage	0.00670***	−0.26494***	0.01024***	−0.62365***
*High Tangible Fixed Assets Ratio	(0.00038)	(0.01149)	(0.00194)	(0.01703)
Size	0.05206***	−1.55756***	0.07663***	−0.77060***
	(0.00123)	(0.03423)	(0.00496)	(0.04633)
Size^2	−0.00159***	0.04794	−0.00229***	0.02336***
	(0.00005)	(0.00138)	(0.00019)	(0.00186)
Firm Age	0.01257***	0.04794***	0.02330***	0.63547***
	(0.00055)	(0.02318)	(0.00301)	(0.02644)
Firm Age^2	−0.00356***	−0.04135***	−0.00836***	−0.20534***
	(0.00011)	(0.00479)	(0.00060)	(0.00579)
Current Assets	0.01677***		−0.01355***	
	(0.00076)		(0.00406)	
Year Dummy (2004)	0.00009	−0.00320	−0.00069	0.02512
	(0.00040)	(0.01996)	(0.00237)	(0.02314)
Year Dummy (2005)	0.00086**	0.05885***	0.00521**	−0.00097
	(0.00040)	(0.01962)	(0.00232)	(0.02382)
Year Dummy (2006)	0.00188***	0.11578***	0.00813***	−0.00967
	(0.00040)	(0.01924)	(0.00229)	(0.02440)
Year Dummy (2007)	0.00361***	0.16405***	0.01434***	−0.02346
	(0.00040)	(0.01905)	(0.00226)	(0.02398)
Year Dummy (2008)	0.01061***	0.45865***	0.04507***	0.01690
	(0.00042)	(0.01848)	(0.00229)	(0.02200)
Year Dummy (2009)	0.01521***	0.60199***	0.05085***	−0.00130
	(0.00043)	(0.01781)	(0.00223)	(0.02179)
Number of Observations	356,725		354,682	
VWLS R Squared	0.0708		0.0117	
Panel B: High Leverage Dummy				
High Leverage Dummy	0.00297***	0.36526***	−0.01820***	0.34190***
	(0.00056)	(0.01717)	(0.00296)	(0.02092)
Leverage	−0.01367***	0.23821***	−0.01115***	−0.06795**
*Negative Cash Flow	(0.00079)	(0.01950)	(0.00356)	(0.01500)

Table 6
Continued

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Leverage *High Tangible Fixed Assets Change	−0.00423*** (0.00083)	0.00624 (0.02235)	0.02383*** (0.00436)	0.14396*** (0.00000)
Leverage *High Tangible Fixed Assets Ratio	0.00436*** (0.00072)	−0.33460*** (0.02052)	0.01582*** (0.00352)	−0.70073*** (0.00000)
Number of Observations	356,725		354,682	
VWLS R Squared	0.0617		0.0093	

Notes: This table presents estimates of the regression model with multiplicative heteroscedasticity for the *Operating Income Ratio* and *Sales Growth*. We show the mean equation in columns (1) and (3), and the variance equation in columns (2) and (4). The *Negative Cash Flow* is a dummy variable with a value of one if a firm's net income plus depreciation and amortization in year $t-2$ is negative. The *High Tangible Fixed Assets Ratio* is a dummy variable with a value of one if the ratio of a firm's tangible fixed assets to total assets in year $t-2$ is higher than the third quartile of this ratio (0.5395). The *High Tangible Fixed Assets Change* is a dummy variable with a value of one if the annual growth rate of the tangible fixed assets (=[Tangible Fixed Assets$_{t-2}$ − Tangible Fixed Assets$_{t-3}$]/Total Assets$_{t-3}$) is higher than the third quartile of this growth rate (0.089). Definitions of the other variables in the notes for Table 5. Standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively. Superscript 2 indicates the "square of X".

compare the S.D. of the estimated error term divided by the leverage quantile rank.

We use two IV: collateral assets and the interest rate in year t – 4. As Aivazian, Ge, and Qiu (2005) argue, firms with collateral assets do not face severe credit constraints. As a result, firms can use large amounts of bank loans and their leverage will then be greater. As the effects of collateral assets on firm performance that do not increase leverage are considered insignificant, collateral assets are suitable instruments for leverage. Similar to Aivazian, Ge, and Qiu (2005), we use a firm's tangible assets to total assets in year t – 4 as a proxy for collateral assets. We use the interest rate as a second instrument for leverage. Firms paying higher interest rates face severe credit constraints, so they use less external finance. As a result, leverage for these firms is lower. The effects of the interest rate on firm performance that do not change leverage are considered insignificant, so the interest rate is also a suitable instrument. We define the interest rate as the ratio of a firm's interest expenses to the sum of its short- and long-term debt and discounted bills receivable in year t – 4.

Table 9 provides the estimation results. We use all observations in column (1), firms with a high tangible assets change in column (2), firms with a high tangible assets ratio in column (3), and firms with a negative cash flow in column (4). The p-values of the J-statistics are .385, .826, .726, and .418, respectively, which suggests support for the assumption of no correlation between the error term and the IV. In addition, the coefficients for the tangible assets ratio are positive and those for interest rates are negative, but both are statistically significant at the 1% level. This suggests that the problem of weak instruments is not significant in this estimation model. The coefficients for leverage on operating income are positive in all columns. Focusing

Table 7
Regression Results of the Effects of Leverage on Firm Performance, by Firm Size

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Panel A: Small Firms				
Leverage	0.00122**	0.23299***	−0.01092***	0.13673***
	(0.00058)	(0.01306)	(0.00245)	(0.01605)
Number of Observations	219,632		218,102	
VWLS R Squared	0.0477		0.0076	

	(5)	(6)	(7)	(8)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Leverage	0.00557***	0.23211***	−0.01227***	0.39786***
	(0.00065)	(0.01621)	(0.00287)	(0.01911)
Leverage *Negative Cash Flow	−0.01487*** (0.00049)	0.20442*** (0.01222)	−0.00721*** (0.00222)	−0.03740** (0.01839)
Leverage *High Tangible Fixed Assets Change	0.00060 (0.00045)	0.04534*** (0.01357)	0.02085*** (0.00238)	0.15913*** (0.01791)
Leverage *High Tangible Fixed Assets Ratio	0.00463*** (0.00052)	−0.27380*** (0.01267)	0.00703*** (0.00248)	−0.62673*** (0.02032)
Number of Observations	219,632		218,102	
VWLS R Squared	0.0516		0.0095	

Panel B: Medium Firms

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Leverage	−0.00830***	−0.05428	0.00574	0.00574
	(0.00086)	(0.05679)	(0.00364)	(0.00364)
Number of Observations	137,093		136,580	
VWLS R Squared	0.0559		0.0107	

Table 7
Continued

	(5)	(6)	(7)	(8)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Leverage	−0.00755***	−0.13271***	−0.00078	0.77847***
	(0.00084)	(0.04845)	(0.00381)	(0.04650)
Leverage *Negative Cash Flow	−0.01727*** (0.00072)	0.47363*** (0.03293)	−0.03040*** (0.00366)	−0.06368 (0.03749)
Leverage *High Tangible Fixed Assets Change	0.00325*** (0.00041)	0.07693*** (0.02486)	0.03080*** (0.00259)	0.19087*** (0.02824)
Leverage *High Tangible Fixed Assets Ratio	0.00758*** (0.00054)	−0.25075*** (0.02627)	0.01492*** (0.00302)	−0.60398*** (0.03298)
Number of Observations	137,093		136,580	
VWLS R Squared	0.0610		0.0138	

Notes: This table presents estimates of the regression model with multiplicative heteroscedasticity for *Operating Income Ratio* and *Sales Growth*, divided sample by firm size. We define "small firms" as firms with 20 employees or fewer, and "medium firms" as firms with 21 employees or more. We provide the mean equations in columns (1), (3), (5), and (7), and the variance equations in columns (2), (4), (6), and (8). Definitions of the dependent and independent variables in the notes for Tables 5 and 6. Standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

on the magnitude of the coefficients for leverage, we can see that the positive effect is largest for firms with a high tangible fixed assets ratio and smallest for firms with a negative cash flow. These results are consistent with the view that collateral assets enhance firm performance and negative cash flow worsens firm performance.

Table 10 provides the S.D. of the estimated error terms from the IV regression (in column 1 of Table 9), divided by the leverage quantile rank. Column (1) details the results using all observations. The S.D. of the error terms are larger if the leverage quantile rank is higher. This still supports the view that the variance of firm performance increases is higher with leverage. In columns (2) and (3), we divide the observations according to the high tangible assets change. The S.D. for observations with the highest leverage quantile ranks are lower for firms with high tangible assets change. However, in the second-largest rank, we observe the opposite relationship, which suggests that the variance of performance in highly leveraged firms is ambiguous. If we focus on firms with a high tangible assets ratio (column 4 and 5) and firms with negative cash flow (column 6 and 7), we can see that the S.D. for the performance of highly leveraged firms are higher for firms without high tangible assets or with negative cash flow. These results are consistent with the prediction that collateral assets mitigate the choice of high-risk projects. In addition, negative cash flow encourages them.

The Effects of Leverage on Payment Default

In Tables 5 and 6, we show that the performance of highly leveraged firms is low on average and the variance is high. When firms have negative cash flows, these effects are more notable. In contrast, when firms have large collateral assets, the performance of highly leveraged firms is high on average and the variance is

Table 8
Regression Results of the Effects of Leverage on Firm Performance, Controlling Firm Fixed Effects

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**		**Sales Growth ($t-1$ to $t+1$)**	
	Mean	**Variance**	**Mean**	**Variance**
Panel A: Simple Results				
Leverage	0.04108***	0.21269***	−0.27876***	0.30040***
	(0.00164)	(0.01837)	(0.01393)	(0.01769)
Size	−0.12928***	−1.75786***	−0.74467***	−0.81950***
	(0.00645)	(0.06616)	(0.06701)	(0.05776)
Size^2	0.00420***	0.05124***	0.00732***	0.02499***
	(0.00025)	(0.03331)	(0.00271)	(0.00233)
Firm Age	−0.00243**	0.22419***	−0.00512	0.70368***
	(0.00110)	(0.03331)	(0.01056)	(0.03399)
Firm Age^2	0.00054**	−0.07410***	0.00069	−0.22320***
	(0.00026)	(0.00714)	(0.00256)	(0.00690)
Current Assets	−0.04152***		−0.57399***	
	(0.00149)		(0.01395)	
Year Dummy (2005)	0.00274***	0.01878	0.02465***	−0.03802
	(0.00026)	(0.02799)	(0.00237)	(0.02740)
Year Dummy (2006)	0.00271***	0.05002	0.01964***	−0.03460
	(0.00026)	(0.03087)	(0.00231)	(0.02620)
Year Dummy (2007)	0.00327***	0.13134***	0.02375***	−0.00242
	(0.00026)	(0.02750)	(0.00231)	(0.02612)
Year Dummy (2008)	0.00857***	0.73574***	0.04308***	0.33588***
	(0.00030)	(0.02492)	(0.00250)	(0.02610)
Year Dummy (2009)	0.00524***	0.57619***	0.00721***	0.23550***
	(0.00028)	(0.02524)	(0.00242)	(0.02497)
Number of Observations	269,135		267,013	
VWLS R Squared	0.0222		0.0740	
Panel B: Interaction Variables				
Leverage	0.04588***	0.24710***	−0.37757***	0.56036***
	(0.00255)	0.0223959	(0.02199)	(0.02166)
Leverage *Negative Cash Flow	−0.01750***	0.18714***	0.09017***	−0.04107**
	(0.00379)	(0.01647)	(0.02641)	(0.01799)
Leverage *High Tangible Fixed Assets Change	0.00609	0.12100***	0.04888	0.17578***
	(0.00397)	(0.01847)	(0.03308)	(0.01805)
Leverage *High Tangible Fixed Assets Ratio	0.00057	−0.35006***	0.16904***	−0.68565***
	(0.00408)	(0.01726)	(0.02533)	(0.01876)
Number of Observations	269,135		267,013	
VWLS R Squared	0.0222		0.0729	

Notes: This table presents estimates of the regression model with multiplicative heteroscedasticity for the annual difference of *Operating Income Ratio* and *Sales Growth*. We detail the mean equations in columns (1) and (3), and the variance equations in columns (2) and (4). We use the annual differences in the dependent and independent variables in the mean equations. Definitions of the other variables are given in the notes for Table 4. Standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively. Superscript 2 indicates the "square of X".

low. For highly leveraged firms with investment opportunities, average firm performance is neither significantly higher nor lower, but the variance is higher. To investigate the risk of high leverage in detail, we estimate the effects of leverage on the probability of default.

Estimation Strategy

To investigate whether leverage has positive or negative effects on payment default by borrowers, we estimate the following probit model:

$$\text{Default}^*_{i,\ t-1\to t+1} = \alpha_1 \text{Leverage}_{i,t-2} + \boldsymbol{Y}_{i,t-1}\alpha_2 + \zeta_{i,t} \tag{5}$$

$$\text{Default}_{i,\ t-1\to t+1} = 1 \text{ if } \text{Default}^*_{i,\ t-1\to t+1} > 0$$

$$\text{Default}_{i,\ t-1\to t+1} = 0 \text{ otherwise}$$

where $\boldsymbol{Y}_{i,t}$ is a matrix of control variables and $\zeta_{i,t}$ is the error term for firm i in year t from 2003 to 2009. The ratio of the book value of debt to assets and the high leverage dummy (which equals one if a firm's leverage is in the top two deciles for its industry in a particular year) in year $t-2$ are proxies of $Leverage_{i,t-2}$. We define that $Default_{i,\ t-1\to t+1}$ has a value of one if firms delay payments by more than 3 months, are bankrupt or virtually bankrupt borrowers, and/or are borrowers for which credit guarantee corporations subrogated between year $t-1$ and $t+1$. $Default^*_{i,\ t-1\to t+1}$ is a latent variable indicating the default of borrowers, which is the net benefit from the default in payments. If $Default^*_{i,\ t-1\to t+1}$ is greater than zero, firms default.

If highly leveraged firms choose risky investments and induce the moral hazard problem, the probability of default is higher for highly leveraged firms than it is for less leveraged firms. In this case, the coefficient of leverage on the probability of default is positive. As described earlier, the moral hazard problem is more severe if leveraged firms have lower cash flows (Freixas and Rochet 2008). Conversely, the use of collateral assets prevents firms from attempting to undertake risky projects. Further, high leverage can have positive effects on firm performance if firms have good investment opportunities. We use the negative cash flow dummy as a proxy for low cash flows. As before, we use the high tangible assets ratio dummy as a proxy for high collateral assets, and the tangible fixed assets change dummy as a proxy for investment opportunities. The definitions of these variables are unchanged from the earlier analysis. We also estimate coefficients for the interaction terms between leverage and each dummy.

$\boldsymbol{Y}_{i,t-1}$ is a set of control variables, which includes firm scale and its square term, firm age,[13] ROA, current assets, year dummies, 24 industrial dummies, and five regional dummies. We use ln(1 + firm sales) as a proxy for firm scale and ln(1 + firm age) as a proxy for firm age. To control for the effects of profitability, we use ROA, defined as the ratio of operating income to total assets in year $t-1$. To control for firm liquidity, we use the ratio of a firm's current assets to total assets in year $t-1$. We predict that ROA, firm scale, firm age, and current assets have negative effects on the probability of default.

Results

Table 11 details the estimation results for equation (5). In each column, we provide the marginal effects for each variable at the mean. As shown in column (1), the estimated coefficient for leverage is positive and statistically significant at the 1% level. The results in column (1) suggest that the probability of default increases by 0.580% when leverage increases from 0 to 1. In column (2), we use the high leverage dummy as a proxy for firm leverage. The estimated coefficient for the high leverage

[13]We do not employ the square of firm age because the estimated coefficient for this variable is not statistically significant.

Table 9
Regression Results of the Effects of Leverage on Firm Performance (Instrumental Variable Regression)

	(1)	(2)	(3)	(4)
Dependent Variable	**Operating Income Ratio (t, $t+1$)**			
Subsample	**All**	**High Tangible Fixed Assets Change**	**High Tangible Fixed Assets Ratio**	**Negative Cash Flow**
Leverage	0.87055***	0.94281***	1.06235***	0.50782***
	(0.11710)	(0.28746)	(0.38541)	(0.16134)
Size	0.32917***	0.06194	0.72433**	0.38054**
	(0.07408)	(0.10647)	(0.30990)	(0.18528)
Size^2	−0.01241***	−0.00187	−0.02734**	−0.01529**
	(0.00269)	(0.00380)	(0.01152)	(0.00697)
Firm Age	0.00803**	−0.00678	0.01047	0.04724***
	(0.00326)	(0.00704)	(0.00700)	(0.01479)
Firm Age^2	−0.00180**	0.00198	−0.00166	−0.01013***
	(0.00080)	(0.00172)	(0.00168)	(0.00366)
Current Assets	−0.02536***	0.02751	−0.00845	−0.18100***
	(0.00701)	(0.02767)	(0.02527)	(0.03217)
Year Dummy (2005)	−0.00244***	−0.00008	0.00202	−0.02654***
	(0.00078)	(0.00220)	(0.00200)	(0.00924)
Year Dummy (2006)	0.00128	0.00659**	0.01416**	−0.03776***
	(0.00125)	(0.00291)	(0.00556)	(0.01449)
Year Dummy (2007)	−0.00286*	0.00683**	0.01686***	−0.05198***
	(0.00150)	(0.00332)	(0.00628)	(0.02014)
Year Dummy (2008)	−0.03333***	0.00296	0.01962***	−0.07841***
	(0.00163)	(0.00402)	(0.00672)	(0.02715)
Year Dummy (2009)	−0.05106***	0.00259	0.02222***	−0.10403***
	(0.00174)	(0.00423)	(0.00616)	(0.03609)
Number of Observations	260,353	45,307	62,561	27,446
J-statistics	0.756	0.048	0.123	0.656
P-value of J-statistics	0.385	0.826	0.726	0.418

Notes: This table presents estimates of the instrumental variable regression for the *Operating Income Ratio*. We use two instrumental variables: collateral assets and interest rate in year $t-3$. Collateral assets are a firm's tangible assets to total assets in year $t-3$. Interest rate is the ratio of a firm's interest expenses to the sum of its short- and long-term debt and discounted bills receivable in year $t-3$. We limit the observations to observations where High Tangible Fixed Assets Change equals 1 in column (2), those with High Tangible Fixed Assets Ratio equal 1 in column (3), and those with Negative Cash Flow equal 1 in column (4). Definitions of the independent and dependent variables are given in the notes for Table 4. Standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively. Superscript 2 indicates the "square of X".

dummy is positive and statistically significant at the 1% level. Both results imply that highly leveraged firms are more likely to default.

In columns (3) and (4) of Table 11, we show the results for the interaction variables. In column (3), the coefficient of the interaction variable between leverage and negative cash flow is positive and statistically significant at the 1 or 5% level. This suggests that highly leveraged firms with negative cash flows are more likely

Table 10
Standard Deviations of Estimated Errors from IV Regression, by Leverage Quantile Rank

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Leverage Quantile Rank	**All**	**High Tangible Fixed Assets Change**		**High Tangible Fixed Assets Ratio**		**Negative Cash Flow**	
		No	**Yes**	**No**	**Yes**	**No**	**Yes**
1	0.0720	0.0704	0.0768	0.0735	0.0620	0.0706	0.0816
2	0.0659	0.0644	0.0697	0.0671	0.0599	0.0645	0.0764
3	0.0630	0.0619	0.0655	0.0641	0.0582	0.0608	0.0795
4	0.0595	0.0581	0.0629	0.0606	0.0557	0.0574	0.0758
5	0.0584	0.0573	0.0612	0.0597	0.0544	0.0559	0.0767
6	0.0566	0.0567	0.0562	0.0582	0.0518	0.0535	0.0775
7	0.0564	0.0556	0.0582	0.0588	0.0502	0.0529	0.0773
8	0.0605	0.0607	0.0602	0.0645	0.0519	0.0561	0.0794
9	0.0874	0.0863	0.0909	0.0945	0.0720	0.0799	0.1007
10	0.1880	0.1903	0.1752	0.1988	0.1603	0.1685	0.2090

Notes: This table presents the standard deviations of the estimated error using instrumental variable regression (shown in column (1) of Table 9. We compare the standard deviation by 10 leverage quantile ranks. In columns (2)–(7), we divide observations by High Tangible Fixed Assets Change, High Tangible Fixed Assets Ratio, and Negative Cash Flow.

to default, which is consistent with the theory of moral hazard. The coefficient for the interaction between leverage and high tangible fixed assets change is negative and statistically significant at the 1% level. This suggests that undertaking investment reduces the probability of default for highly leveraged firms.

The coefficient for the interaction between leverage and the high tangible fixed assets ratio is not statistically significant. Earlier we argued that collateral assets prevent moral hazard behavior in leveraged firms. This result implies that collateral assets reduce the probability of default for highly leveraged firms. However, the result in column (3) of Table 11 is not consistent with the result described earlier. A possible interpretation is that "lazy bank" effects, as argued by Manove, Padill, and Pagano (2001) increase the probability of default. If firms pledge tangible assets as collateral, banks do not suffer large losses with default. As a result, banks lose the incentive to monitor borrower activities. As the positive lazy bank effect offsets the negative effects of collateral, the estimated coefficients are not statistically significant.

In column (4), we use the high leverage dummy as a proxy for leverage. The results are similar to those in column (3), which indicates that the results for the interaction variables are robust. Firm age, ROA, and current assets have negative effects on the probability of default, which is consistent with our predictions. The results for firm scale suggest that the relationships between firm size and probability of default are inversely quadratic, so the default probability for large-sized firms is lower.

Conclusion

In this paper, we empirically investigate the effects of leverage on the performance of small businesses. Using a regression model with multiplicative heteroscedasticity, we estimate not only the effects on average firm performance, but also those on the variance in firm performance. Further, we estimate the effects of high leverage, commonly regarded as an indicator of "financial distress" in previous studies (Opler and Titman 1994).

Table 11
Estimation Results of the Probit Model for Default

	(1)	(2)	(3)	(4)
Dependent Variable		**Default ($t-1$ to $t+1$)**		
Leverage	0.00580***		0.00550***	
	(0.00021)		(0.00025)	
Leverage *Negative Cash Flow			0.00047**	
			(0.00019)	
Leverage *High Tangible Fixed Assets Change			−0.00130***	
			(0.00024)	
Leverage *High Tangible Fixed Assets Ratio			0.00035	
			(0.00022)	
High Leverage Dummy		0.00916***		0.00835***
		(0.00050)		(0.00066)
High Leverage Dummy *Negative Cash Flow				0.00160***
				(0.00046)
High Leverage Dummy *High Tangible Fixed Assets Change				−0.00197***
				(0.00029)
High Leverage Dummy *High Tangible Fixed Assets Ratio				0.00089*
				(0.00046)
Size	0.00869***	0.00535***	0.00874***	0.00554***
	(0.00083)	(0.00078)	(0.00083)	(0.00078)
Size^2	−0.00029***	−0.00016***	−0.00029***	−0.00016***
	(0.00003)	(0.00003)	(0.00003)	(0.00003)
Firm Age	−0.00038***	−0.00034**	−0.00042***	−0.00036***
	(0.00014)	(0.00014)	(0.00014)	(0.00014)
ROA	−0.01146***	−0.01234***	−0.01106***	−0.01188***
	(0.00105)	(0.00105)	(0.00107)	(0.00107)
Current Assets	−0.00459***	−0.00442***	−0.00415***	−0.00397***
	(0.00047)	(0.00048)	(0.00058)	(0.00053)
Year Dummy	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes
Regional Dummy	Yes	Yes	Yes	Yes
Number of Observations	356,725	356,725	356,725	356,725
Log Likelihood	−11895.9	−11935.7	−11875.9	−11911.6
Pseudo R-squared	0.06	0.05	0.06	0.06

Notes: This table presents the estimates of a maximum-likelihood probit model with $Default_{i,\ t-1\rightarrow t+1}$ as the dependent variable. *Default* is a dummy variable that takes a value of one if firms delay payments more than three months, are bankrupt or virtually bankrupt borrowers, and/or are borrowers for which credit guarantee corporations subrogated between year $t-1$ to $t+1$. Definitions of the other variables are given in the notes for Table 4. The marginal effects for each variable in the table. Standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively. Superscript 2 indicates the "square of X".

Our findings are summarized as follows. First, high leverage has negative effects on the average performance of small businesses, which is consistent with the findings of previous studies. However, the effects of leverage in the mean equation are positive for operating income if we control the firm fixed effects. In addition, the effects of leverage on the variance of firm performance are positive, which suggests that the moral hazard problem is severe in highly leveraged firms. These results are consistent with the results estimating the probability of default, which shows that highly leveraged firms have a greater probability of default. Second, the moral hazard problem is more severe if highly leveraged firms have negative cash flows. The average firm performance of highly leveraged firms is lower and the variance is higher when firms have negative cash flows.

Third, if firms have collateral assets, the effects of high leverage on average firm performance become positive and those on the variance become negative. These results imply that the moral hazard problem is mitigated by the use of collateral lending. In addition, the results imply that highly leveraged firms are better performing if they have enough collateral assets.

Fourth, the negative effects of leverage are insignificant if highly leveraged firms can undertake capital investment. In this case, the high leverage becomes a proxy for strong investment opportunities, and the negative effects of high leverage are mitigated. Interestingly, the effects on the variance of firm performance are greater if firms undertake capital investment. This implies that highly leveraged firms can be either very high or very low performing firms if the reason for the high leverage is past capital investment.

In economic theory, lenders do not offer loans to firms when the moral hazard problem is severe. Therefore, highly leveraged firms are credit rationed, which would result in their leverage decreasing. However, as the summary statistics in Table 3 show, the median leverage is 0.839, which suggests that we observe many highly leveraged firms. A possible reason is that the credit guarantee system induces banks to offer guaranteed loans to highly leveraged firms, which are also risky firms.[14] Our findings also have some implications for firm growth. High leverage has positive effects on firm growth if firms have collateral assets; therefore, high leverage can facilitate firm growth. Furthermore, highly leveraged firms are more likely to be extremely high-performing firms when they undertake capital investment.

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Intersectionality of Ethnic and Entrepreneurial Identities: A Study of Post-War Polish Entrepreneurs in an English City

by Rowena Barrett and Natalia Vershinina

An understanding of ethnic and immigrant entrepreneurship is developed in this paper by exploring how ethnic and entrepreneurial identities intersect. Bourdieu's concept of habitus frames the analysis of narratives of five post-war Polish entrepreneurs in Leicester. The narrative analysis illuminates the multilayered and nuanced nature of identities. The Polish origin of these entrepreneurs' habitus was interpreted in light of individual and collective experiences gained growing up in the United Kingdom. While Polish identity was pertinent, it did not define the narrative of entrepreneurship. Our contribution is a theoretically informed, rich qualitative study of what ethnic identity means to individuals and how it intersects with entrepreneurial identity.

Introduction

Ethnic or immigrant entrepreneurship is the label given to the phenomenon of self-employment and enterprise development among immigrants and members of ethnic minority groups. Migration flows between countries underpin this entrepreneurial activity through the supply of individuals who may face limited options to participate in the economic mainstream, and the demand for ethnic goods and services. Increasingly the flow and nature of migration have changed, whereas nations and cities within them, are characterized by diversity. Super diversity (Vertovec 2001, 2007) is a term used to encapsulate these changes.

Many studies have questioned the primacy given to ethnicity in explaining why ethnic minority groups or immigrants engage in entrepreneurship. However, as Chaganti and Greene (2002) argue, "an entrepreneur's ethnic origin is not as accurate an indicator (of ethnicity) as is the level of community involvement" (p. 141). Vertovec's (2007, p. 1025) suggests we need "to take sufficient account of the conjunction of ethnicity with a range of other variables when considering the nature of various 'communities,' their composition, trajectories, interactions and public service needs." Pécoud (2010) also calls for a reassessment of the ethnic nature of immigrant business activities and takes into account Wimmer's (2004) contention that categories other than ethnicity may be prominent in the lives of immigrants. In this paper, we go beyond simply focusing on ethnicity as a defining variable in entrepreneurial activities and look carefully at what ethnic identity means to individuals and how it intersects with entrepreneurial identity. We do this as Ma et al. (2013, p. 36) have noted, "research on ethnic entrepreneurship has emphasized more on the demographic features of ethnic entrepreneurs... and less on their roles as entrepreneurs involving in business activities."

Rowena Barrett is head of the School of Management, QUT Business School, Queensland University of Technology, Australia.

Natalia Vershinina is senior lecturer in Entrepreneurship, Department of Entrepreneurship and Local Economy, University of Birmingham, United Kingdom.

Address correspondence to: Rowena Barrett, Queensland University of Technology, Gardens Point Road, Brisbane, Queensland, Australia. E-mail: rowena.barrett@qut.edu.au.

Identity is a topic beginning to be explored in the mainstream literature on entrepreneurship, despite it being a concept, albeit contested, addressed in other disciplines. Agreement exists on identity as being a process of becoming (Jenkins 1996), which is negotiated in the context of the individual's socio-cultural environment. Bourdieu's (1984, 2002) concept of *habitus* has been drawn upon to frame these discussions. A *habitus* refers to the context in which forms of capital (economic, social, cultural, and symbolic) are valued and given meaning through individuals' social interactions. It is the framework for bringing together what people know about their society (theory) with how things happen (practice). In Bourdieu's (1984, p. 467) words, "To speak of *habitus* is to include in the object of knowledge which agents are part of the knowledge, which the agents, who are part of the object, have of the object, and the contribution this knowledge makes to the reality of the object."

Within the sociology of ethnicity and migration, the concept of *habitus* has been used to focus on the way migrants "(live) simultaneously in two worlds" (Friedmann 2002, p. 311) or the multistranded connections (Kelly and Lusis 2006) migrants have to their place of origin and the way this influences their life worlds. For example, Erel (2010, p. 656) uses *habitus* to look at ways immigrants employ their creative agency "to construct new forms of migration-specific cultural capital." Fernandez-Kelly and Konczal (2005) drew on the concept of *habitus* to consider ideas about segmented assimilation in the context of second generation Cuban, West African, and Central American youth in Miami. While Vertovec (2001, p. 578) used the term habitat, rather than *habitus*, he essentially made the same connections when he argued that it "represents a range of identity conditioning factors."

In studies of ethnic entrepreneurship, or more specifically of immigrant entrepreneurship, the mixed embeddedness approach (Kloosterman 2010; Kloosterman and Rath 2001; Kloosterman, Van Leun, and Rath 1999; Rath and Kloosterman 2002), especially when combined with a forms of capital analysis (Jones and Ram 2007; Ram, Theodorakopoulos, and Jones 2008; Vershinina, Barrett, and Meyer 2011), has been a way of understanding *habitus* and how ethnic and immigrant entrepreneurs access, use and deploy different forms of capital to achieve valued outcomes in their entrepreneurial venturing.

In this paper we want to explore what ethnic identity means to a group of immigrants who self-identified as "ethnic entrepreneurs." We provide a theoretically informed account of what ethnic identity means to a particular group of entrepreneurs and how it intersects with their entrepreneurial identity. We concentrate on five post-war Polish entrepreneurs because they share the same *habitus*, and this contains the space for their narratives about their entrepreneurial identity (Johansson 2004). We use data collected from these Polish entrepreneurs to examine how their ethnic and entrepreneurial identities intersect and are mutually adapted. These individuals arrived in the U.K. post-WWII and the 1994 implementation of the 1991 Europe Agreement between the EC and Poland, which changed employment and residence rights for Polish migrants. Their narratives focus on them being Polish immigrants or children of immigrants in the United Kingdom and their journey to becoming entrepreneurs. In analyzing their narratives, our contribution is a theoretically informed account of the meaning made of being ethnic and how it intersects with entrepreneurial identity. We show that at the point of intersection, ethnic and entrepreneurial identity has different meanings for individuals and not all so called "ethnic entrepreneurs" rely on their ethnic identity in their entrepreneurial activity.

Ethnicity, Ethnic and Immigrant Entrepreneurship, and Identity

Ethnic identity is complex as ethnicity has multiple dimensions. Ethnicity may include race (or color or visibility), national identity or national culture, parentage or ancestry, nationality, citizenship, religion, language, or country of birth (or being an immigrant) (Aspinall 2009). However, ethnicity and country of origin are often conflated, and ethnicity is treated as a mono-dimensional concept (Vertovec 2007). If we use Bourdieu's concept of *habitus*, then ethnic identity may include old and new elements of ethnic and national affiliations that are surfaced, and interpreted, in different contexts. Moreover, what ethnicity means, or with what individuals identify, can be context specific and affected by the passage of time. The assumptions made about immigrants and ethnic minority groups, as well as the institutions that give shape to individuals' lives in their new host country will play a role in identity formation and with whom or what individuals identify. For example, policies of assimilation, like those in France, could see the virtual dissolution of minority ethnic groups into the majority in socio-economic and cultural terms. Policies of integration, like those in Australia, enable the minority to retain its distinctiveness while gradually finding common social grounds with the mainstream. Migration status and the rights given by that status, particularly around employment, will also impact identity (Vertovec 2001, 2007).

If we turn to identity formation, then ethnicity can be ascribed and based on the circumstances of birth—"I am a Polish entrepreneur because I was born in Poland"—or it could be achieved or acquired through a narrative of self-identity—"I am a Polish entrepreneur because I grew up in a Polish family." Identity formation is connected to identification or the degree to which an individual cognitively merges their sense of self and the collective (Tajfel 2010), in this case, the ethnic group. As Chaganti and Green (2002) indicate, ethnicity per se may be less important than involvement in the ethnic community, for example—"I am a Polish entrepreneur because I serve the Polish market." Certainly much of the work on ethnic and immigrant entrepreneurship has focused on those serving ethnic markets (Light 2005; Panayiotopoulos 2006; Waldinger, Aldrich, and Ward 1990), which Kloosterman (2010) claims arises from the articulation of demand as a consequence of the migration of sufficiently large numbers of specific ethnic groups. Entrepreneurs with ethnic authenticity can cater for a niche coethnic market, although they may also have credibility to break out and serve mainstream consumers. As Granovetter (1995) suggests, individuals can use their ethnic features and characteristics strategically to maximize their income and solve economic problems. Migration status is a characteristic giving individuals different levels of access to entrepreneurial resources and there are differences in access for human rights refugees compared with say business or student immigrants.

However, the understanding that structural forces of disadvantage or discrimination push immigrants into necessity entrepreneurship has driven much work on ethnic and immigrant entrepreneurship. This is contrasted with culturalist accounts suggesting certain ethnic groups are pulled into entrepreneurship by their entrepreneurial predispositions and agentic motivations (see Portes 1995). Just as push (i.e., necessity) or pull (i.e., opportunity) accounts of entrepreneurship more generally present a false dichotomy, so too do they in this literature (Sinnar and Young 2008). An integrative model emphasizing structure and agency was proposed to overcome this (Waldinger, Aldrich, and Ward 1990). Indeed Dana and Morris (2007) draw together a large array of factors that explain the emergence of ethnic or immigrant business ventures. However, Kloosterman and Rath (2000, p. 8) argue a need to go even further and move beyond the social embeddedness of the individual to "take into account the wider societal context in which immigrant entrepreneurs are starting their business." While Dana and Morris (2007) do not use the mixed embeddedness terminology, their model informs this newer type of analysis.

Mixed embeddedness places ethnic and immigrant entrepreneurship within the wider social, political, and economic institutional frameworks and opportunity structures of the entrepreneur's adopted homeland (Jones and Ram 2007; Kloosterman 2010). It seeks to transcend the push-pull dichotomy by highlighting individuals' embeddedness in coethnic social networks, and the interpretation of the context of being embedded in wider sectoral, spatial, and regulatory environments. Critically, mixed embeddedness focuses immigrant entrepreneurship where the opportunity structure in question is "the strategic window of entry to explain patterns of entrepreneurship from a comparative perspective" (Kloosterman 2010, p. 40). The realization of opportunities available at any point in time in an economy is determined by socio-political institutional factors but also depends on the (personal and group) resources available to individuals at the time of start-up (Kloosterman 2010).

Bourdieu's thinking about forms of capital has been applied in this literature. First used by Nee and Sanders (2001), they looked at adaptation strategies of Asian immigrants in the greater Los Angeles region. They showed that those without fungible human-cultural capital were less likely to make their way in the economic mainstream and were likely to establish small businesses in the ethnic economy. Critiques point to the overly individualistic nature of this assessment and suggest the specifics of the particular migration flow must be considered in their historical context (Erel 2010; Kelly and Lusis 2006). To some degree the challenge was taken up by Ram, Theodorakopoulos, and Jones (2008) when the forms of capital used by Somali entrepreneurs operating in Leicester were considered. More specifically, Vershinina, Barrett, and Meyer (2011) did this when they found intraethnic variations among Polish entrepreneurs, also in Leicester, which could be attributed to the differing *habiti* for their post-war and contemporary groups of Polish entrepreneurs.

The concept of *habitus*, the place where meaning is made, leads us to work on entrepreneurial identity. Entrepreneurial identities are discursively produced through dialogues with others such as clients, suppliers, employees, and family in a processual fashion (Essers and Benschop, 2007). As Down and his colleagues (Down 2006; Down and Reveley 2004, 2009; Down and Warren 2008) have shown, narrative plays a central role in individual conceptions of entrepreneurial identity. Through narrative meaning is made and if the narrative and dialogue is contained within the coethnic society and economy, then the ethnic nature of identity is reinforced. As Hytti (2005) argues, entrepreneurs are active agents who construct their identity and time and place are integral elements in this process.

Identity formation is therefore a complex discursive process that takes place within a *habitus* incorporating the temporal, spatial, sociocultural, economic, and political institutional environments. For entrepreneurs these environments give value and meaning to different forms of capital available, be they social, cultural, or financial and this impacts on their identity. How do different identities intersect, such that at the point of intersection, they change each other but do not destroy each other? We explore these questions in the context of a study of post-war Polish entrepreneurs in Leicester.

Method

The difficulty in establishing the size of the U.K. Polish community is well documented (Anderson et al. 2006; Burrell 2009; Düvell 2004; Garapich 2008). While some 60,000 people recorded Poland as their birth place on the 2001 U.K. Census, to this must be added second and third generation Poles as well as those who arrived after the eight Accession nations joined the European Union in 2004. In Leicester, a diverse U.K. city, where 40 percent of the population has an ethnic background (LCC 2008), there is an old Polish community (Burrell 2002, 2003) and new one that emerged after Poland joined the EU. Partition, persecution, war, displacement, and economic instability as well as changed migration rules have underpinned the "multi-faceted trajectory of (Polish) mobility" (Burrell 2009, p. 2). While estimates put Leicester's Polish population at 30,000 people in 2008 (see BBC 2008), like the Polish population more generally in the United Kingdom, the size of Leicester's Polish community and the numbers in self-employment could not be accurately known. Certainly in 2006–2007 when the data were gathered considerable support infrastructures existed including 12 Polish websites, 5 Internet radio stations, some 20 Polish restaurants and Polish and other Central and Eastern European food shops, Polish recruitment firms and advice bureaus as well as the Polish Parish Church, and club with its associated Saturday school. High street bank advertisements in Polish were seen in bus stops on certain Leicester bus routes. More generally the significance of Leicester's Polish community was noted by the Information Centre about Asylum and Refugees (see www.icar.org.uk).

In October 2006, it was through these organizations and institutions that we tried to access potential respondents. We approached people attending services, socializing or working at these establishments and handed them a leaflet which described the study in both Polish and English asking for "Polish entrepreneurs" to contact us. Only a few contacts were generated so we turned to snowball sampling. This is particularly useful when researching sensitive topics or accessing hidden populations and is suitable for small sample sizes (Goodman 1961; Ram, Theodorakopoulos, and Jones 2008). We gained access to ten willing participants.

Of these 10 self-identified Polish entrepreneurs, 6 were born in Poland. However, with further analysis of these entrepreneurs' characteristics, we could identify two sub-groups. The sub-groups differentiated entrepreneurs by the period of their arrival in the United Kingdom, either post WWII (which we called post-war Polish entrepreneurs) or more recently (which we called contemporary Polish entrepreneurs). Disaggregation of data in this way followed Onwuegbuzie and Leech's (2007) recommendation that there are at least three cases per sub-group, which we satisfied with five each. In this paper our analysis focuses only on the five post-war Polish entrepreneurs, because the space for *habitus* is contained within this boundary of time and related economic and social conditions. The brief personal and business details for the five entrepreneurs appear in Table 1.

This is an exploratory study of a group of entrepreneurs who self-identify as "ethnic"

Table 1
Participants

	Gender	Birthplace (Year Arrival in UK)	Age Category	Highest Educational (Location Educated) (UK)	Nature of Business	Ownership	Year Business Established	No. of Employees (Polish)
MM	M	Austria (1947)	55–64	BA (UK)	Solicitor	Sole Proprietor	1979	0
AA	F	UK	45–54	Food Hygiene Cert	Retail	Sole Proprietor	2004	0
HW	M	UK	45–54	BTech	Glass Manufacturer	Sole Proprietor	1981	10 (1)
JM	M	UK	35–44	BA	Electrical Contractor	Ltd	1984	50 (1)
PH	M	Poland (1982)	35–44	BA	Food Retail	Sole Proprietor	2004	2 (1)

being Polish immigrants or children of Polish immigrants in the United Kingdom. Dana and Dana (2005) argue such research is best-undertaken using qualitative research. Indeed, Kloosterman (2010) argues an understanding this type of entrepreneurship "entails extensive fieldwork and qualitative research to grasp the social embeddedness, strategies and careers" (p. 41) of those entrepreneurs. Moreover, given that Johansson (2004, p. 273) suggests, "the shortest way from experience to knowledge goes through stories," for this paper we gathered narrative accounts of becoming an entrepreneur using a qualitative research approach.

Narratives have been used successfully in entrepreneurship studies (Down and Reveley 2004; Down and Warren 2008). Narratives provide insight into individual entrepreneur's subjectivity, their motivation, and the construction of their entrepreneurial identity (Johansson 2004). Through narrative, individuals view and explore themselves in their surrounding environments (Boje 1991). While narratives represent post hoc sensemaking (Weick 1995), they contribute to entrepreneurship research by introducing conceptual, epistemological, and methodological reflection (Down and Warren 2008; Steyaert and Bouwen 1997). As data, in this paper the narratives are used to describe the contexts through which individual actors in a community define aspects of their identity and occupation for internal and external purposes.

Each participant was interviewed and a series of semistructured questions were used to prompt and guide the narrative. In these interviews we drew out the important markers for our participants on their journey of becoming Polish entrepreneurs as they self-identified. The five entrepreneurs' narratives were largely about their immigration to and/or growing up in the United Kingdom and establishing their business. They addressed their connection with Poland, their education and motivations for self-employment, as well as when, how, and why they established their business. We also prompted with questions about the support, resources, and networks they drew upon in their entrepreneurial activities. Each narrative unfolded differently but each touched on socialization within the family and the impact values, tangible and intangible forms of support, and education had on their business development. Narrated also were personal and business aspirations, the experience and skills brought to, and gained from, the business as well as their integration into (or not) various Polish social networks and the types of information and support gained through these. We did this as Johansson (2004, p. 275) explains, narrative acts "as a way of articulating and explaining who (they) are, not only to others but also to (themselves)."

The interviews were conducted in place convenient to the participant. They lasted between 1 and 2 hours while the narrative was recorded.

Recordings were transcribed verbatim and entered into NVivo, which was employed in the categorization of emerging themes around these entrepreneurs' ethnic identity and entrepreneurial identity formation and intersection. Themes were sought in the narratives (within-case analysis) and also across the complete set of other entrepreneurs' narratives to seek patterns (cross-case pattern search). As we sought to make analytical, rather than statistical, generalizations, as we did not seek a representative sample of Polish entrepreneurs, even if doing so had been possible. Data saturation was evident in the repetition of themes across the cases. Reaching saturation with a small sample is possible if Creswell's (2007) guide of 5–25 interviews being needed for phenomenological research is followed or the 6–12 interviews shown by Guest, Bunce, and Johnson (2006) to be needed to reach data saturation. The findings and analysis of post-war Polish entrepreneurs are presented in the next part of the paper.

Post-War Polish Entrepreneurs

Coming to the United Kingdom

Exile (Burrell 2002, 2003) marked the circumstances under which the parents of the five entrepreneurs in this group arrived in the United Kingdom. One of AA and JM's parents and both of MM and HW parents were forced by the Soviets or Germans to emigrate from Poland, as refugees or following demobilization from Poland's Free Army. Settlement in the five camps around Leicestershire (Biegus and Biegus 2013) enabled connections into the wider community and is the basis for Leicester's established Polish community (see Burrell 2002; 2003). JM's father trained members of the Polish Free Army in Scotland. When his father came to Leicestershire in 1944 on a training course, "my grandfather who was a soldier in WWI, invited my dad to come and have a drink with his colleagues. My mum was there and that's history" (JM). "Exile" is also apparent in PH's story; he arrived in the United Kingdom 7 years after his parents escaped Poland in the late 1970s prior to the introduction of martial law. Exile formed some context of family socialization and for MM, the oldest in our sample, it meant growing up with parents who "lived in hope that they would go to Poland, back to their village." For AA, however, it meant being proud of something she did not really understand as she had never had a "grown-up" conversation with her father about his immigration experiences before he died.

Polish Identity Formation

Ethnicity is a multilayered concept. As the literature earlier suggested, identity emerges through a process of becoming negotiated with various constituencies and learned through adapting to social change. The extent to which identification affects behavior depends on the degree to which the individual identifies with the collective.

In their narratives, the five entrepreneurs spoke about what being Polish meant to them. JM told us an interesting story of a social encounter, which pointed to the negatives associated with being Polish in contemporary U.K. society.

> To be honest . . . the only time that I've ever felt any different is in the last twelve months when I handed my credit card over and somebody said to me, "you speak very good English for a Pole." So after I'd head butted him and he picked himself up off the floor [laughing] No! I was just really taken aback. One of my friends said, "What did you say to him?" But I didn't say anything. I was just too taken aback.

JM was born in the United Kingdom to Polish immigrant parents. He identified as being Polish. But with the dominant negative discourse around Polish immigrants in the United Kingdom, JM wondered what the effect of this would be on opportunities for his children, who had been born in the United Kingdom.

> My Polish surname is unusual. But I've always been very proud of my Polish heritage and background. But I don't know what the influx of Poles into the UK will do for my kids. It depends what the general perception of them will be. If they're perceived as being hardworking grafters, then that's fine. . . . But it's my daughters I worry about. They have Polish names. . . . My eldest has got great ambitions. But with her Polish name how will she be perceived in 10 years time? As part of that influx of Polish people? This is my concern, even though when you look at her background and the school she went to, it'll be fairly obvious she's different.

JM's distress was with the negative stereotypes ascribed to the more recent Polish immigrants and the potential for discrimination based on name as an ethnic marker. He had experienced discrimination albeit in reverse, because of his lack of Polish language ability. As he said, "I've only ever felt alienated in this country for being English not for being Polish." Interaction with others—locals or Polish immigrants—depends on language ability and for JM his imperfect Polish language ability meant he put being British ahead of being Polish, although he argued, "When it suits me I am very Polish. I've got my Polish flag and I'm very proud of my heritage. However, when it suits me I'm very English" (JM). The negativity associated with being part of an ethnic minority community was apparent in his next comment when he indicated that he was "white" and therefore different to other migrants:

> I don't draw any parallels whatsoever to myself and other immigrants, like Asians. There's absolutely no parallel between them and what my family have done. For one thing, my dad came he didn't take anything when he came. He's white European. He didn't expect anything and he integrated into society.

AA identified as being British and Polish. She was proud of her Polish heritage saying,

> I love the name, I have great pride in my name [Polish name]. When I got married it went to [typical British name], which didn't have the same ring at all. So when I got rid of the husband, I got rid of the name and took my maiden name back and that's how it will stay.

However, her "biggest regret (was) not speaking Polish" (AA). For her this meant when she met Polish people they expected, given her name, that she would speak Polish. However, in terms of her business and social life, it would be more valuable to speak a different European language.

As a child MM's parents had been displaced in WWII. His father had been a member of the Polish Free Army, and therefore MM grew up in Polish displaced persons camps in the United Kingdom. Strong community bonds were forged in the camps and as "for the children it was safe, all the older people looked after the children, it was like one big family" (MM). He elaborated further on the close and positive relationships between Polish and British people when they lived in the camps although when there were marriages between Polish men and English women, he was aware that "because they were with an English family they would just sort of drift away from the community" (MM). While MM identified as being Polish, articulating what that meant to him was difficult. He explained,

> I was born in Austria and lived there until I was three, so you learn some words. But when we were in the camps in Italy they didn't like you to speak German so I learned Polish during the two years there. When we came to England I had to learn English. But because I have spent all my life here, this [UK] is my country really, I am used to this. We have just been to Poland and really enjoyed it. Although I speak the language well, sometimes there are undertones and it's these things that you don't understand unless you have lived there for a very long time .... I would like to say I would retire there but I am used to here .... This is my home even though my roots are Polish, because my parents are Polish. . . .

For MM, being Polish was an emotional state transmitted through growing up in a Polish family with strong bonds reinforced through living in camps with other Polish people: "My parents gave me my Polishness which is emotional—when I hear the Polish anthem or hear Polish songs or read Polish poetry it has meaning and there's a depth to my feelings." However, he grew up in the United Kingdom and his name and Polish language ability were his only ethnic markers.

In social encounters our participants were aware of differing perceptions of them by others whether Polish or British. The historical circumstances of their family's exile and arrival in the United Kingdom framed their vision of Poland which watching their parents work hard to make a good life for them in the United Kingdom influenced their values and goals. Growing up in the United Kingdom meant living with the constant turmoil of being different yet being the same and so their ethnic identity was shaped by an emotional attachment rather than "officially" holding a Polish passport, for example. What this meant for HW and his identity is captured in the following quote.

> I feel more at ease here [Britain], but I do get on well over there [Poland]. We obviously have an accent, and the Poles we speak to over there know we're from somewhere else, but they don't know where. When we tell them where we're from, they're always absolutely amazed that we can speak Polish because we were born here in the UK. And they're really, really good to us once they find that out.... But we're not the same as the Poles over there. We're post-war UK Poles and that's the difference. We can't be the same because we've been brought up with Western values, they've had Communist values.

While being different was not an issue for JM who said, "I was always very proud of my Polish heritage and background growing up because it made us different and I quite like being different" (JM), for HW it raised issues when he was a child. As he explained, "you don't want to be seen as different, especially when your name is different, because there was bullying. It's a more accepting, multi-cultural society here in United Kingdom now, but it wasn't back then" (HW). He was firmly of the opinion that to integrate, "you've got to be better than the people that you're integrating with. You have to. So, if anything, I'm more British, I'm not English, I'm more British than most British people" (HW). However, at the same time he was mindful of different expectations of Polish community members in the United Kingdom, saying, "if I speak to an older generation Pole, I'll always speak to them in Polish. I'd be embarrassed to speak to them in English. Out of respect, you know, I won't speak to them in English" (HW). This nuanced understanding of cultural norms within the Polish community was evidence of the multilayered aspect of his Polish identity.

The Polish identity of these five entrepreneurs was in terms of their embodied cultural capital (see Bourdieu 1983). They adhered to traditional Polish values or values that lay in the past. Their narratives provided evidence of ongoing participation in established Polish social networks, accessed via their family, and through some community events, Polish church and social functions. While they maintained contact with their extended family in Poland, growing up in the United Kingdom as immigrants or children of immigrants meant they had, to different degrees, either lost or not gained Polish language skills and this hindered their access to new Polish communities and the accumulation of further (Polish-oriented) cultural capital.

Motivations for Business

All five of these Polish entrepreneurs were influenced to start their business by growing up in families where their parents operated businesses in the United Kingdom. Their parents were "necessity" entrepreneurs, as they were blocked in their access to the labor market. However, for HW the decision to start a business was underpinned by an opportunity that he came across and experience he developed during a trip around the world. He had been working in retail, but always wanted to do more with his life. During his trip he got a job as a manager of two glass factories in Europe. This was his impetus for setting up his own similar business in the United Kingdom.

> I knew how to manage and as soon as the iron curtain came down, I went over and found a factory in Poland to deal with. I came back to the UK and started a business in glass because that's what I knew. You stick to what you know and if you do it well, you shouldn't have a problem.

His window manufacture and stained glass installation business in Leicestershire had grown to employ more than 20 people. Heritage glass replacement work was a key component of his business with customers such as the National Trust as well as churches and cathedrals around the United Kingdom. The stained glass needed for his business was supplied by the Polish factory where he had worked in his youth. He was able to draw on Polish social and cultural capital for business but he could also draw on his British social, cultural, and financial capital, such as it was, to build his business.

A different set of conditions affected JM's business motivations. The youngest of four children, with older parents (his father was in his fifties when JM was born), his family needed him to become a breadwinner, explaining "My parents just wanted me in the commercial environment actually earning money and making some money for myself" (HW). He started a business in electrical supplies from nothing: "I had £500, a van and no clients" (JM). His business grew to employ around 50 people, supplying large private and public sector organizations and turning over some £3.5 million per year. JM's business has been successful because, "I'm very hard working, I'm very ambitious and I've grown and I've grown the business. I like to succeed in anything I do. I like to be the best and that's how I want the company to be" (JM). JM's entrepreneurial endeavor was underpinned by a family value of hard work, which likely had some cultural element but was not necessarily a Polish form of capital.

MM, a lawyer, went out on his own after working for 16 years as a partner in another law firm in Leicester. His business motivation came out of not being treated as a partner except in name only.

> My name was on the letterhead, but I had no share of the profits. They kept promising but then when I'd ask they'd say, "oh, the accounts are not ready" or "oh, you want things too quickly" .... I dealt with a divorce case for a woman ... and we won the case. She got compensation of £5 000 and said, "if you want to set up, then I'll lend you the money." That was very decent of her as I didn't have anything to offer her. So I took a risk and decided to do it and have never looked back.

His business grew when loyal clients followed him to his new firm. Again MM's business venturing did not rely on any Polish forms of capital. Indeed as he told us, he tried to avoid coethnic clients as they assumed he would charge them less than other customers.

PH worked for a big U.K. manufacturing company looking after their computer systems before he took over running the family business, which sold Polish food and groceries in the Leicester market. He supplemented his market business with employment as a sales manager for a giftware business. His father established the market business over 45 years ago. While his business faced competition from newer Polish and European grocers in other parts of Leicester, it nonetheless had a loyal following of generally older and established, and second-generation Polish people, as well as newer customers looking for quality European foodstuffs. HW's uncle, who imported goods from Poland, acted as the key business supplier. HW spoke to his uncle at least every second day, while his father, who had a shop in another part of Leicestershire, continued to provide advice and assistance when needed. HW's business drew on Polish social and cultural capital but was financed with money made working in the United Kingdom.

AA, our final post-war Polish entrepreneur, had been a silver service waitress most of her working life. She was working as a waitress when a woman approached her to sell a health product. Originally skeptical, AA warmed to the product when it cured a lingering health issue unable to be cured with conventional medicines. As she explained, "I didn't know anything about business and didn't understand half of what this woman was saying, and I thought I couldn't do it. However, she caught me with the products" (AA). Now a product enthusiast, AA had a shop and a group of distributors working for her. Her motivation for business was not because she was Polish. She used her Polish name to attract distribution partners but she was unable to speak Polish and this limited the potential value of being Polish as a resource to develop her business.

The names of these five entrepreneurs marked them as Polish. Four of them spoke Polish with differing levels of competence, and they all spoke excellent English, albeit accented in PH's case. They were all educated in the United Kingdom. They had skills, qualifications, and experiences, which gave them options for employment beyond self-employment. They may have started in business with little economic capital, but they could access traditional forms of finance (i.e., banks) and had no problem with gaining business credit. They were U.K. property owners, having purchased or inherited property. In summary, they had grown up in the United Kingdom and were proficient in English and had social and cultural capital in the United Kingdom. They had built up their economic capital, they understood the business environment, and had U.K.-based skills and qualifications. They had a Polish identity but were U.K. citizens. Their Polish identity did not define their entrepreneurial identity, even though AA, PH, and HW used Polish social or cultural capital in aspects of their business development.

Polish Entrepreneurial Identity

For these five entrepreneurs their entrepreneurial identity was not informed by their Polish identity, beyond family values of hard work. Growing up in the United Kingdom meant these entrepreneurs accumulated dual sources of social capital as well as human and cultural capital, which gave them multiple choices in terms of economic participation. Their motivations for business were not based on discrimination or disadvantage experienced in the U.K. labor market. Their business motivations reflected those of entrepreneurs more generally: desire for independence, need for achievement, financial security, flexibility, autonomy, and product passion, for example. Evident in PH's narrative was the desire for autonomy met through running his own business.

> When you run your own business you run it how you want to run it. You work the hours you want to work. You determine what happens, who comes, who goes, what you sell, what you don't sell. I think you can earn more money because you can develop your own business. You can make it bigger by asking people what they want and doing it.

JM summed up his motivation for business when he said, "the prime objective of switching on the lights each morning is to make money" (JM).

In their businesses some characteristics ascribed to immigrant or ethnic minority firms were evident. For example, HW drew on Polish connections and cultural knowledge to build a supply chain. PH also had a Polish supply chain through his uncle who also provided him with support and information. JM employed (coethnic) family labor over the years in positions of responsibility: for example, his Polish wife had been HR director, marketing director, and finance controller. Moreover he employed Polish staff. The value of this coethnic and family labor was because "they have the same attitude and you can trust them" (JM). PH served a coethnic market but also drew on his authenticity to serve a wider community looking for European foodstuff. MM reluctantly served Polish clients but "frequently for a lot less than I would have charged others. That was the penalty you paid for the privilege of acting for them."

In essence, these entrepreneurs were not part of the ethnic economy as traditional accounts of immigrant or ethnic minority entrepreneurship we elaborated earlier would suggest. Their entrepreneurial identity was influenced by who they were and where they came from: as Down and Reveley (2004) would suggest, they were skilled cultural operators who manipulated perceptions of the entrepreneurial self to achieve desired business outcomes. For these entrepreneurs, Polish identity was an element in their entrepreneurial identity, given they self-nominated as "Polish entrepreneurs," but in their narratives it was apparent that "being Polish" was not a significant element, providing little in terms of resources to their business. Their entrepreneurial identity was defined by their motivations for business, their business skills and experience, and the decisions they made in business situations in the context in which they operated.

Summary and Conclusions

The purpose of this paper was to explore the intersectionality of ethnic and entrepreneurial identities. We wanted to move beyond the monodimensional explanations of immigrant or ethnic minority entrepreneurship that others decry, to "(appreciate) the coalescence of factors which condition people's lives' (Vertovec 2007, p. 1026) and we did this with a theoretically informed analysis of narrative accounts of business development. While we acknowledged that there are advances in the literature, particularly through the use of the mixed embeddedness framework connected to a forms-of-capital approach to analyze immigrant entrepreneurship (Jones and Ram 2007), explanations still give a primacy to the entrepreneur's ethnicity, or more specifically, country of birth. For example, while Ram, Theodorakopoulos, and Jones's (2008) study of Somali entrepreneurs is an excellent example of the new wave of immigrant entrepreneurship studies, there is still an echo of the old. Somalis are an example of a group with a secondary migration pattern (Vertovec 2007). Not all Somali people arrived in Leicester from Africa. Instead many Somalis came to Leicester via mainland Europe and specifically the Netherlands and Denmark where they had been given refugee status (Vertovec 2007). Somalis moved to the United Kingdom because the freedoms to establish business were perceived to be greater (Ram, Theodorakopoulos, and Jones 2008). Moreover, Leicester already had a preexisting Somali and importantly, Muslim, community which attracted new Somali migrants and there was therefore, a potential supply of workers and demand for coethnic products and services. Identity formation for these Somalian entrepreneurs would be very complex and the spaces of their *habitus* would be defined by being more than simply Somali. They could be seen as African, European, Muslim, black, refugees, or U.K. immigrants and doing this would lead to a different valuing of their forms of capital (economic, social, and cultural). Ram Theodorakopoulos, and Jones (2008) do acknowledge this in their final comments about "impermanence" and "sense of placelessness" (p. 441) in this community, and the difficulty social scientists face in accommodating these concepts. So while our entrepreneurs were Polish their *habitus* was contained with by space and time which makes a difference to understanding their forms of capital, their entrepreneurial journey and the extent to which their Polish identity takes primacy in their entrepreneurial activity.

Entrepreneurs, like any individual, actively construct their identity through what is and is not available to them (i.e., capitals) and what is and is not possible or can be done in the context in which they operate (i.e., *habitus*). Fernandez-Kelly and Konczal's (2005) ethnographic study of second generation Cubans, West Indians, and Central Americans in Miami shows this with great clarity, particularly when they talk about expressive and criminal entrepreneurship. The entrepreneurial activities, in which Fernandez-Kelly and Konczal's (2005) case study participants engaged, reflected their segmented assimilation and the trajectory of their ethnic and racial identity.

For the entrepreneurs we studied, their *habitus* drew on their Polish origins but this was interpreted in light of individual and collective experiences gained over a long period growing up in the United Kingdom that was different to recent immigrant entrepreneurs (see Düvell 2004; Ram, Theodorakopoulos, and Jones 2008; Vershinina, Barrett, and Meyer 2011). From their narratives we elicited different (positive and negative) meanings of "being Polish" for these individuals in terms of their identity. As JM made clear, Polish identity could be considered a liability rather than an asset given the negative feeling toward Polish immigrants in the United Kingdom that exist in popular discourse. More specifically, these entrepreneurs were immigrants or members of immigrant families that arrived in the United Kingdom as exiles. Their Polish identity had this specific character, and it perhaps underpinned, in an unconscious fashion, their drive, and need for achievement and security through their business activity. However, this was not a feature defined in their narratives. Not all Polish entrepreneurs are the same: with the passing of time and the accumulation of different forms of capital, ethnic identity cannot be assumed to be more salient than entrepreneurial identity. Ethnic and entrepreneurial identities intersect, but the way in which they are configured, and separately act as resources, differs. In this paper we therefore show that at the point of intersection these complex systems mutually adapt and the categories of ethnic and entrepreneur are changed and change each other.

Clearly there are some limitations to this study. We focused on a specific group—Polish—in a specific location—Leicester (United Kingdom)—where infrastructure supported this community. Our sample was small, but by restricting it to post-war Polish entrepreneurs we could illuminate the multilayered and nuanced nature of ethnicity in relation to entrepreneurial identity. The space for *habitus* was contained by focusing on post-war Polish individuals who grew up in the United Kingdom, operated businesses located in one place at one point in time. We could therefore show that while their Polish and entrepreneurial identities intersected, such that they self-identified as Polish entrepreneurs, being Polish did not make their businesses operate markedly differently to those of other entrepreneurs. As such, at the point of intersection, ethnic and entrepreneurial identity has different meanings for individuals and not all ethnic or immigrant entrepreneurs rely on their ethnic identity in their entrepreneurial activity. Hence, our contribution is a theoretically informed account of what ethnicity can mean to individuals and how this intersects with entrepreneurial identity.

From our study there is much to be explored in the future. We plan to compare and contrast Polish entrepreneurs operating in a different economy, Australia, and in a specific Australian city to juxtapose the *habiti* and what forms of capital were available and how they were used in the pursuit of entrepreneurial activity. We hope by doing so we will further increase our knowledge of what it means for immigrants or members of ethnic minority communities to be an entrepreneur.

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Network Marketing Businesses and Chinese Ethnicity Immigrants in Australia

by Fu Dai, Stephen T. T. Teo, and Karen Yuan Wang

This study adopts two theoretical perspectives, Social Cognitive Theory and Theory of Planned Behavior, to examine a model of network marketing business participation by Chinese immigrants in Australia. A structural equations modeling analysis showed that the social environment within a network marketing organization positively influences the self-efficacy of Chinese network marketers and their desire to seek opportunities. These factors positively influence the actions undertaken by network marketers, and subsequently, impact positively on their performance outcome.

Introduction

It is often the case that immigrants pursue a network marketing business (NMB) as they do not have adequate resources and the skills to establish their own small business in their newly adopted home country (Lin 2007). Network marketing is a system in which a manufacturer (network marketing firm) pays people outside the company to sell its products and services directly to consumers (Harris 2004); in return, each salesperson is given the opportunity to build his/her own network marketing organization (NMO) by recruiting, training, and motivating others to sell the same products and services (Harris 2004). Some studies (such as Biggart 1989; Lin 2007) argue that NMOs have been promoted as a way for ordinary people to pursue entrepreneurial opportunities and attain wealth. NMOs provide "an empowering tool" to socially disadvantaged individuals, such as females (Biggart 1989) and immigrants (Lin 2007), motivating them to take charge of their own life.

Kuntze (2001) claims individuals who pursue an NMB are entrepreneurial dreamers rather than real entrepreneurs. He suggests that network marketers are far less innovative than real entrepreneurs, because there is no need for network marketers to invent or fund a new type of business (Kuntze 2001). Kuntze (2001) also claims that network marketers are motivated extrinsically as they are more focused on pursuing the name of "entrepreneur" rather than meeting their "need for achievement." Bhattacharya and Mehta (2000), however, express a different view on network marketers and suggest that these individuals have a strong sense of innovation that is embedded in pursuing a successful business in a creative way. The distribution of products in NMOs is through the organization of social events in business meetings (Bhattacharya and Mehta 2000). According to Biggart (1989) and Bhattacharya and Mehta (2000), this type of product distribution in NMBs represents a form of innovation. Groß (2010) found that spiritual elements are propagated within NMOs to motivate their network marketers. A meaningful life and personal goals are important motivators for network marketers

Fu Dai is a lecturer of management in the School of Business, Xiamen University Tan Kah Kee College, Xiamen, China.

Stephen T. T. Teo is professor of human resource Management in the School of Management, RMIT University, Melbourne, Australia.

Karen Yuan Wang is senior lecturer of Management in UTS Business School, University of Technology Sydney, Sydney, Australia.

Address correspondence to: F. Dai, Xiamen University, Tan Kah Kee College, International Business & Trade, Zhang Zhou, Fujian, China. E-mail: fu.dai@optusnet.com.au.

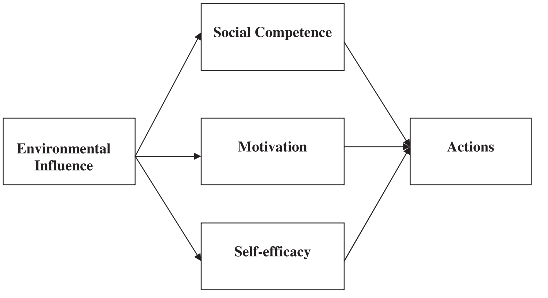
to pursue their NMBs. Groß's (2010) finding is supported by Biggart (1989). Thus, we argue that these individuals have an intrinsic motivation.

Some of the popular terminologies used in the literature for these individuals include representatives (Biggart 1989), agents (Koehn 2001), network marketers (Dai, Wang, and Teo 2011), distributors (Lin 2007; Pratt 2000), and multilevel marketing members (Sparks and Schenk 2006). One common theme shared among these individuals is their desire to pursue entrepreneurship via NMB (Sparks and Schenk 2006). Biggart (1989) argues that entrepreneurship in the network marketing industry is more than a type of economic action. "It is a powerful social ideal that came about with the emergence of capitalism" (Biggart 1989, p. 163). In the current paper, *"network entrepreneur"* is adopted to refer to these individuals, as they exhibit the traits of successful network marketers (McCelland 1987), such as the need for achievement (Lin 2007), innovation (Bhattacharya and Mehta 2000), and internal locus of control (Biggart 1989). They are intrinsically motivated to satisfy their internal needs (Groß 2010).

It has been shown that Chinese immigrants typically set up their own businesses in the host country (e.g., Collins 2002) and one of the business activities they pursue is network marketing (e.g., Lin 2007). Researchers such as Sequeira and Rasheed (2006) have recognized that the main reason immigrants pursue entrepreneurship is that they are disadvantaged in the labor market because of their inadequate host country language skills, and the depreciation of human capital. The willingness to become an entrepreneur for a particular immigrant group is driven by this adverse environment and the size of the immigrant group (Evans 1989).

Some studies have examined the motivations of Chinese immigrants participating in NMBs by adopting Social Cognitive Theory (SCT) (see, e.g., Dai, Wang, and Teo 2011). In their study, Dai, Wang, and Teo (2011) concluded that self-efficacy positively relates to actions undertaken in conducting an NMB. However, they did not examine how Chinese immigrants pursue entrepreneurship via building their NMBs in their newly adopted home country. This is an important research question as there are a significant number of Chinese immigrants joining NMBs in Australia (*Sing Tao Daily (Australia)*, September 28, 2007). This aim of the current study is to answer this question (Figure 1).

Figure 1
Model of Network Marketing Business Entrepreneurial Action



Source: Dai, Wang, and Teo (2011).

Conceptual Background and Hypotheses

SCT describes human functioning in terms of a model of triadic reciprocity in which behavioral factors (e.g., motivation and desire for opportunity in the present study), personal internal psychological factors (e.g., self-efficacy), and environmental events (e.g., environmental influence) all operate as interacting determinants to each other (Bandura 1986). It explains how motivation (behavior), desire for opportunity (behavior), and self-efficacy (personal internal psychological factors) are affected by the influence of the social environment in NMOs (Bandura 1986). SCT also suggests self-efficacy is critical for regulating the actions undertaken (Bandura 1997), which may in turn affect the actions undertaken (Wood and Bandura 1989).

However, self-efficacy is not fully sufficient in encouraging immigrants to conduct their NMB if they do not have the desire to pursue the opportunity derived from an NMB (Krueger 1993). Furthermore, our literature review suggests that SCT does not specifically explain how the desire for opportunities interacts with actions undertaken. Without understanding this interaction, the dependent variable (performance outcomes) will not be addressed adequately and nor will the research question be answered properly. To explain the interaction between desire for opportunity and actions undertaken, Theory of Planned Behavior (TPB) (Ajzen 1991) is introduced as a complementary theory.

TPB is designed to predict and explain human behavior in a specific context (Ajzen 1991). A central factor in this theory is the individual's intention to perform a given behavior. It postulates three conceptually independent determinants of intention: attitude toward the behavior, subjective norm, and the degree of perceived behavioral control (or self-efficacy). This theory was used to develop the Entrepreneurial Intention Model (Krueger 2000). The Entrepreneurial Intention Model suggests that an individual's desire to pursue entrepreneurship and self-efficacy determines his/her entrepreneurial intention (Krueger 2000). Researchers suggest entrepreneurial intention leads to entrepreneurial actions (Carsrud and Brannback 2011); however, we argue that entrepreneurial actions determine the performance (Kuratko, Ireland, and Hornsby 2001). In addition, TPB and SCT can be linked by self-efficacy, as self-efficacy is a critical factor in both TPB and SCT. Therefore, TPB is appropriate in explaining how the desire for opportunity and self-efficacy determines the actions undertaken by network marketers in their business activities, which in turn are related to performance outcomes (Kuratko, Ireland, and Hornsby 2001).

Nevertheless, the disadvantage of TPB is that this theory does not explain how the environmental influence within NMO affects the factors of an individual's desire for opportunity and self-efficacy. Thus, it is necessary for the present study to integrate SCT with TPB. The integration of SCT with TPB will sufficiently address the dependent variable (performance outcome).

Biggart (1989) points out the critical factor in a network marketing firm's success is its ability to engage the energies of thousands of people and shape them into a highly productive organization (NMO). To effectively engage with their salespersons, popular network marketing firms, such as AMWAY, Mary Kay, Nu Skin, and Shaklee, along with their network entrepreneurs organize many business or training events in their markets every year (Bhattacharya and Mehta 2000). By doing this, an energetic social environment is developed within NMOs (Biggart 1989). It follows that the *influence of the social environment* within an NMO will thereby affect individual network entrepreneurs' behaviors and personal factors (Bandura 1986).

In their study, Dai, Wang, and Teo (2011) identified that the *influence of social environment* comprises three subvariables: *cohesion* (Sparks and Schenk 2006), *peer influence* (*encouragement and support between network marketers*) (Biggart 1989), and *training*. Dai et al. argue that the training provided by NMOs is essential because many inexperienced individuals pursue entrepreneurship via NMBs. A feature of the training undertaken in NMOs is that most training programs are delivered by other network entrepreneurs (Sparks and Schenk 2006). In their training sessions, network entrepreneurs share their knowledge and skills and encourage each other (Biggart 1989). Within NMOs, competition is not encouraged (Sparks and Schenk 2006); otherwise the training programs would not be successful. Therefore, cohesion within an NMO is essential and peer influences among an NMO should be considered. *Cohesion*, *peer influence*, and *training* within an NMO are important for network entrepreneurs in running their businesses (Dai, Wang, and Teo 2011). Following the study by Dai, Wang, and Teo (2011), the present study defines the *influence of social environment* as the effect of the social atmosphere on network entrepreneurs' cognition and behaviors. *Social environment* consists of three factors: training (Dai, Wang, and Teo 2011), peer influence (Biggart 1989), and perceived cohesion (Sparks and Schenk 2006).

Dai, Wang, and Teo (2011) suggest that the *influence of social environment (training, peer influence*, and *perceived cohesion)* positively affect NMB-specific *self-efficacy*. Similar to the study by Dai, Wang, and Teo (2011), NMB-specific *self-efficacy* is defined as a network entrepreneur's belief in their ability to attain the expected results when conducting NMB activities. Empirical support in the study of Dai et al. shows that that NMB specific self-efficacy consists of two subfactors: *degree of easiness* and *confidence*. The researchers used the *degree of easiness* to investigate network entrepreneurs' perception of the difficulties conducting NMB activities (e.g., introducing business opportunities to prospects and selling products to customers). *Confidence* was used to investigate network entrepreneurs' assurance in operating their business successfully.

SCT suggests that an individual's self-efficacy is related to the attainments of others in that "seeing or visualizing people similar to oneself perform successfully typically raises efficacy beliefs in observers that they themselves possess the capabilities to master comparable activities" (Bandura 1997, p. 87). People appraise their capabilities in relation to the performance and attainment of others (Bandura 1997); that is, social comparison operates as a primary factor in the self-appraisal of capabilities (Bandura 1997). Therefore, Chinese immigrants' self-efficacy in establishing successful NMBs is affected by their social environment.

The philosophy of "anyone can do it" promoted in NMOs (Biggart 1989; Pratt 2000) has attracted many inexperienced Chinese immigrants to NMBs in their new home countries (Lin 2007). To equip inexperienced network entrepreneurs with the required business knowledge and skills, training programs are provided and peer support/influence is encouraged within NMOs (Sparks and Schenk 2006).

The training programs offered by NMOs provide two sources for trainees to raise their self-efficacy. First, they provide opportunities for trainees to be exposed to successful network marketers and obtain vicarious experiences (Bandura 1986). Second, they let trainees practice business skills and gain knowledge to obtain mastery experience (Bandura 1986). Vicarious experiences and mastery experiences are two sources of self-efficacy (Bandura 1997). Therefore, we argue that the training programs offered by NMOs positively impact on Chinese immigrant network entrepreneurs' self-efficacy. This argument implies that the influence of the social environment in an NMO positively affects Chinese immigrant network entrepreneurs' self-efficacy. Thus, the following is hypothesized:

H1: The influence of the social environment (training, peer influence, and perceived cohesion) is positively associated with immigrant network entrepreneurs' self-efficacy in conducting NMB activities.

Network entrepreneurs who possess a high level of self-efficacy will stay in their business longer (Bandura 1997). Individuals tend to avoid tasks in which they have low self-efficacy and, conversely, are drawn toward tasks for which they have high self-efficacy (Bandura 1986; Forbes 2005). However, self-efficacy is not fully sufficient to encourage immigrants to conduct NMBs if they do not have the desire for the opportunity (Krueger 1993). Desire for profitable opportunities is an important trait of entrepreneurs (McMullen and Shepherd 2006). Following Krueger (1993), a network entrepreneur's desire for opportunity is defined as the degree to which he/she finds the prospect of conducting an NMB to be attractive; in essence, it reflects one's desire for opportunities derived from an NMB. This desire can be influenced by group norms (Sekerka and Bagozzi 2007) and the social environment (Malhotra 2010).

Within NMOs, social events are hosted regularly and successful network entrepreneurs share their personal stories in an emotional manner with others to promote entrepreneurial opportunities derived from NMBs in NMOs (Biggart 1989; Sparks and Schenk 2006). The general impression of network entrepreneurs is of a group of disadvantaged people who are apt to be influenced by such entrepreneurship promotions (Kuntze 2001). Immigrants are commonly considered to be disadvantaged in terms of pursuing employment opportunities in their host country (Chaganti and Greene 2002). Chinese immigrants' desire for opportunities is influenced by the social environment of NMOs (Lin 2007) as they use the social events as an opportunity to socialize with others from similar cultural backgrounds. Adopting an SCT lens, this study expects the influence of the social environment in NMOs to be positively related to immigrant network entrepreneurs' desire for opportunities derived from conducting NMB activities. The following is, therefore, hypothesized:

H2: The influence of the social environment is positively associated with immigrant network entrepreneurs' desire for opportunity.

TPB (Ajzen 1991) and the literature on entrepreneurial intention (Krueger 2000) suggest that entrepreneurial intention is determined by both self-efficacy and the desire to pursue entrepreneurship. Entrepreneurial intention is the single best predictor of entrepreneurial action (Carsrud and Brannback 2011; Choo and Wong 2006). Furthermore, an individual's beliefs in his/her efficacy influences the course of action he/she chooses to pursue, how much effort he/she puts into the given endeavors, and how long he/she perseveres in the face of obstacles and failures (Bandura 1997). Self-efficacy is also associated with entrepreneurship (Trevelyan 2011). Self-efficacy has been found to be a determinant of the extent of ongoing involvement with network marketing activities by network entrepreneurs (Dai, Wang, and Teo 2011). Thus, the following hypothesis is proposed:

H3: There is a positive relationship between immigrant network entrepreneurs' self-efficacy and actions undertaken in conducting NMB activities.

TPB suggests that attitude is the first determinant of behavioral intentions (Carr and Sequeria 2007). Attitude represents the attractiveness of behavior (Ajzen 1991) and is one of the best predictors of desire (Armitage and Conner 2001). Attitude has also been defined by Krueger (2000) as the desire to pursue an entrepreneurial opportunity by starting a new venture.

Although previous research on entrepreneurial intention (Krueger 2000) has not addressed the relationship between desirability and entrepreneurial action, we argue that the desire for entrepreneurship is positively related to entrepreneurial actions (Choo and Wong 2006). As can be seen by SCT, an individual's desire for opportunity is regarded as a personal and cognitive factor (Bandura 1986) while entrepreneurial action is considered a behavioral factor. These two factors have a reciprocal relationship (Bandura 1986), which means the higher the level of desire for opportunity an individual has, the more actions he/she will undertake in conducting his/her NMB activities. Therefore, the following is hypothesized:

H4: There is a positive relationship between immigrants' desire for opportunity and actions undertaken in conducting NMB activities.

Bandura (1986) argues that actions that bring rewards are generally repeated, whereas those that bring unrewarding or punishing outcomes tend to be discarded. Social reactions are the predictors of primary consequences: people will do things for the approval of others and refrain from actions that arouse the wrath of others (Bandura 1986). Individuals are affected by rewards and punishments (Noe 1986; Taormina and Lao 2007); therefore, this research argues that an individual's motivation to pursue his/her goals is affected by the influence of the social environment.

Symbolic Self-Completion Theory can be used to explain the reasons why network marketers engage in their businesses. This theory argues that important symbols (such as indicators of self-definition) are used by individuals to define themselves as competent and accomplished (Wicklund and Gollwitzer 1981). Kuntze (2001) claims that network marketers are entrepreneurial dreamers rather than real entrepreneurs, because they are motivated extrinsically to pursue the title of entrepreneurship over actually doing what it entails. Therefore, extrinsic motivation is an aspect of motivation for Chinese immigrants to conduct an NMB.

The literature also suggests that successful network marketers are motivated intrinsically (Groß 2010) to pursue entrepreneurship (Lin 2007; Sparks and Schenk 2006). The need to establish a successful business (Lin 2007), need for identification (Sparks and Schenk 2006), and spiritual satisfactions (Groß 2010) are traits identified among successful network marketers, which are similar to entrepreneurial traits (such as the need for achievement, the need for internal locus of control, and the need for autonomy) identified by previous studies (Collins, Hanges, and Locke 2004). All of these are examples of intrinsic motivation (Ryan and Deci 2000), which "refers to doing something because it is inherently interesting or enjoyable" (Ryan and Deci 2000, p. 55). Therefore, we argue that Chinese immigrants possess a level of intrinsic motivation that is essential in conducting NMB in the host country.

Researchers explain the main reason immigrants pursue self-employment businesses in their new country is because of their lack of advantages in the labor market caused by their inadequacy in their new home country's language, their lack of education and specific career-related skills, and the depreciation of human capital (Sequeira and Rasheed 2006). These explanations are supported by the literature on necessity entrepreneurship (Bergmann and Sternberg 2007). Necessity theory suggests immigrant entrepreneurs are pushed into entrepreneurship because they have no better choices for working or making a living (Henrekson 2005). NMOs promote themselves as an opportunity for ordinary individuals who lack resources and/or required skills to establish their own small businesses (Biggart 1989). Therefore, the attractiveness of an NMB is another factor that motivates Chinese immigrants to pursue NMBs.

Thus, we argue that the motivation for Chinese immigrants to pursue NMBs is composed of extrinsic and intrinsic motivation. The present study defines the motivation for individuals to pursue NMBs as internal and external factors that stimulate the desire and energy of network entrepreneurs to be continually interested and committed to NMBs. This motivation is affected by the influence of the social environment of the NMO (Bandura 1986). In this study, the following hypothesis is proposed:

H5: There is a positive relationship between the influence of the social environment within an NMO and immigrant network entrepreneurs' motivations in conducting their NMB activities.

Researchers suggest individuals with a strong need for achievement are more likely to seek entrepreneurial opportunities (Zhao and Seibert 2006). This need for achievement can be expressed as a desire to be successful in a competitive situation (Rahman and Rahman 2011). Therefore, the following hypothesis is proposed:

H6: There is a positive relationship between immigrant network entrepreneurs' motivation and their desire for opportunities.

Bandura (2001) asserts individuals select a course of action within their perceived capabilities. An individual's level of motivation is based more on what he/she believes than on what is objectively true (Bandura 1997); therefore, the present study argues that there is a positive relationship between self-efficacy and motivation. This argument is supported by empirical studies in the area of workplace training (Tai 2006; Tracey et al. 2001). Tai (2006) demonstrated that a trainee's self-efficacy belief is positively influenced his/her motivation to learn. Tracey et al.'s (2001) study showed that trainees' pretraining self-efficacy positively influences their pretraining motivation to learn. Thus, this study argues motivation is positively related to self-efficacy. Therefore the following hypothesis is proposed:

H7: There is a positive relationship between the self-efficacy of immigrant network entrepreneurs and immigrant network entrepreneurs' motivation.

Our literature review suggests that the operations of an NMB are composed of collective oriented operations and individual oriented operations (Sparks and Schenk 2001, 2006). In the collective oriented operations, network entrepreneurs work collectively to share their business skills and resources in operating their NMBs (Bhattacharya and Mehta 2000). The main purposes of the collective-oriented operations are to motivate each other and train new network entrepreneurs (Sparks and Schenk 2006). In the individual-oriented operations, each network entrepreneur is responsible for his/her profit and cost, which directly relates to business activities such as sales, new member recruiting, and network constructions (Lin 2007). The main purpose of these operations is to generate income (commission) (Harris 2004). Therefore, the measurement for performance outcome (financial achievement) should be based on individual oriented operations. The present study defines performance outcome as financial results achieved by individual network entrepreneurs. We argue that performance outcome is positively related to actions undertaken in conducting NMB activities (Kuratko, Ireland, and Hornsby 2001). Therefore, the following hypothesis is proposed:

H8: There is a positive relationship between actions undertaken in conducting NMB activities and performance outcome.

Methodology

Sample and Data Characteristics

This study used two different sources of data: perceptual data and objective performance data. To make sure that the perceptual data and objective performance data were matched, all respondents were recruited from the same company. During our survey, we requested all respondents to provide their unique identification numbers issued by the company. With this number, we were able to link the perceptual data provided by each respondent to their objective performance data obtained from the company's database.

To ensure a representative sample, we carefully located a network marketing firm which had the largest population of Chinese immigrant network entrepreneurs in Australia. To collect perceptual data (such as the influence of the social environment, motivation, self-efficacy, desire for opportunity, and actions undertaken), questionnaires were randomly distributed and personally collected at the front door of the network marketing company's major training venues in the states of New South Wales, Victoria, and Queensland. All respondents were volunteers. With the permission of the network marketing firm and institutional ethics clearance, objective performance data were obtained from

Table 1
Demographic Characteristic of Sampled Chinese Network Marketers

Characteristics	Percentage
Gender	
Male	26.4
Female	73.6
Marital status	
Single (Including Divorced)	16.7
Married (Include De Facto)	77.5
Divorced	5.8
Age	
18–30	16.3
31–40	21.6
41–50	40.5
51–60	16.7
>60	4.9
Education	
School Certificate and Post School Diploma	26
Bachelor Degree	48.5
Post Graduate Certificate/Diploma	4.9
Master Degree	12.8
PhD Degree	2.6
English competency	
Don't Speak English At All	9.7
Some English	39.2
Competent	38.3
Proficient	8.4
Native	0.9
Sample Size	227

the company's database. The characteristics of the sample are summarized and presented in Table 1. It was found that most of the respondents were socially disadvantaged individuals (for instance, 73.6 percent of the respondents were females, and less than 10 percent could speak English proficiently). This finding is consistent with other studies (e.g., Biggart 1989; Lin 2007) which argue that NMOs provide "an empowering tool" to socially disadvantaged individuals to pursue entrepreneurship.

Measures

Both validated and newly developed scales were used in the current study. The procedures set out in Turker (2009) to develop new scales and confirm existing ones were followed. The process included four focus groups and a pilot study. The participants in the focus groups were Chinese immigrant network marketers who had been in an NMB for more than three years and built solid businesses (note: these participants were excluded from the path analysis). Each focus group had between six and eight participants. A pilot study was then conducted with 32 experienced Chinese immigrant network marketers (7 males and 25 females). The findings obtained suggested all items described were properly understood by participants, but the instructions for how to answer the questions were reworded. Exploratory factor analysis (EFA) was undertaken to identify and validate the scales used to measure the constructs in the path model. Confirmatory factor analysis (CFA) was then undertaken to examine the reflective scales. Sample items, together with the internal reliability coefficients, where appropriate, are reported in the Appendix. Figure 2 shows the hypothesized path model.

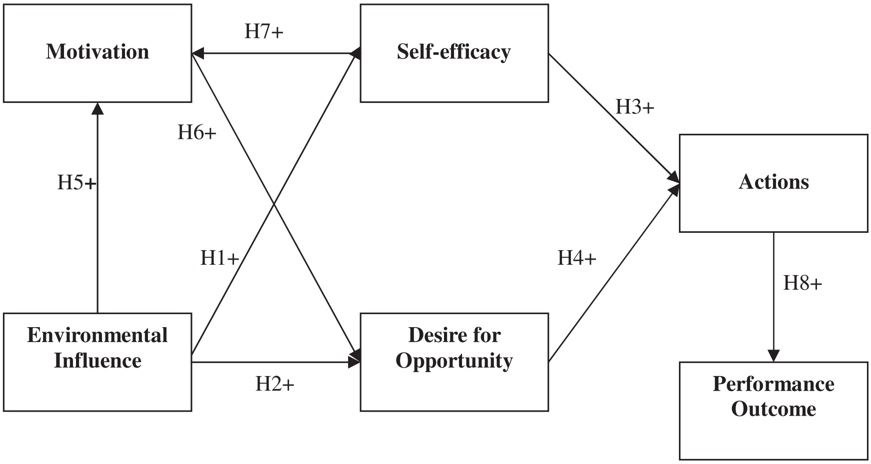
Motivation (Formative Scale). In the current study, *motivation* for conducting an NMB was operationalized as a formative, second-order, latent construct. It consisted of two first-order latent constructs (*intrinsic and extrinsic motivation*). The study utilized the scales developed by Kuntze (2001) to operationalize *extrinsic* (11 items) and *intrinsic* (9 items) motivation.

Influence of social environment (formative scale): Following Sparks and Schenk (2001, 2006) and Biggart (1989), "influence of social environment" comprise three reflective dimensions (training, peer influence, and perceived cohesion). Following Sparks and Schenk (2001, 2006), four items were used to measure cohesion and seven items were used to measure peer influence. Training was measured with the five-item scale from Dai, Wang, and Teo (2011).

Self-Efficacy (Reflective Scale). Items used to measure self-efficacy in this study were adopted from Dai, Wang, and Teo (2011) and they comprised two "dimensions": *degree of easiness* and *confidence*. Results of the CFA indicated a good fit ($\chi^2 = 34.57$, $df = 19$, $p = .02$, CFI = 0.98, RMSEA = 0.07). Convergent and discriminant validity were established.

Desire for Opportunity (Reflective Scale). As there were no existing scales which measure NMO's desire for opportunity in the literature,

Figure 2
Hypothesized Model



we adopted Krueger's (1993) measurement of *desirability* which contains three subscales (*love*, *enthusiastic*, and *tense*) to operationalize "*desire for opportunity*" scale. EFA showed that *desire for opportunity* comprised three factors, namely *love/enthusiastic, tense, and business attractiveness* subscale (four items) was adopted from Dai, Wang, and Teo (2011). This construct had good fit ($\chi^2 = 57.766$, $df = 40$, $p = .03$, CFI = 0.99, RMSEA = 0.05), and convergent and discriminant validity were established.

Actions Undertaken (Reflective Scale). Following Dai, Wang, and Teo (2011), the actions undertaken by network marketers were measured with seven items. The actions consisted of the number of hours spent on business activities weekly, and the number of presentations and sales conducted weekly and monthly.

Performance Outcome. An objective performance indicator was used as the dependent variable. This was operationalized by computing the natural logarithm of the average weekly financial income earned by the respondent in the past 10 weeks. The data were obtained from the network marketing firm's accounting records.

Measurement Analysis

Considering a substantial proportion of the study's model was constructed with unobservable variables measured by formative indicators, Partial Least Square (PLS) modeling was chosen as the statistical technique (Haenlein and Kaplan 2004). PLS allows for the examination of both latent and manifest variables simultaneously. PLS deals effectively with reflective and formative scales, it is distribution free, and is a powerful instrument for analyzing small samples (Chin 1998). Although the measurement and structural parameters are estimated together, a PLS model is analyzed and interpreted in two stages: the assessment of the reliability and validity of the measurement model, and the assessment of the structural model. This sequence ensures that the constructs measured are valid and reliable before attempting to draw conclusions regarding their relationships to one another (Brettel and Rottenberger 2013).

Tables 2 and 3 show the details of the analysis of the dimensionality, reliability, and validity of the scales. First, the study examined items and subconstruct reliability according to loading. Although one item from action and one subconstruct from motivation had loading values less than 0.7, they were not eliminated as they were formative indicators (Petter, Straub, and Rai 2007). In addition, the average variance extracted (AVE) of the construct were greater than the critical value of 0.5 (Fornell and Larcker 1981). Therefore, the convergent validity of the construct was satisfactory. The composite reliability of all scales was greater than the recommended value of 0.6 (Bagozzi and Yi 1988; Fornell and Larcker 1981).

Table 2
Reliability and Validity of the Measurement Model[a]

	Loading	*t*-Value	Composite Reliability	AVE
Actions			0.91	0.59
Hours per week devoted to distributorship work	0.85	51.45		
Hours per week devoted to presenting products and business opportunities to others	0.86	45.54		
Hours per week devoted to motivating and training new network marketers	0.84	36.32		
Hours per week devoted to learning business skills and knowledge	0.66	13.13		
Hours per week devoted to customer services	0.71	15.00		
Number of presentations conducted per week	0.76	24.46		
Number of sales workshops held per month	0.65	15.74		
Desire for Opportunity			N/A	N/A
Tense (Three items)	0.81	19.16		
Love/Enthusiastic (Four items)	0.89	40.45		
Establishing Business (Four items)	0.39	4.37		
Self-efficacy			0.85	0.75
Degree of Easiness (Four items)	0.82	21.60		
Confidence (Four items)	0.91	51.80		
Influence of Social Environment			N/A	N/A
Cohesion (Four items)	0.75	N/A		
Peer Influence (Seven items)	0.79	N/A		
Training (Five items)	0.86	N/A		
Motivation [formative]			N/A	N/A
Intrinsic Motivation (Nine items)	0.72	N/A		
Extrinsic Motivation (11 items)	0.43	N/A		

[a]N/A, not applicable as these are formative constructs.

A criterion to confirm discriminant validity is that the square root of a construct's AVE should be greater than its bivariate correlation with other constructs in the model (Fornell and Larcker 1981). Table 3 shows that the discriminant validity was satisfied as the square root of the AVEs was greater than the intercorrelation coefficients. The formative construct for multicollinearity was also tested using variance inflation factors (Diamantopoulos and Winklhofer 2001), and in all cases, as the values were below the cutoff threshold of 3.33, multicollinearity was of no major concern (Cenfetelli and Bassellier 2009).

Results

Evaluation of Structure Model

Model estimation was undertaken utilizing *SmartPLS 2.0* (Ringle, Wende, and Will 2005). Figure 3 shows the results. The significance of the coefficients was obtained by means of a bootstrap of 1,000 subsamples (Chin 1998). To further estimate the structural model, global criterion of goodness of fit (GoF) index (Tenenhaus et al. 2005) was computed. A GoF index of 0.444 indicated that the data had a high level GoF with the model (Wetzels, Odekerken-Schröder, and Oppen 2009, p. 187).

Testing of Hypotheses

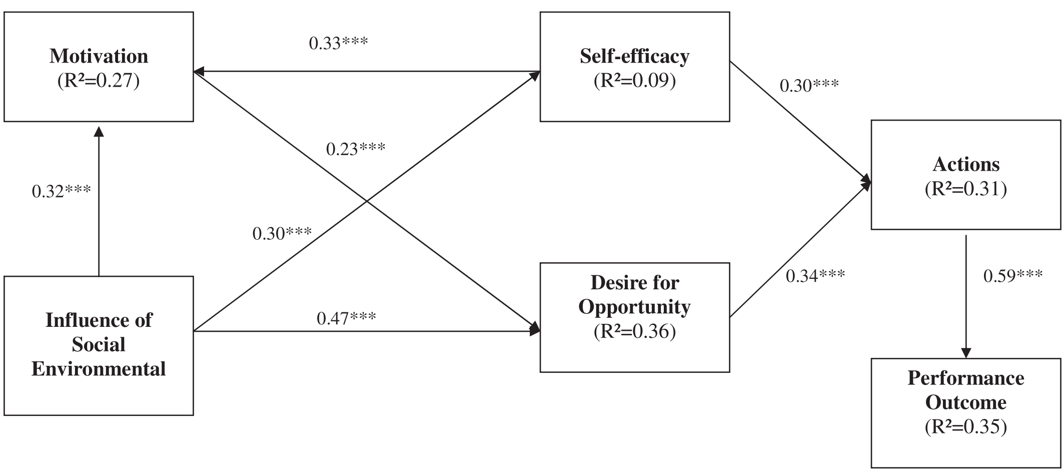
Table 4 summarizes the results obtained in the testing of the hypotheses. The path leading from the influence of social environment to self-efficacy was positive and statistically significant ($\beta = 0.30$, $t = 3.19$, $p < .01$). Hence, H1 was supported. The path from the influence of social environment to desire for opportunities was positive and statistically significant ($\beta = 0.47$,

Table 3
Means, Standard Deviations, and Correlations[a]

	Mean	S.D.	α	1	2	3	4	5	6
1. Actions Undertaken	17.18	6.22	0.91	**0.77**					
2. Desire for Opportunity	60.56	8.05	0.75	0.44***	**0.73**				
3. Self-Efficacy	33.01	7.90	0.85	0.44***	0.42***	**0.86**			
4. Influence of Social Environment[b]	43.61	4.89	–	0.23***	0.54***	0.26***	1.00		
5. Motivation[b]	67.44	12.11	–	0.30***	0.42***	0.42***	0.40***	1.00	
6. Performance Outcome (log)	4.66	1.55	–	0.58***	0.37***	0.31***	0.15*	0.14*	1.00

[a]Diagonal values show the square of the AVE for reflective scales.
[b]Denotes formative scales.
–, not applicable.
*$p < .05$.
***$p < .001$.

Figure 3
Significance of Path Estimates



*****$p < .001$.**

$t = 8.10$, $p < .001$), thus providing support for H2. H3 was supported as there was a positive and statistically significant path from self-efficacy to actions ($\beta = 0.30$, $t = 3.72$, $p < .001$). The path from desire for opportunities to action was found to be positive and statistically significant ($\beta = 0.34$, $t = 4.77$, $p < .001$), thus H4 was supported. The path from the influence of social environment to network entrepreneur's motivation was found to be positive and statistically significant ($\beta = 0.32$, $t = 4.71$, $p < .001$), thus H5 was supported. The path from network entrepreneurs' motivation to the desire for opportunities was found to be positively and statistically significant ($\beta = 0.23$, $t = 3.19$, $p < .001$), thus H6 was supported. H7 was supported, as the path

Table 4
Results of Hypotheses Tests

	Path Coefficients	*t*-Statistic	*p*-Value
H1: Influence of Social Environment → Self-Efficacy	0.29	4.76	***
H2: Influence of Social Environment → Desire for Opportunity	0.42	8.10	***
H3: Self-Efficacy → Actions	0.30	3.72	***
H4: Desire for Opportunity → Actions	0.34	4.77	***
H5: Influence of Social Environment → Motivation	0.32	5.77	***
H6: Motivation → Desire for Opportunity	0.25	3.19	**
H7: Self-Efficacy → Motivation	0.33	4.71	***
H8: Actions → Performance	0.59	16.09	***

**$p < .01$.
***$p < .001$.

from self-efficacy to network entrepreneurs' motivation was positive and statistically significant ($\beta = 0.33$, $t = 5.77$, $p < .001$). The path from action to performance outcome was found to be positive and statistically significant ($\beta = 0.59$, $t = 15.68$, $p < .001$), hence H8 was supported.

Discussion and Conclusion

NMOs provide "an empowering tool" to socially disadvantaged individuals, such as females (Biggart 1989) and immigrants (Lin 2007), and motivate them to pursue entrepreneurship via NMB and take charge of their own life. This study aimed to examine the factors influencing the performance outcome of Chinese immigrants in NMBs. The findings suggested that the performance outcome of Chinese immigrant network marketers was influenced by the actions they undertook when conducting NMB activities. According to the findings, the more actions that were undertaken, the better was the performance outcome achieved. The analysis also suggested the actions undertaken were connected to Chinese immigrant network marketers' self-efficacy, their desire for opportunity from an NMB, their motivation to conduct NMB activities, and the influence of the social environment in NMOs. The results indicated that an increase in self-efficacy and the desire for opportunity increased the number of actions undertaken. The results also indicated that desire for opportunity was positively affected by the influence of the social environment within NMOs, and this desire for opportunity was affected by the motivation to conduct NMB activities. It appeared that motivation to conduct NMB activities was also positively affected by the influence of the social environment and self-efficacy.

The findings obtained in this study corroborate those in the literature and have several important theoretical and practical implications. The study shows that network marketers work together in a cohesive manner, despite being responsible for their individual profit and cost (Biggart 1989). Also in support of the literature (see Biggart 1989; Sparks and Schenk 2006), it was found that ethnic Chinese network marketers work together by influencing and training each other in the required capabilities. The social environment within NMOs positively influences network marketers' motivation, self-efficacy and desire for opportunity, thus providing support for Bandura's (1986) SCT.

This study demonstrates that the self-efficacy and desire for opportunity of Chinese network marketers positively influence their actions in pursuing NMB activities. This finding is consistent with the ethnic entrepreneurship model proposed by Krueger (2000). The study also demonstrates that marketers' activities lead to a higher level of objective performance outcome, a finding that corroborates the findings of Kuratko, Ireland, and Hornsby (2001), Sparks and Schenk (2006), and Lin (2007).

The present study provides empirical support for understanding the antecedents and consequences of NBM participation by Chinese immigrants in Australia. The findings suggest that the social environment has a positive influence on network marketers' desire for opportunity, and the positive influence of the social environment on motivation is positively mediated by network marketers' self-efficacy. The findings also suggest that self-efficacy and desire for opportunity positively affect actions undertaken, which in turn positively determine performance outcomes.

The present study provides new theoretical insights. First, a contribution to the literature is made by showing the influence of the social environment on the desire for opportunity. This finding shows that there is support for SCT (Bandura 1986). SCT suggests that environmental events, behavior, and personal factors all operate as interacting determinants of each other. This study presents specific definitions of environmental events as they influence the social environment, which is comprised of three subfactors: training, peer influence, and cohesion. The study also defines the specific meanings of behaviors and personal factors as motivation, desire for opportunities, and NMB specific self-efficacy. These findings show how the influence of the social environment within NMOs positively impacts on the desire for opportunity and supports SCT (Bandura 1986). One of this study's contributions to Bandura's (1986) study is that it provides empirical evidence to demonstrate environmental events (influence of social environment) and determines behaviors (motivation and desire for opportunity). The other contribution made is that the study provides empirical evidence to show that the personal factor (self-efficacy) determines the behavior (motivation).

The present study shows that entrepreneurial intention is the single best predictor of entrepreneurial action (Choo and Wong 2006). The entrepreneurial actions undertaken in the context of NMBs can be predicated by the desire for opportunity and self-efficacy. This study provides empirical evidence to support this argument and contributes to the findings of the studies of Krueger, Reilly, and Carsrud (2000) and Choo and Wong (2006).

This study integrates SCT (Bandura 1986) with TPB (Ajzen 1991) to explain the relationships between the influence of the social environment and self-efficacy, the desire for opportunity, and actions undertaken in the context of NMOs that have so far been elusive. Previous researchers suggest that network marketers are independent small business owners (Biggart 1989; Harris 2004), but they work collectively in operating their businesses under the cohesive social environment within the NMO (Sparks and Schenk 2006). This study suggests that training and peer influence within the cohesive social environment of an NMO raises network marketers' self-efficacy and desire for opportunity, which in turn increases the actions undertaken and leads to better performance outcomes.

The model developed in this study suggests if individuals work together in a group and form a social environment characterized by training, peer influence, and cohesion, then they will be more motivated and their self-efficacy and desire for opportunity to be successful will be at a higher level. As a result, individuals will develop the competence to take the necessary actions in conducting their business activities.

Individual network marketers may also gain benefits from this study. This study suggests that network marketers should work with others to create a favorable social environment within NMOs when they are building their own NMBs. In addition, immigrants who lack resources may be informed by this study to establish their own NMB using the collective power of immigrants.

An NMB is a home-based business (Biggart 1989); hence, most of the business owners are housewives who need to look after their family's lives as well their business (Biggart 1989). The female dominant sample implies that the findings obtained in the present study reflect the truth of the network marketing industry (World Federation of Direct Selling Association 2014). However, to generalize these findings to a non-network marketing industry more research/theorizing should be undertaken.

Managerial and Practical Implications

The present study provides several managerial and practical implications. First, the results obtained may assist managers of NMBs to understand the behaviors of their network marketers in operating their businesses. With such an understanding, managers can invest in projects that train ethnic Chinese network marketers to conduct an NMB. This will allow the creation of a cohesive social environment, which is essential for improving the confidence and competence of network marketers. This cohesive social environment will reinforce the self-efficacy and confidence of these immigrants in undertaking entrepreneurial activities in a country dissimilar to their country of origin. Network marketers may gain potential benefits from this study. Some network marketers dislike participating in business events (Pratt 2000) because they cannot perceive the values of these events. By learning from the findings from the present study, these network marketers may be more willing to work together with other network marketers, such as learning business skills and becoming more confident in running their NMB.

Limitations and Future Study Implications

Despite specific contributions made, this study has its limitations. First, the sample was limited to Chinese immigrants in selected Australian states (New South Wales, Queensland, and Victoria). To generalize the findings of this study, more studies with heterogeneous samples, such as network entrepreneurs from other ethnicities and different host countries, should be examined. Like all cross-sectional research, the primary data in the current study was collected at a single point in time with a survey questionnaire. Therefore, the current research cannot explain the effect of time on the relationship posited in the model (Bryman and Bell 2007).

It is important that future research continues in this direction with further extension of the current study. Future research may consider moderating or mediating factors such as social skills to extend the current model. Social skills are an individual's ability to successfully interpret and manage social interactions (Witt and Ferris 2003). They allow individual network marketers to participate cohesively in the social environment of NMBs.

In summary, the current study has sought to identify the factors that determine the performance of Chinese immigrants in NMOs. Results of the path analysis provide support for integrating the SCT with a TPB lens to show the positive effects of the social environment within NMOs in influencing the self-efficacy and desire for opportunity and motivation of Chinese network marketers, and the continued participation in NMB activities. Together, these were found to positively result in a higher level of performance outcomes. The current study contributes to a better understanding of the management of NMOs.

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Appendix : Sample Items Used in the Questionnaire

Influence of Social Environment [Formative Scale]

For each statement below, 1 = strongly disagree . . . 5 = strongly agree

(1) *Peer influence* (reflective subscale, $\alpha = 0.91$)

- My sponsor and other uplines lead by "doing" rather than "telling"
- My sponsor and other uplines are an excellent source of information about being a successful member of this NMO

(2) *Training* (reflective subscale, $\alpha = 0.87$)

- Training provided by this NMO is essential for me to operate my NMB

- The training I receive in this NMO is effective

(3) *Cohesion* (reflective subscale, $\alpha = 0.81$)

- The members of my organization are very cooperative with each other
- There is a great deal of trust among fellow members in my organization

Self-Efficacy [Reflective Scale]

(1) *Degree of easiness* (reflective subscale, $\alpha = 0.89$)

- How easy do you think it would be to introduce your current NMB to others?
- How easy do you think it would be to sell the products to others?

For each statement above, 1 = very difficult . . . 5 = very easy

(2) *Confidence* (reflective subscale, $\alpha = 0.86$)

- Do you know enough to conduct an NMB?
- How sure are you of yourself in communicating with others effectively?

For each statement above, 1 = not confident at all . . .5 = very confident

Desire for Opportunity [Reflective Scale]

(1) *Love and enthusiastic (reflective subscale, $\alpha = 0.87$)*

- I would love to conduct my current NMB.
- How enthusiastic would you be in sharing the products sold by this NMO with others?

For each statement above, 1 = not enthusiastic at all . . . 5 = very enthusiastic

(2) *Tense (reflective subscale, $\alpha = 0.91$)*

- How tense would you be in sharing the opportunity of the NMB with others?
- How tense are you in conducting your current NMB?

For each statement above, 1 = not tense at all . . . 5 = very strongly tense

(3) *Business Attractiveness (reflective subscale, $\alpha = 0.79$)*

- To start up my own business without financial pressure
- To start up my own small business with the lowest investment and risks

Motivation [Formative Scale]

For each statement below, "1" = it is not a motivation for me at all . . . "5" = it is a very important motivation for me.

(1) *Extrinsic motivation (formative subscale)*

- To make a lot of money
- To have influence over and create a positive impact upon my community

(2) *Intrinsic motivation (formative subscale)*

- For personal accomplishment
- To have fun

Actions Undertaken [Reflective Scale]

- Hours per week devoted to distributorship work
- Number of presentations conducted per week

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How Small Business Managers' Age and Focus on Opportunities Affect Business Growth: A Mediated Moderation Growth Model

by Michael M. Gielnik, Hannes Zacher, and Antje Schmitt

Research on business growth has been criticized for methodological weaknesses. We present a mediated moderation growth model as a new methodological approach. We hypothesized that small business managers' age negatively affects business growth through focus on opportunities. We sampled 201 small business managers and obtained firm performance data over 5 years, resulting in 836 observations. Growth modeling showed systematic differences in firm performance trajectories. These differences could be explained by modeling focus on opportunities as a mediator of the relationship between small business managers' age and business growth. The study illustrates how mediation models can be tested using growth modeling.

Introduction

Business growth is of immense theoretical and practical significance to the fields of entrepreneurship and small business management. Business growth is theoretically important because it is considered a key indicator of entrepreneurial success (Baron 2007b; Delmar, Davidsson, and Gartner 2003), in particular for small firms (Davidsson, Delmar, and Wiklund 2002). Scholars have even suggested that growth is a defining feature of entrepreneurship (Carland et al. 1984; Stevenson and Jarillo 1990). Business growth is of practical importance because it is directly related to overcoming the liability of smallness with positive effects for firm survival (Aldrich and Auster 1986). Furthermore, firms experiencing high growth are major drivers of economic development and technological advancement (Shane 2009; Valliere and Peterson 2009). Accordingly, it is a central task of entrepreneurship and small business research to develop a better understanding of business growth and its antecedents.

So far, the literature has identified several factors predicting business growth (cf., Chrisman, Bauerschmidt, and Hofer 1998; Frese and Gielnik 2014; Gilbert, McDougall, and Audretsch 2006). This research has concluded that business growth is the outcome of a complex interplay of various predictors, such as individual characteristics of the owners, managers and employees, diversity and dynamics of the entrepreneurial team, social capital, stakeholders (e.g., customers and suppliers), and the business environment (Baum, Locke, and Smith 2001; Classen et al. 2012; Frank and Mitterer 2009;

Michael M. Gielnik is professor of HR Development in the Institute of Strategic HR Management at Leuphana University of Lüneburg.

Hannes Zacher is professor of innovation and human resource management in the School of Management at Queensland University of Technology.

Antje Schmitt is a postdoctoral researcher in the Department of Business Psychology at the University of Kassel, Germany.

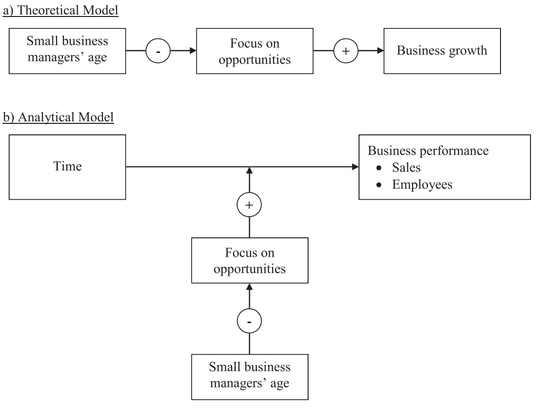
Address correspondence to: Michael M. Gielnik, Institute of Strategic HR Management, Leuphana University of Lüneburg, Lüneburg, Germany. E-mail: michael.gielnik@leuphana.de.

Gilbert et al. 2006; Stam, Arzlanian, and Elfring 2014; Steffens, Terjesen, and Davidsson 2012). This research has provided valuable insights into the antecedents of business growth.

However, scholars have recently criticized previous research on business growth for its methodological weaknesses. According to Holcomb et al. (2010), there has often been a mismatch between the theoretical framework and the methodological approach in previous research on business growth. Modeling business growth as a dependent variable requires a methodological approach that captures changes in business performance over time. Accordingly, scholars have called for applying a true longitudinal design when the study's theoretical framework seeks to explain business growth (Holcomb et al. 2010). Such a longitudinal design can be defined as research examining change in a construct over time and containing at least three repeated observations (Ployhart and Vandenberg 2010). With regard to business growth, this means it is necessary to investigate how performance changes over time (i.e., growth, decline, or stability) and to identify factors that explain why some firms experience an increase in performance whereas others do not. The appropriate analytical technique to analyze such longitudinal data is growth modeling, which allows researchers to investigate patterns of change in a construct by regressing the construct on time (Bliese and Ployhart 2002).

Against this background, we seek to add to the literature on business growth by applying a longitudinal design with repeated measurements to the study of business growth (Holcomb et al. 2010). We further extend the current discussion on the analytical approach using longitudinal data by presenting a mediated moderation growth model. Previous research mainly focused on direct moderator effects in growth models, that is, moderators of the relationship between time and an outcome variable (e.g., Holcomb et al. 2010; Short et al. 2009). We go one step further and present a more complex mediated moderation growth model. A mediated moderation growth model helps to explain *why* a moderator variable has an effect on the relationship between time and an outcome variable in a growth model by including a mediator variable. For illustrative purposes, we develop a theoretical model of business growth with a particular focus on small business managers. We draw on research by Gielnik et al. (2012), who presented a theoretical model in which focus on

Figure 1
The Theoretical and Analytical Models of the Study



opportunities mediates the effect of small business managers' age on business growth (see Figure 1a). In the entrepreneurship and small business literatures, there are several examples for similar mediation models, such as recent models by Frese et al. (2007) on planning as a mediator of the effect of cognitive/motivational resources on business growth, by Baum and Bird (2010) on action as a mediator of the effect of successful intelligence on business growth, or by Hmieleski and Baron (2008) on deviation from original opportunities as a mediator of the effect of regulatory focus on business growth. Such mediation models are common in entrepreneurship research and could be empirically tested with a more sophisticated methodological design using mediated moderation growth modeling. We use the model by Gielnik et al. (2012) to demonstrate how mediated moderation growth modeling can be applied. Specifically, we show that focus on opportunities is a mediator of the moderating effect of small business managers' age on the relationship between time and business performance (see Figure 1b). We thus provide a methodological advancement in the theoretical discussion of possible antecedents of business growth.

We note, however, that our theoretical model to illustrate the new methodological approach is reductionist in that it focuses only on individual characteristics of small business managers as our main predictors and on business growth of a single business as our main outcome. A comprehensive theoretical model on business growth has to take into account characteristics on the individual, firm, and environmental level (Wiklund, Patzelt, and Shepherd 2009). Furthermore, research in the domain of portfolio entrepreneurship has taken a different approach toward business growth. This research used the entrepreneur as the unit of analysis and conceptualized business growth as the number of businesses founded by an entrepreneur over time (Iacobucci and Rosa 2010; Ucbasaran et al. 2008).

We would like to emphasize that the main contribution of this study is to demonstrate how a mediated moderation growth model can provide a rigorous test of theories in the domains of entrepreneurship and small business management. We, therefore, focus on a minimal set of predictors on the individual level and the growth of a single independent business as outcome to present our methodological procedure in more detail. To our knowledge, such a mediated moderation growth model has not yet been presented and tested in the literatures on entrepreneurship and small business management (and, to the best of our knowledge, also not in other domains). In this study, we illustrate the methodological approach by using small business managers' age and focus on opportunities as predictor variables. It is important to note, however, that the general logic of our methodological approach is not limited to individual level factors but can analogically be applied to firm level and contextual factors as well as the growth of multiple businesses by portfolio entrepreneurs.

Theoretical Background

Conceptual and Methodological Issues in Business Growth

In a recent special issue on business growth, Leitch, Hill, and Neergaard (2010) concluded that much confusion and misunderstanding surrounds the topic of business growth. Similarly, Achtenhagen, Naldi, and Melin (2010) noted that business growth is a complex and multidimensional construct. Business growth is a complex construct for at least three reasons. First, business growth can be measured using different indicators which are not necessarily highly correlated. For example, Weinzimmer, Nystrom, and Freeman (1998) presented three different indicators of business growth (sales, employees, and assets) and three different measurement formulas to calculate growth (corrected for inflation, absolute growth, percentage growth). They found that the significance of determinants and explained variance varies substantially when using different indicators or measurement formulas (Weinzimmer, Nystrom, and Freeman 1998). Other scholars have used alternative indicators of growth, such as profitability, market share, return on assets or investments, and company value (Achtenhagen, Naldi, and Melin 2010; Delmar et al. 2003; Dobbs and Hamilton 2007). Conceptualizing business growth thus requires a critical reflection of what kind of growth is of interest.

Second, to develop a comprehensive theoretical model explaining business growth, it is necessary to consider determinants on a number of different levels. Wiklund, Patzelt, and Shepherd (2009) sought to present an integrative model taking into account the individual small business managers, the firm, and the environment. Similarly, Baum, Locke, and Smith (2001) developed and tested a multidimensional model of business growth including individuals' traits, competencies, and motivation, firms' size and competitive strategy, as well as the business environment. Although these models considered a multitude of factors, it is still possible to argue that they left out several crucial factors determining business growth, such as the characteristics of the employees, the entrepreneurial team, the business unit, and the growth strategy (e.g., diversification; product extension; internationalization, franchising) (Achtenhagen, Naldi, and Melin 2010; Classen et al. 2012; Misangyi et al. 2006; Steffens, Terjesen, and Davidsson 2012). Therefore, any empirical study investigating antecedents of business growth is at least to some extent reductionist in that it can examine only a fraction of the factors important for business growth.

Third, business growth is a complex and multidimensional phenomenon because there are several alternative modes underlying the growth process. Focusing on the firm as the unit of analysis, McKelvie and Wiklund (2010) distinguished between organic growth, growth through acquisition, and a hybrid form of growth (e.g., through franchising or licensing). Furthermore, scholars have recommended putting a stronger focus on the entrepreneur as the unit of analysis. In this case, it is of interest how a single entrepreneur develops a portfolio of different companies over time (Iacobucci and Rosa 2010; Ucbasaran et al. 2008; Westhead, Ucbasaran, and

Wright 2005). Iacobucci and Rosa (2010) have provided important insights on this topic investigating how portfolio entrepreneurs develop business groups, for example by tapping into internal and external resources and employees. Entrepreneurs who identify new opportunities start new businesses that are closely connected to the first business; the new businesses then often address other segments of the same market or production process (Iacobucci and Rosa 2010). Thus, growth processes such as expansion, diversification, or the exploitation of new opportunities may not take place in the original firm but through the establishment of new businesses.

In addition to the conceptual issues mentioned above, investigating business growth also requires an appropriate methodological approach. To investigate growth, it is necessary to employ a true longitudinal design to be able to investigate change in performance over time (Holcomb et al. 2010; Ployhart and Vandenberg 2010). In our study, we present how such a true longitudinal design can be used to test mediation models with growth modeling. So far, entrepreneurship scholars have mainly used growth models to test direct or main effects (Holcomb et al. 2010; Short et al. 2009). However, most of the theoretical models in entrepreneurship are more complex proposing mediation or indirect effects. Therefore, it is necessary to extend current growth models and introduce a procedure that allows scholars to test mediation models with a true longitudinal design using growth modeling. In this study, we present such a procedure and illustrate a mediated moderation growth model. In the next section, we describe the components and logic of mediated moderation growth modeling to explain in more detail how our new procedure advances current methodological approaches and can contribute to theory development. We then briefly develop the hypotheses for a mediation model proposing that focus on opportunities mediates the negative effect of small business managers' age on business growth. Following previous research, we use sales and number of employees as the most common indicators of business growth (Davidsson, Steffens, and Fitzsimmons 2009; Weinzimmer, Nystrom, and Freeman 1998). With regard to determinants of business growth, we exclusively focus on determinants on the individual level (i.e., focus on opportunities and small business managers' age). Furthermore, we only take into consideration organic growth or growth through acquisition of a single firm. We take this reductionist perspective because we want to place the focus of this study on presenting our complex methodological approach. In the future, this methodological approach can be extended to investigate more comprehensive mediation models including different growth indicators (e.g., company value or market share), different predictors on the various levels (e.g., entrepreneurial orientation or environmental dynamism), and other units of analyses (e.g., number of businesses of a single entrepreneur). The methodological logic presented in this study holds in all of these cases and can be universally applied to the different research questions related to business growth.

Components and Theoretical Logic of Mediated Moderation Growth Modeling

In this study, we introduce mediated moderation growth modeling as a methodological procedure to examine predictors of business growth and mediating mechanisms of effects of these predictors on business growth. The main component of this procedure is growth modeling. In general, growth modeling is the appropriate analytical approach for studies that use a true longitudinal design with at least three repeated observations to investigate change in a construct (Bliese and Ployhart 2002; Ployhart and Vandenberg 2010). Growth modeling is useful to analyze how units (e.g., individuals, groups, or organizations) change over time and whether the units differ in their patterns of change (Bliese and Ployhart 2002). Growth modeling thus allows researchers to examine dynamic changes within units. This is essential to develop an understanding of factors contributing to growth. Examining differences between units without examining changes within units does not capture change; it is rather a static representation of the construct at one point in time (Ployhart and Vandenberg 2010).

The second component of mediated moderation growth modeling is the identification of moderators. In growth modeling, the dependent variable is regressed on a time variable to model trajectories of the dependent variable over time. This estimates a general slope for the relationship between the dependent variable and time. In addition, growth modeling (Bryk and Raudenbush 1992) allows researchers to determine whether the general slope applies to all units or whether the slope between the dependent variable and time varies across units. For example, there might be a positive relationship between time and performance indicating growth for some businesses and there might be a negative relationship indicating decline for other businesses. In case there is significant variance in the slopes across units, growth modeling allows researchers to identify factors that explain why units have different slopes for the relationship between time and the dependent variable (Bliese and Ployhart 2002). These factors can be identified by examining moderators of the relationship between time and the dependent variable. These moderators thus help to understand interunit differences in intraunit change (Holcomb et al. 2010).

The third component of mediated moderation growth modeling is the identification of factors that mediate the effect of the moderator on the relationship between time and the dependent variable. This can be done by modeling an indirect of effect of the independent variable on the relationship between time and the dependent variable through the mediator. Scholars have recommended to use the indirect effect to test for mediation because it is possible to calculate standard errors of the indirect effect which allows researchers to conduct tests of significance (MacKinnon et al. 2002; Preacher and Hayes 2004). This is not possible, for example, in the causal step approach suggested by Baron and Kenny (1986). Including mediators in growth modeling with moderators is an extension of current analytical approaches. Our new procedure allows researchers to identify the underlying mechanisms and processes that explain why predictors lead to changes in a dependent variable.

We note that in the literature several different forms of mediated moderation exist. For example, Edwards and Lambert (2007) as well as Preacher, Rucker, and Hayes (2007) suggested that mediated moderation is present if a moderating effect is transmitted through a mediator. This means that an interaction effect between an independent and a moderator variable is mediated by a mediator variable. In contrast, our mediated moderation model follows the conception by Grant and Berry (2011), who used mediated moderation but not in the context of growth modeling. Our logic of mediated moderation growth modeling is as follows: The mediator—driven by an independent variable—influences the effect of time on the dependent variable. This form of mediated moderation is present when (1) the mediator moderates the relationship between time and the dependent variable, (2) there is an effect of the independent variable on the mediator, (3) there is an indirect effect of the independent variable on the relationship between time and the dependent variable through the mediator, and (4) there is a moderating effect of the independent variable on the relationship between time and the dependent variable when the mediator is not included in the equation.

In summary, mediated moderation growth modeling can answer questions such as whether businesses differ in their growth (i.e., significant variance in the slopes for the relationship between time and performance), what factors explain differences in business growth (i.e., moderators of the relationship between time and performance), and what the underlying mechanisms are that explain why the factors impact on growth (i.e., mediators of the moderator effects). In the following, we describe our theoretical model (see Figure 1a).

The Effect of Small Business Managers' Age on Focus on Opportunities

Following the line of reasoning by Gielnik et al. (2012), we hypothesize that small business managers' age has a negative effect on focus on opportunities (see Figure 1a). We base this assumption on well-established theoretical frameworks from the domains of adult development and lifespan psychology (Baltes and Baltes 1990; Baltes 1987; Carstensen, Isaacowitz, and Charles 1999; Kanfer and Ackerman 2004; Lang and Carstensen 2002; Ng and Feldman 2010). These theoretical frameworks suggest that with increasing age, people experience changes in socioemotional and motivational characteristics, such as changes in motives and goal orientation. A central construct in lifespan psychology related to these socioemotional and motivational changes is focus on opportunities (Cate and John 2007; Zacher and Frese 2009 2011). *Focus on opportunities* is a cognitive-motivational construct that describes how many new goals, plans, options, and opportunities people believe to have in their personal future. Focus on opportunities thus captures people's perceptions of the remaining opportunities in their future lives (Cate and John 2007; Zacher and Frese 2009). Although focus on opportunities refers to people's goals, it is different from goal setting insofar as focus on opportunities captures people's beliefs about the future (how many goals the future will hold for them) while goal setting refers to the actual goals people set for themselves (Locke and Latham 2002).

Lifespan psychology suggests that several individual (or internal) and contextual (or external) mechanisms can lead to a decrease in people's focus on opportunities with increasing age. Regarding the internal mechanisms, there is broad consensus among aging and lifespan scholars that with age, certain important capabilities and resources decline, such as information processing capabilities, time left, and physical stamina (Baltes 1997; Schulz and Heckhausen 1996). These capabilities and resources, however, are important to maintain a focus on opportunities (Zacher and Frese 2009). With regard to external mechanisms, age-related norms and environmental constraints may lower small business managers' focus on opportunities. In general, norms in Western societies imply that older people should retire and not pursue new professional opportunities when they reach a certain age (Hershey, Jacobs-Lawson, and Neukam 2002; Kautonen, Luoto, and Tornikoski 2010; Neugarten, Moore, and Lowe 1965). Furthermore, older small business managers may also experience age-graded constraints, for instance in the form of credit rationing by banks because of advanced age (Freel 2007). Based on the internal and external mechanisms leading to a decrease in focus on opportunities with age, we hypothesize:

H1: Small business managers' age has a negative effect on focus on opportunities.

The Effect of Focus on Opportunities on Business Growth

We argue that focus on opportunities has a positive effect on business growth (see Figure 1a). Entrepreneurship scholars have noted that small business managers' actions related to the development and operation of their firms exert an influence on the firms' performance (Baron 2007a; Frese 2009). Thus, factors influencing small business managers' actions, for example in terms of goal choice, effort, and persistence, eventually affect business performance. Research in the domain of lifespan psychology suggests that focus on opportunities regulates people's goal selection as well as their effort and persistence during goal pursuit (Aspinwall 2005; Carstensen 2006; Cate and John 2007; Seijts 1998; Zacher et al. 2010). Lifespan theory notes that people who believe that there are many remaining opportunities in their lives choose to pursue long-term goals which aim at growth and expansion; in contrast, people who perceive their remaining opportunities to be limited, choose to pursue short-term goals with the aim to keep the status quo (Carstensen 2006; Lang and Carstensen 2002). Furthermore, people who believe that they have more remaining opportunities in their lives set themselves more challenging goals and apply higher standards to evaluate their goal accomplishments (Cross and Markus 1994; Markus and Nurius 1986). Accordingly, scholars have argued that focus on opportunities leads to higher levels of effort and persistence in goal pursuit with positive effects on work engagement and performance (Schmitt et al. 2013; Schmitt, Zacher, and de Lange 2013; Zacher et al. 2010). The way focus on opportunities influences how people set growth-oriented and challenging goals with positive effects on effort and persistence should similarly affect performance in the entrepreneurial context (Baum and Locke 2004; Baum, Locke, and Kirkpatrick 1998; Baum, Locke, and Smith 2001; Markman, Baron, and Balkin 2005; Shane, Locke, and Collins 2003). We therefore hypothesize:

H2: Focus on opportunities has a positive effect on business growth.

The Mediating Effect of Focus on Opportunities on the Relationship between Small Business Managers' Age and Business Growth

Small business research emphasizes the importance of small business managers' characteristics for business performance (Baum and Locke 2004; Frese 2009; MacKey 2008; Rauch and Frese 2007). Based on upper echelons theory (Hambrick and Mason 1984), we argue that small business managers' age has a negative effect on business growth. Upper echelons theory holds that business growth and other organizational-level outcomes are strongly influenced by characteristics of the top managers. According to upper echelons theory, the business managers' age has a negative effect on business growth (Hambrick and Mason 1984). Upper echelons theory proposed several mechanisms that may be responsible for this negative effect. For example, older top managers are more conservative and less strongly oriented toward new opportunities; this means that they have a higher commitment to the status quo and are less willing to initiate change or innovations (Hambrick and Mason 1984). Upper echelons theory further proposed that older business managers prefer financial security over taking risks which should result in little change in business performance over time. Furthermore, due to decreases in fast information processing older business managers may be less able to grasp new ideas or to integrate new information. This should lead to less opportunity identification and innovations with negative effects on business growth (Gielnik et al. 2012, 2014; Rosenbusch, Brinckmann, and Bausch 2011). Finally, opportunity exploitation is a lengthy process and it may take several years until it is completed (Ravasi and Turati 2005). Older business managers should be less likely to complete the process and successfully exploit new business opportunities because they tend to show less physical and mental persistence (Hambrick and Mason 1984).

Although upper echelons theory has suggested several mechanisms that may play a role in the process leading from business managers' age to business growth, there is only very little research investigating these mechanisms. Building on propositions of lifespan theory (Baltes 1987), we argue that focus on opportunities is one of the mediating mechanism that help explain why business managers' age has a negative effect on business growth. Previous research from the domain of lifespan psychology has shown that focus on opportunities mediates several of the effects attributed to age. For instance, the effects of age on people's motives, goals, and performance disappeared when researchers manipulated focus on opportunities experimentally or when they held it constant (Carstensen 2006; Lang and Carstensen 2002; Zacher et al. 2010). Lifespan theory thus suggests that focus on opportunities is a central construct to explain changes in people's goals, motives, and performance that go along with the aging process. We, therefore, hypothesize:

H3: Focus on opportunities mediates the effect of small business managers' age on business growth.

Method

Sample and Procedure

To acquire our sample, we used the Hoppenstedt database, which contains information on company profiles and financial performance for more than 500,000 firms in Germany. In 2009, we randomly selected 1,500 small businesses located in the central German state of Hesse from the database (companies with sales less than 50 million Euro and fewer than 50 employees). We individually called the small business managers to explain the background and aims of our study. At the end of each telephone call, we asked the small business managers whether they were interested in participating in the study. We emphasized that participation was voluntary and every participant would receive a benchmark report with individualized feedback on the firm's and small business manager's characteristics.

We acquired our data from two different sources. First, we collected data from small business managers on their age, focus on opportunities, and additional demographic characteristics through questionnaires. We sent a questionnaire and a reply-paid envelope to 821 small business managers (55 percent) who expressed their general interest in participating in the study. Out of these 821 small business managers, 247 sent back questionnaires (30.1 percent response rate based on 821; 16.5 percent response rate based on 1,500). This response rate is consistent with the response rates of other studies in the entrepreneurship domain using a similar approach (e.g., Baron and Tang 2011; Hmieleski and Ensley 2007; Keh, Nguyen, and Ng 2007). We compared the 247 respondents to the initial sample of 1,500 businesses to test whether there was a nonresponse bias in our sample. We analyzed whether there were significant differences in small business managers' gender, firm age, sales, number of employees, growth in sales, and growth in employees. T-tests showed that there were no significant differences except for gender and sales. The 247 businesses had fewer female small business managers (9 percent versus 6 percent) and lower sales (4.01 million Euro versus 3.00 million Euro). Thus, the analyses indicated that the respondents were representative in terms of firm age, number of employees, growth in sales, and growth in employees; the respondents were not representative in terms of small business managers' gender and sales.

Our final number of participants was reduced to 201 participants for the following reasons. Five participants had missing data in several variables, two participants had missing data in one or more items measuring focus on opportunities, one participant refused to indicate his/her age, and 31 participants had missing data in one of the control variables (industry, firm age, gender, education, or managerial experience). We further had to exclude five participants because the firms did not meet the criteria of a small business (i.e., sales exceeded 50 million Euro or number of employees exceeded 50 in a given year). Finally, for two participants no performance data were available for the time period during which they were managing the firm, which means they were also excluded from the data set used for our analyses.

As a second source, we used the Hoppenstedt database to collect data on the firms' performance in terms of sales and number of employees. We obtained data from Hoppenstedt for a period of five consecutive years (2006–2010). By collecting data on firm performance for a period of 5 years, we were able to model changes in performance (i.e., growth, decline, or stability) over time. For the 201 participants, the database provided 879 observations on firm performance (sales and number of employees) over the time period of five years (126 out of the possible 1,005 observations were not provided in the database). We excluded 43 observations because in these years the participant was not yet managing the firm. Our final data set thus included 836 observations from 201 small business managers. This means that we had on average 4.16 observations per business.

The mean age of the 201 small business managers was 52.3 years (range: 28–83 years, sd = 9.79). All participants indicated that they were the top managers in their firms. Furthermore, 92 percent of the participants had ownership in the firm. These figures indicate that the participants had considerable influence on the firm's strategic decisions regarding business growth. The majority of small business managers were male (94 percent). On average, they had been managing the current firm for 17.6 years and they had managed 0.8 other firms before. Regarding the small business managers' education, 35 percent held a university degree (PhD or Master), 23 percent had completed high school, and 41 percent held a middle school degree. At the beginning of the study, the 201 businesses generated on average 2.9 million Euro sales (sd = 3.53) and the average number of employees was 15.2 (sd = 10.95). Based on the standard industry classification code, our sample included businesses from the following lines of industry: construction (12 percent), manufacturing (23 percent), transportation, communications, electric, gas, and sanitary services (6 percent), wholesale and retail trade (30 percent), and services (including finance, insurance, and real estate; 28 percent). Sixty-four percent of the businesses were family businesses.

Measures

On the Level of Small Business Managers. The small business managers provided data on their age and focus on opportunities through the questionnaire. To measure *age*, we asked the small business managers to report their age in years. We measured *focus on opportunities* using five items. The five items are based on the German version of the future time perspective scale (Carstensen and Lang 1996; Cate and John 2007) and were adapted by Zacher and colleagues to the occupational setting (Schmitt, Zacher, and de Lange 2013; Zacher and Frese 2009, 2011; Zacher et al. 2010). The scale has also been used in previous research in the entrepreneurial context (Gielnik et al. 2012). The five items are (1) "*Many opportunities await me in my occupational future*," (2) "*I expect that I will set many new goals in my occupational future*," (3) "*My occupational future is filled with possibilities*," (4) "*I could do anything I want in my occupational future*," and (5) "*The opportunities that await me in my occupational future are limited*" (reverse coded). The participants responded using a 5-point Likert scale ranging from "*strongly disagree*" to "*strongly agree*." Cronbach's alpha of the five items was 0.89.

On the Level of Firms. We used the Hoppenstedt database to measure *business growth*. We used performance data on sales and employees as two different objective measures to capture business growth. We obtained data on sales and number of employees for a period of 5 years (2006–2010). We used a period of five years because previous research suggested that this is a time period which reflects small business managers' expectations to experience growth (Davidsson 1991; Wiklund, Davidsson, and Delmar 2003). The Hoppenstedt database has been previously used by entrepreneurship researchers to gather objective data on businesses' performance (Baer and Frese 2003; van Dyck et al. 2005). For the 201 firms, we retrieved 836 observations of sales and number of employees, respectively, providing us with an average of 4.16 observations per firm.

Control Variables. We controlled for *firm age*, *firm size*, and *industry* because previous research has argued that these constructs may have an effect on business growth (Aldrich and Auster 1986; Hart and Oulton 1996). In the questionnaire, we asked for the year of business establishment to measure firm age. We measured firm size using data from the Hoppenstedt database. We used sales and number of employees at the beginning of the 5-year period of the study as our measures of firm size. To avoid problems with multicollinearity, we used sales as our control variable of firm size when growth in employees was the dependent variable and number of employees as our control variable of firm size when growth in sales was the dependent variable. We used the standard industrial classification from the Hoppenstedt database to control for industry. We distinguished between construction/manufacturing (standard industrial classification 1000-3999) and service/retail (standard industrial classification 4000-8999).

Furthermore, we controlled for small business managers' *level of education* and *managerial experience* because research has shown that these factors may influence firm performance (Unger et al. 2011). We measured these control variables through the questionnaire. We asked for the small business managers' highest level of education (from 0 = no degree to 5 = PhD) and their managerial experience in terms of number of previous firms they had managed. We used number of previous firms managed instead of years working as manager because the qualitative aspect of experience may be more important than the quantitative aspect (Sonnentag 1998; Tesluk and Jacobs 1998). Additionally, the number of years was highly correlated with small business managers' age ($r = 0.72$, $p < .01$). This means that in our analytical models, small business managers' age captures most of the explanatory variance which could be attributed to years of managerial experience. To control for curvilinear effects of small business managers' age on focus on opportunities and business growth, we also included *age squared* in the analyses. Following Little, Bovaird, and Widaman (2006), we orthogonalized our age squared variable from age by using the standardized residuals from a regression analysis with age squared as the dependent variable and age as the independent variable. Orthogonalizing the age squared term avoids problems due to multicollinearity in subsequent analyses with age and age squared as independent variables. Finally, we ascertained small business managers' *gender* (0 = male, 1 = female) through the questionnaire.

Method of Analysis: The Analytical Model

We hypothesized that small business managers' age affects business growth through focus on opportunities. Our dependent variable is business growth, which means that the focus is on changes in business performance over time. We collected repeated measures of business performance (sales and number of employees) from each firm over a period of five years. Acquiring between three and five observations from each business allowed us to link the performance of the firm over time and to model growth trajectories (Ployhart and Vandenberg 2010). However, collecting data from the same businesses means that the observations are not independent. We acquired 836 observations which were nested within 201 firms. We thus had a multilevel data set with 836 observations on level 1 and 201 firms (and small business managers) on level 2. We used random coefficient modeling to account for the nested structure and the non-independence of the data (Bryk and Raudenbush 1992; Ployhart and Vandenberg 2010). Ignoring the non-independence of the data would lead to inflated standard errors biasing tests of significance of the regression coefficients (Bliese and Ployhart 2002).

In two different models, we regressed sales and number of employees on the measurement wave (1 = 2006, 2 = 2007, 3 = 2008, 4 = 2009, and 5 = 2010). This estimates a general slope for the relationship between the dependent variable and time. We then used random coefficient modeling to determine whether there are different patterns in the slopes across units and to identify factors that explain why units have different slopes for the relationship between time and the dependent variable. This can be done by specifying how constructs at level 2 moderate the relationship between time and the dependent variable at level 1 (Holcomb et al. 2010).

In our study, we hypothesize that there is an effect of focus on opportunities on business growth (H2). We thus assume that focus on opportunities explains why some firms increase in performance over time whereas others stay the same or even decrease. Following the logic of random coefficient models, this means that focus on opportunities is the moderator on level 2. Thus, according to our analytical model, we hypothesize that there will be a strong relationship between time and business performance in

Table 1
Descriptive Statistics and Correlations of Study Variables on Level 2[a]

Variables and Scales	Mean	SD	1	2	3	4	5	6	7	8
1. Small business managers' age	52.26	9.79								
2. Focus on opportunities	3.30	0.97	−0.48**							
3. Gender[b]	0.06	0.25	−0.03	0.04						
4. Education	2.85	1.11	−0.16*	0.07	−0.06					
5. Managerial experience	0.79	1.43	0.11	−0.03	−0.10	0.18**				
6. Industry[c]	0.65	0.48	0.11	0.00	0.15*	0.07	0.14*			
7. Firm age	43.05	39.23	0.01	−0.15*	−0.09	−0.06	−0.05	−0.18**		
8. Firm size (sales)	2.90	3.53	0.04	0.00	0.02	0.19**	0.25**	0.13	0.12	
9. Firm size (number of employees)	15.18	10.95	−0.01	−0.02	−0.01	0.11	−0.04	−0.09	0.23**	0.50**

[a] $N = 201$.
[b] 0 = male, 1 = female.
[c] 0 = construction/manufacturing, 1 = service/retail.
*$p < .05$; **$p < .01$.

case of high focus on opportunities; in case of low focus on opportunities the relationship between time and business performance will be less strong (see Figure 1b, Analytical Model). To complete our mediated moderation growth model, we further hypothesized that focus on opportunities mediates the effect of small business managers' age on business growth (H3). Following the logic of our analytical approach of growth modeling using random coefficient models, this means that the effect of small business managers' age on the relationship between time and business performance is indirect through focus on opportunities (see Figure 1b, Analytical Model). Accordingly, a formal description of our hypotheses in the analytical model is that there is a mediated moderation effect in the form that small business managers' age has a moderator effect on the relationship between time and business performance through focus on opportunities. We note that we did not include a hypothesis on the mediated moderation path in our theory section because it is not part of the theoretical model but only relevant for the analytical model.

We used the Mplus software (Muthén and Muthén 1998−2010) to test our hypotheses. Mplus is a latent variable modeling program which allows researchers to test complex multilevel path models with random coefficients. Mplus accounts for the nested structure of data with multiple levels and at the same time provides path coefficients and standard errors which can be used to test direct and indirect effects. We used Mplus to model our analytical model (see Figure 1b, Analytical Model). We modeled focus on opportunities as a latent variable with the five items as indicators. The other constructs (small business managers' age, sales, number of employees, and the control variables of industry, firm age, firm size, gender, education, and managerial experience) were specified by the respective single indicators. We grandmean-centered all predictor variables in our analyses.

Results

Table 1 shows the descriptive statistics and correlations of our level 2 variables. We found a significant and negative correlation between small business managers' age and focus on opportunities ($r = -0.48$, $p < .01$). The two measures of firm size (sales and number of employees) were positively and strongly correlated ($r = 0.50$, $p < .01$) indicating that the two variables provided a consistent measure of firm size. Firm size in terms of sales had significant and positive correlations with education ($r = 0.19$, $p < .01$) and managerial experience ($r = 0.25$, $p < .01$). Firm size in terms of number employees had a significant and positive correlation with firm age ($r = 0.23$, $p < 0.01$).

In growth modeling using random coefficient models, the first step is to examine whether there is significant variance in the slopes across units (Bliese and Ployhart 2002). This is done by comparing two different models. We tested whether a model with a random slope for the time-performance relationship showed a significantly better model fit than a model without a random slope for the time-performance relationship. We found that for both performance measures, sales and number of employees, the model with the random slope showed a significantly better model fit. With regard to sales, the model without the random slope for the time-performance relationship had a deviance of 1549.48 (−2LogLikelihood); the model with the random slope for the time-performance relationship had a deviance of 1407.19 (−2LogLikelihood). A Chi^2-test indicated that the difference was significant ($Chi^2 = 142.29$, $p < .01$). An analysis of the variance components showed that 12 percent of the variance in sales was due to variance of the time-performance slope across firms.

With regard to number of employees, the model without the random slope for the time-performance relationship had a deviance of 811.90 (−2LogLikelihood); the model with the random slope for the time-performance relationship had a deviance of 619.74 (−2LogLikelihood). A Chi^2-test indicated that the difference was significant ($Chi^2 = 192.16$, $p < .01$). The analysis of variance components showed that 5 percent of the variance in number of employees was due to variation in the time-performance slope across businesses. These results indicate that for both performance measures, sales and number of employees, the relationship between time and performance varies significantly across firms. This means that the necessary requirements are fulfilled to test our hypotheses that focus on opportunities has an effect on business growth and that small business managers' age has an indirect effect on business growth through focus on opportunities.

In the second step, we estimated the path coefficients for our analytical model to test our hypotheses (see Figure 1b, Analytical Model). Table 2 shows the path coefficients and the model statistics. We computed two different models using sales and number of employees as performance measures. In both models, we found a positive effect of time on business performance (sales: $b = 0.05$, $p < .05$; number of employees: $b = 0.03$, $p < .05$). These results indicate that performance increased over time across all firms indicating that there was a general positive growth trend in our sample. However, the results from the significance tests of slope variation suggest that the general growth trend was not consistent across all firms.

H1 states that small business managers' age has a negative effect on focus on opportunities. In both models, the path coefficient for the effect of small business managers' age on focus on opportunities was negative and significant (in both models: $b = -0.47$, $p < .01$). Thus, H1 was supported by our data. H2 states that focus on opportunities has a positive effect on business growth. In terms of our analytical model, this means that we hypothesize that focus on opportunities moderates the effect of time on performance. The moderating effect of focus on opportunities on the relationship between time and performance was positive and significant in both models (sales: $b = 0.07$, $p < .05$; number of employees: $b = 0.04$, $p < .05$). The positive coefficient suggests that the effect of time on performance was stronger in case of high levels of focus on opportunities. Thus, firms experienced higher growth when their managers had higher levels of focus on opportunities. These results support H2.

To illustrate the moderating effect of focus on opportunities, we used the path coefficients and predicted performance in terms of sales and number of employees at the beginning and at the end of the study for high and low levels of focus on opportunities (one standard deviation above and below the mean; see Figures 2 and 3). Figure 2 shows the moderating effect of focus on opportunities on the relationship between time and performance in terms of sales. Firms of small business managers with low focus on opportunities kept the same level of sales over the period of the study (sales in 2006: 2.82 million Euro; sales in 2010: 2.78 million Euro). Firms of small business managers with high focus on opportunities experienced growth in sales over the period of the study (sales in 2006: 3.19 million Euro; sales in 2010: 4.40 million Euro).

Figure 3 shows the moderating effect of focus on opportunities on the relationship between time and performance in terms of number of employees. Similar to performance in

Table 2
Standardized Path Coefficients and Model Statistics (Results for the Analytical Model as Depicted in Figure 1b)[a]

	Model: Sales				Model: Number of Employees			
	Focus on Opportunities		Business Performance (Sales)		Focus on Opportunities		Business Performance (Employees)	
	β	SE	*β*	SE	*β*	SE	*β*	SE
Main effects								
Time			0.05*	0.03			0.03*	0.01
Industry[b]			0.08	0.06			−0.12*	0.06
Firm age			−0.04	0.06			−0.11*	0.06
Firm size			0.44**	0.06			0.56**	0.06
Gender[c]	0.03	0.06	−0.00	0.06	0.03	0.06	−0.02	0.06
Education	−0.02	0.06	0.08	0.06	−0.02	0.06	0.06	0.06
Managerial experience	0.03	0.06	0.25**	0.06	0.03	0.06	−0.19**	0.06
Small business managers' age squared	−0.03	0.06	−0.01	0.06	−0.03	0.06	−0.08	0.05
Small business managers' age	−0.47**	0.06	0.00	0.07	−0.47**	0.06	−0.01	0.07
Focus on opportunities			0.12	0.08			0.04	0.07
Moderating effects								
Time × Industry			−0.03	0.03			0.00	0.02
Time × Firm age			0.01	0.03			0.01	0.02
Time × Firm size			−0.03	0.03			0.00	0.02
Time × Gender			−0.03	0.03			0.01	0.02
Time × Education			−0.01	0.03			0.00	0.02
Time × Managerial experience			0.01	0.03			−0.03*	0.02
Time × Small business managers' age squared			−0.02	0.03			0.02	0.02
Time × Focus on opportunities			0.07*	0.03			0.04*	0.02
Indirect effect on time-performance relationship								
Small business managers' age via focus on opportunities			−0.03*	0.01			−0.02*	0.01
Deviance (−2LogLikelihood)	3574.06				2741.06			

[a]Standardized coefficients are shown; Number of observations = 836; Number of units = 201; Average unit size = 4.16.
[b]0 = construction/manufacturing, 1 = service/retail.
[c]0 = male, 1 = female.
*$p < .05$; **$p < .01$.

terms of sales, firms of small business managers with low focus on opportunities stayed the same with regard to number of employees over the period of our study (number of employees in 2006: 15.75; number of employees in 2010: 15.53). Firms of small business managers with high focus on opportunities grew in number of employees over the period of our study (number of employees in 2006: 15.07; number of employees in 2010: 17.31). The two figures illustrate the positive effect of focus on opportunities on business growth in terms of sales and number of employees.

H3 states that focus on opportunities mediates the effect of small business managers' age on business growth. In terms of our analytical model, this means that we hypothesize that there is an indirect effect of small business

Figure 2
The Moderating Effect of Focus on Opportunities on the Relationship Between Time and Sales

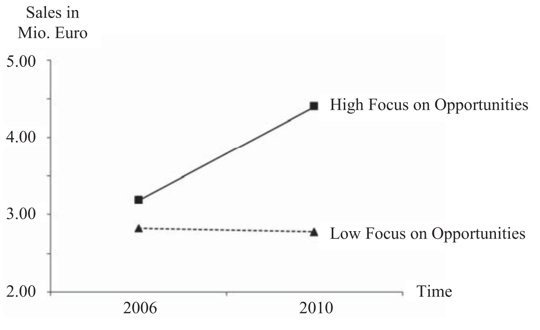
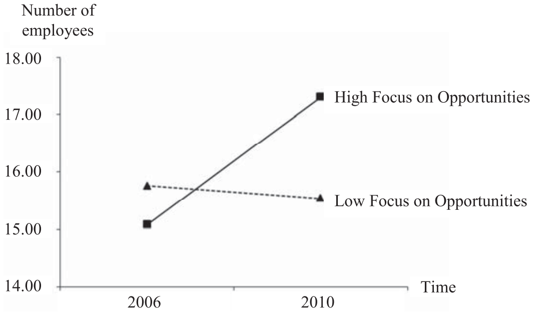


Figure 3
The Moderating Effect of Focus on Opportunities on the Relationship Between Time and Number of Employees



managers' age on the relationship between time and business performance through focus on opportunities. In both models, we found a significant and negative indirect effect of small business managers' age on the relationship between time and performance through focus on opportunities (sales: $b = -0.03$, $p < .05$; number of employees: $b = -0.02$, $p < .05$). Furthermore, we have to show that there is a moderating effect of small business managers' age on the relationship between time and business performance when focus on opportunities is not part of the model. We estimated an additional model in which we excluded focus on opportunities (Table 3). For both performance measures, we found a significant moderating effect of small business managers' age on the relationship between time and business performance (sales: $b = -0.06$, $p < .05$; number of employees: $b = -0.03$, $p < .05$). In both cases, the path coefficients were negative. This suggests that the positive effect of time on performance was stronger when the small business managers were younger. In summary, the findings of the significant indirect and direct moderating effects of small business managers' age on the relationships between time and business performance provide support for H3.

Discussion

Previous research on business growth has been criticized for its methodological weaknesses. For illustrative purposes, we developed a reductionist theoretical model in this study which hypothesized that focus on opportunities mediates the effect of small business managers' age on business growth. Based on recent recommendations in the literature on the analysis of business growth (Holcomb et al. 2010; Ployhart and Vandenberg 2010), we developed an analytical model to investigate our hypotheses with a longitudinal design with repeated measurements. This analytical model is based on growth modeling and describes business performance as a function of time. We measured business performance over a period of 5 years to investigate changes in business performance over time. To examine how small business managers' age and focus on opportunities affect these changes, our analytical model entailed a mediated moderation growth model with focus on opportunities as a mediator of the moderating effect of small business managers' age on the relationship between time and business performance. We found a stronger increase in business performance over time for small business managers with a high focus on opportunities. Additionally, we found a significant direct effect of small business managers' age on focus on opportunities and a significant indirect effect of small business managers' age on the relationship between time and business performance through focus on opportunities. These findings supported our hypothesis that focus on opportunities mediates the effect of small business managers' age on business growth.

Table 3
Standardized Path Coefficients and Model Statistics for Model Without Focus on Opportunities (Direct Moderating Effect of Small Business Managers' Age on Time-Performance Relationship)[a]

	Model: Sales		Model: Number of Employees	
	Business Performance (Sales)		Business Performance (Employees)	
	β	SE	β	SE
Main effects				
Time	0.05*	0.02	0.03*	0.01
Industry[b]	0.09	0.06	−0.12*	0.06
Firm age	−0.03	0.06	−0.11	0.06
Firm size	0.45**	0.06	0.56**	0.06
Gender[c]	0.00	0.06	−0.02	0.06
Education	0.08	0.06	0.06	0.06
Managerial experience	0.25**	0.06	−0.19**	0.06
Small business managers' age squared	−0.01	0.06	−0.08	0.05
Small business managers' age	−0.05	0.06	−0.02	0.06
Moderating effects				
Time × Industry	−0.03	0.03	0.01	0.02
Time × Firm age	0.02	0.03	0.02	0.02
Time × Firm size	−0.03	0.03	0.01	0.02
Time × Gender	−0.03	0.03	0.01	0.02
Time × Education	−0.02	0.03	−0.01	0.02
Time × Managerial experience	0.01	0.03	−0.03*	0.02
Time × Small business managers' age squared	−0.02	0.03	0.02	0.02
Time × Small business managers' age	−0.06*	0.03	−0.03*	0.02
Deviance (−2LogLikelihood)	1402.23		567.92	

[a]Standardized coefficients are shown; Number of observations = 836; Number of units = 201; Average unit size = 4.16.
[b]0 = construction/manufacturing, 1 = service/retail.
[c]0 = male, 1 = female.
*$p < .05$; **$p < .01$.

Our study contributes to the literature in the following ways. First, scholars consider business growth to be a fundamental construct in entrepreneurship (Baron 2007b; Davidsson, Delmar, and Wiklund 2002; Stevenson and Jarillo 1990). Scholars have developed complex theoretical frameworks in entrepreneurship to explain business growth (e.g., Baum, Locke, and Smith 2001; Wiklund, Patzelt, and Shepherd 2009). Yet true tests of these theoretical frameworks are rare (Holcomb et al. 2010). An appropriate methodological approach to test such theoretical frameworks is growth modeling and accordingly, scholars have noted that such models will be crucial in the entrepreneurship domain to develop and test the field's theories (Holcomb et al. 2010). To our knowledge, our study provides the first empirical test of theories emphasizing small business managers' importance for business growth in a longitudinal design with three or more measurement waves using growth modeling. Our study thus aligns the theoretical framework with the appropriate methodological approach (Holcomb et al. 2010). Furthermore, our study contributes to the discussion of the appropriate methodological approach by presenting a mediated moderation growth model. Our mediated moderation growth model allowed us to analyze our data with a true longitudinal design and, at the same time, to identify focus on opportunities as a mediator which explains why small business managers' age has a negative effect on business growth.

Second, we contribute to current discussions on upper echelons theory by explaining why small business managers' age has an effect on business growth (Hambrick and Mason 1984). The mediating psychological processes linking business managers' age and business growth are still largely a mystery (Hambrick 2007). We combine upper echelons theory with lifespan theory (Baltes 1987) to establish focus on opportunities as a mediating psychological process. In line with lifespan theory, our results show that focus on opportunities decreases with small business managers' age. Furthermore, our results show that the effect of small business managers' age on business growth is indirect through focus on opportunities. Our findings thus suggest that focus on opportunities is a mediating mechanism which helps to explain why small business managers' age has an effect on business growth as proposed by upper echelons theory (Hambrick and Mason 1984). So far, upper echelons theory has mainly focused on business managers' information processing and how this influences their decision making to link business managers' characteristics at the individual level with firm level outcomes (e.g., Yang, Zimmermann, and Jiang 2011). Our study extends this perspective by showing that small business managers' age has an influence on how they regard their future and how this affects their businesses' performance over time.

Finally, we contribute to the literature that seeks to establish a conceptual link between entrepreneurs or small business managers and their firms (Baron 2007a; Frese 2009). Previous research which sought to establish a link between the individual and the firm built on theories of personality (e.g., Nadkarni and Herrmann 2010; Zhao, Seibert, and Lumpkin 2010), value congruence (e.g., Ling, Zhao, and Baron 2007), human and social capital (e.g., Mayer-Haug et al. 2013), or planned behavior (Wiklund and Shepherd 2003). However, our theoretical understanding of the antecedents of small business performance remains limited and more high-quality and mixed-method research in this domain is necessary (Dobbs and Hamilton 2007). We contribute to this stream of research by drawing on lifespan theory (Baltes 1987) to provide a theoretical framework which explains how small business managers change over the life course and how this affects the performance of their firms. Recently, scholars have noted that including a time perspective and investigating how effects and constructs change over time is important to develop more precise theories (Gielnik et al. 2014). For example, temporal construal theory suggests that the temporal distance to an event affects people's desirability and feasibility considerations with important consequences for their behavior (Liberman and Trope 1998). Similarly, we show that with age, small business managers become less likely to believe that their future holds many goals, plans, and opportunities with negative consequences for their firms' performance. This means that research on the conceptual link between individual characteristics and firm performance would make more meaningful predictions by adopting a more dynamic approach and taking into account changes in the individual characteristics over time.

Strengths and Limitations

We think that our research design constitutes a strength of the study. We applied growth modeling which research now considers to be the appropriate approach to analyze longitudinal data (Bliese and Ployhart 2002; Holcomb et al. 2010; Ployhart and Vandenberg 2010). We presented a mediated moderation growth model that allows researchers to examine mediation models with a sophisticated methodological approach. Our methodological approach adequately examines focus on opportunities as a mediator of the effect of small business managers' age on business growth. We thus contribute to theory advancement by providing a stronger test of the hypothesis that focus on opportunities is a mechanism underlying the relationship between small business managers' age and business growth.

Yet our research design might have some limitations. First, we did not measure small business managers' focus on opportunities at the beginning of the study but three years in the course of the study. This means that there might be an issue with reverse causality. However, we think that this does not invalidate our findings. Research has shown that focus on opportunities does not substantially change over short time periods but rather over longer time periods, for instance ten years, as indicated by its negative and moderate correlation with age (Cate and John 2007; Zacher and Frese 2009). Therefore, we think that we ascertained a valid representation of small business managers' focus of opportunities over the course of the study.

Furthermore, we showed that small business managers' age is negatively related to focus on opportunities. We did not show this relationship in a longitudinal design measuring focus on opportunities over time. Although it is not possible to argue that there is a reverse causal effect of focus on opportunities on age, it might be possible that a third variable accounts for the relationship. For example, due to birth cohort differences, small business managers born earlier in the 20th century might report lower levels of focus on opportunities because they see fewer opportunities for themselves than small business managers born later in the 20th century. This might, for example, be due to different social, economic, or technological conditions at the time they were born. Thus, the birth cohort might be responsible for the observed relationship. We cannot rule out this explanation because the cohort is confounded with age. However, longitudinal research in lifespan psychology has shown that focus on opportunities is a function of age and it generally declines with age also within different birth cohorts (Cate and John 2007). With regard to small business managers' age, we also have to acknowledge that there is evidence that age can have curvilinear relationships with focus on opportunities and performance across the working lifespan, with people reaching a peak between their mid-30s and mid-40s (Cate and John 2007; Kanfer and Ackerman 2004; Ng and Feldman 2008). In our sample, we had mainly participants ranging in age from the early 40s to early 60s (mean age of 52 years ± standard deviation of 10 years). Although we did not find any curvilinear effects of small business managers' age on business growth, there might be a nonlinear relationship when including more participants aged 40 years and younger (Storey 1994). Younger small business managers might perform lower because they lack the necessary task-related experience which they only gain after several years of managing a business (Unger et al. 2011).

Our sample also has some limitations. We sampled small business managers of small businesses which were operating at the time of the study. Sampling all companies, that is, also companies which had stopped operating before we conducted our study might lead to different results (Heckman 1979). All firms in our sample survived and we cannot determine the population of firms which stopped operating before the study. This means that our results are only generalizable to the population of small businesses that survive. We further note that our sample comprised a higher proportion of men and businesses with lower sales. This means that the generalizability of our findings might be limited. It is also important to note that we did not control for growth aspirations in our analyses. It is possible to argue that some small business managers in our sample did not aspire to grow their firms (Wiklund, Davidsson, and Delmar 2003).

With regard to our theoretical model, we note that we based our line of reasoning mainly on upper echelon theory (Hambrick and Mason 1984) and lifespan theory (Baltes 1987). Our focus was on individual characteristics of the small business manager as our main predictor variables. Specifically, we investigated focus on opportunities as a mediator in the relationship between small business managers' age and business growth. We examined focus on opportunities, and not other factors, such as entrepreneurial alertness (Gielnik et al. 2014; Tang, Kacmar, and Busenitz 2012), because in lifespan theory, focus on opportunities is a central construct to explain changes in socioemotional and motivational characteristics over the life course (Carstensen, Isaacowitz, and Charles 1999; Lang and Carstensen 2002). It is important to note that lifespan theory also predicts changes in cognitive factors over the lifespan (Baltes, Staudinger, and Lindenberger 1999; Kanfer and Ackerman 2004). With regard to cognitive factors, lifespan theory notes that people experience a gain in crystallized intelligence (i.e., knowledge and skills) because of their work and life experiences. People's experience can be considered a valuable resource that promotes business growth as proposed by the resource-based view (Barney, Wright, and Ketchen 2001; Barney 1991; Grant, 1996). In fact, meta-analytic research shows that business managers' experience is related to business success (Crook et al. 2011; Unger et al. 2011). However, lifespan theory also predicts that people experience a loss in fluid intelligence (e.g., short-term memory, rapid information processing, and reasoning abilities) with age (Kanfer and Ackerman 2004). From a resource perspective, these factors may be also relevant for business growth (Baron and Ensley 2006; Gielnik et al. 2014). Lifespan theory suggests that different cognitive abilities may compensate for each other across the lifespan (Backman and Dixon 1992). This means that the effects of business managers' age on business performance, due to changes in their cognitive abilities, are more complex than a purely linear increase or decrease.

We also need to mention that previous research has shown that several factors on different levels are important for business growth. There are obviously many more antecedents of business growth than age and focus on opportunities alone. For example, research on the team level has shown that the diversity of the entrepreneurial or top management team in terms of variety, separation, and disparity has differential effects on firm performance (Buyl et al. 2011; Harrison and Klein 2007). Furthermore, research on the firm levels shows that resources, operations, and strategic orientations affect firm performance (Song et al. 2008). Thus, the set of potential antecedents is not fully covered in our study and there are other nonpsychological constructs that explain business growth.

We measured performance in terms of sales and number of employees to describe different trajectories in business growth. Although business growth is a central construct in entrepreneurship, scholars have also noted that growth per se may have negative effects if it is not combined with profitability (Davidsson, Steffens, and Fitzsimmons 2009). In this case, high growth might lead to failure (Davidsson, Steffens, and Fitzsimmons 2009). This means it is important to include measures of profitability to demonstrate that small business managers with a high focus on opportunities do not instigate growth in sales and number of employees at the expense of the sustainability of the firm. In our study, we followed the firms over a period of five years which indicates that the firms sustained over a longer period of time. We, therefore, think that focus on opportunities leads to growth that is not detrimental for other performance measures, such as survival or long-term profitability.

It is also important to mention that there are different strategic approaches through which firms can grow, for example, market penetration, diversification, or product and market innovation (Delmar, Davidsson, and Gartner 2003; Moreno and Casillas 2008). This is important insofar as the time spans and motives underlying the various strategic approaches may be different. For example, Moreno and Casillas (2008) showed that firms' strategic approach influenced their growth rates and the strategic approach was dependent on the firms' entrepreneurial orientation. Our study did not distinguish between the different strategic approaches towards business growth. Future research could investigate whether small business managers' focus on opportunities is related to specific strategic approaches which then affect firm performance.

We also note that dimensions of business growth depend on the unit of analysis. For example, it is possible to focus on the entrepreneur instead of the firm. Research in the domain of portfolio entrepreneurship describes how entrepreneurs grow by directing their efforts to establishing new businesses instead of developing existing firms (Ucbasaran et al. 2008; Ucbasaran, Westhead, and Wright 2009; Ucbasaran, Wright, and Westhead 2003; Westhead, Ucbasaran, and Wright 2005). Habitual entrepreneurs, that is, entrepreneurs who have established more than one business, identify more opportunities, and have stronger intentions to establish additional businesses (Westhead, Ucbasaran, and Wright 2005; Westhead, Ucbasaran, and Wright 2009). Growing through establishing new businesses is a central aspect of entrepreneurial career progression (Katz 1994). This also means that the effects of entrepreneurs' age on their success might become more complex. For example, across their working lifespan, entrepreneurs might continuously broaden their social networks, which gives them wider access to information and resources with beneficial effects for their opportunity identification and exploitation (Ucbasaran, Westhead, and Wright 2008). Furthermore, with increasing age, habitual/portfolio entrepreneurs are frequently approached by employees or other people to partner in starting a new business (Iacobucci and Rosa 2010). This suggests that there may also be a positive relationship between age and business growth in terms of number of businesses established. It is important to note that our study focuses on small business managers' influence on business growth of a single firm and, therefore, our study cannot draw any conclusions regarding the effect of entrepreneurs' or small business managers' age and focus on opportunities on establishing multiple businesses and pursuing a career as portfolio entrepreneur.

Finally, 64 percent of the businesses in our study were family businesses. For these businesses, succession may be a key topic. In this case, other lifespan psychology concepts, such as small business managers' generativity (i.e., the motivation to establish and guide the next generation; Erikson 1950), might also be relevant because generativity plays a central role in successfully identifying a suitable successor (Zacher, Schmitt, and Gielnik 2012). Moreover, in the succession process, the family may exert a stronger influence on the firm (familiness of the firm) and the firm may exert a stronger influence on the family (enterpriseness of the family) (Frank et al. 2010). Future research building on the concepts of familiness and enterpriseness may disentangle the various directions of influence affecting firm performance, in particular when the top manager grows older and succession becomes a central issue for the firm.

Broader Implications for Future Research

A promising avenue for future research is the identification of behavioral factors mediating the effect of focus on opportunities on business performance. Focus on opportunities is a cognitive-motivational constructs that needs to promote action to have an effect on business success (Frese 2009; Frese and Gielnik 2014). We suggest that action-regulatory factors, such as goal setting and persistence (Baum, Locke, and Kirkpatrick 1998; Baum, Locke, and Smith 2001; Frese 2009; Shane, Locke, and Collins 2003), as well as entrepreneurial constructs, such as opportunity identification (Gielnik et al. 2014) might be action-oriented mediators that offer a behavioral explanation for why there is an effect of focus on opportunities. A possible conceptual link is that focus on opportunities promotes setting long-term, growth-oriented, and challenging goals (Carstensen 2006; Cross and Markus 1994). Research has argued that small business managers who have growth-oriented and challenging goals are more likely to successfully grow their firms. Small business managers who emphasize more strongly a growth aspect in the aspirations for their ventures achieve higher business growth (Baum, Locke, and Kirkpatrick 1998). Similarly, small business managers experience higher business growth when they set more challenging goals in terms of sales and number of employees they seek to achieve in future (Baum and Locke 2004; Baum, Locke, and Smith 2001). Future research using mediated moderation growth models with focus on opportunities as an independent variable and action-regulatory factors and opportunity identification as mediators could test these suggestions.

Furthermore, future research could take into account the multiple dimensions underlying the construct of business growth. Delmar, Davidsson, and Gartner (2003) used 19 different measures of firm growth to identify different types of growth, such as super absolute growers, steady sales growers, or erratic one-shot growers. As the different growth measures are not necessarily highly correlated, it would strengthen the conceptual underpinnings of research on business growth if researchers report results along a set of several growth measures and provide a theoretical reasoning or critical reflection about the reasons for selecting a particular growth measure (Achtenhagen, Naldi, and Melin 2010).

Finally, McKelvie and Wiklund (2010) have called for research investigating the "how" of firm growth instead of the "how much." The "how" (e.g., organic growth or acquisition) would provide new insights into the processes leading to business growth. To better understand the underlying processes future research could adopt a qualitative approach which allows researchers to adopt a more fine-grained perspective on different types and processes of growth (Leitch, Hill, and Neergaard 2010). Such a qualitative approach could spur the development of new theories explaining different sequences of development and growth in organizations (van den Ven and Poole 1995). With regard to focus on opportunities, this means that qualitative research could investigate the reasons *why* small business managers with a high focus on opportunities achieve higher business growth and what the different pathways (i.e., the underlying processes) to business growth are. Such research would help to develop more specific theories of business growth and give due consideration to the complexities and idiosyncrasies of business growth.

Conclusion

Business growth is a central construct in entrepreneurship and it is the ultimate outcome in several theoretical models (Baron 2007b; Baum, Locke, and Smith 2001; Frese et al. 2007). However, scholars have recently noted that in many studies there is a mismatch between the theoretical model and the analytical approach to test the hypotheses of the model (Holcomb et al. 2010). To investigate predictors of business growth, it is important to apply a longitudinal design with repeated measurements of business performance over time. Our study applied such a design and we used growth modeling in combination with random coefficient models to analyze systematic changes in business performance over time. In addition, many theories in entrepreneurship assume mediated relationships which calls for extensions of this analytical technique. Our analytical model of a mediated moderation growth model thus offers a starting point for future research testing more complex theories in entrepreneurship which assume indirect and mediating effects of predictors on changes in performance over time. Using an analytical approach similar to our study, future research can use growth modeling to appropriately analyze longitudinal data and yet take into account the full complexity of entrepreneurship theories.

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Attaining Legitimacy in Temporary Business: The Case of New Entrepreneurs in the Television Industry

by Celina Smith and Ignasi Martí

This work seeks to identify behavioral processes that new entrepreneurs can adopt to construct legitimacy in frequently changing temporary business environments. Focusing on independent television content production in the UK, the study finds that new entrepreneurs exploit the varying roles that their projects can play and then sequence these in order to tailor the legitimacy they need to build their business. This research draws on a 5-year inductive study of 81 projects won by entrepreneurs of five new independent television production companies.

Introduction

"How do you get somebody that you've never met before to entrust you with more than half a million pounds when they haven't even seen you produce anything? That is the key... you're like starting from scratch with every new programme."
(Entrepreneur)

Owing to uncertainty surrounding the creation of new business entrepreneurs face the challenge of gaining legitimacy. Scholars view legitimacy as central to new venture survival (Aldrich and Fiol 1994; Zimmerman and Zeitz 2002) and as a "critical ingredient for new venture success" (Starr and MacMillan 1990, p. 83). In effect, it reflects an organizations endorsement by different key stakeholders (including suppliers, distributors, customers, employees, and society). To gain legitimacy however, entrepreneurs must align with established and sometimes necessary constraints and practices (Krueger and Brazeal 1994; Navis and Glynn 2011) to reassure key stakeholders, and to fit in with what is perceived as acceptable in the marketplace (Aldrich 1999; Stinchcombe 1965). Yet, at the same time, entrepreneurs must demonstrate novelty, distinctiveness, and nonconformity, which represent the very essence of entrepreneurial behavior (Aldrich and Fiol 1994). Entrepreneurs must thus meet two competing demands, "fitting in" and "standing out" (De Clercq and Voronov 2009) in order to offer and introduce novelty and, at the same time, provide evidence of conformity.

These tensions are particularly salient in short-term temporary business where projects are continually formed then disbanded once completed (Cattani and Ferriani 2008) and where entrepreneurs must balance novelty with conformity with each new project. This renders the legitimation process challenging because as our starting quote suggests, entrepreneurs must attain legitimacy repeatedly, and swiftly. The salience of time thus sets temporary project business apart from more enduring long-term business. Here, entrepreneurs face unique time constraints in the building of temporary business (Bakker 2010; Grabher 2002a) as opportunities

Celina Smith is Assistant Professor at emlyon Business School, Strategy & Organization Department, Ecully, France.

Ignasi Martí is Professor at emlyon Business School, Ecully, France and ESADE-Ramon Llull University, Barcelona, Spain.

Address correspondence to: Celina Smith, emlyon Business School, Strategy & Organization Department, Ecully, Cedex 69134 France. E-mail: smith@em-lyon.com.

are fleeting and can frequently change. Such lack of stability (Bakker 2010; Sydow and Staber 2002) can engender problems of trust and fear of opportunism on the part of potential resource holders (Lundin and Soderholm 1995), thus frustrating the process of legitimacy-building.

However, how entrepreneurs attain legitimacy in this dynamic, piecemeal and constantly shifting environment or how they build the capability to do so repeatedly is little understood by scholars. This is an important issue not only because a growing number of industries are organized around temporary business modes such as television content production (Starkey, Barnatt, and Tempest 2000; Sydow 2009), construction (Eccles 1981; Gann and Salter 2000), and advertising (Grabher 2002b), but also because new firms cannot survive for sustained periods without attracting new projects.

While researchers have argued that entrepreneurs can behave proactively in the pursuit of legitimacy (Deeds, Mang, and Frandsen 1997; Zimmerman and Zeitz 2002). This work is less clear about how temporal dynamics could impact upon legitimacy-building in temporary project-based environments. In their study Zimmerman and Zeitz (2002) underline the salience of time by indicating that new entrepreneurs may need to build up the sources of legitimacy in specific sequence, and call for further research. Another important gap in the literature concerns the issue of how the discrete nature of every project has implications for how entrepreneurs can build legitimacy over the life of their ventures. While established research has suggested that legitimacy is dichotomous, that is, firms either have it or they do not (Aldrich 1995; Scott 1995), more recently, scholars have pointed out that legitimacy can be continuous, and therefore full or partial (Barley 2008; Katz 2008; Tihanyi, Devinney, and Pedersen 2012). This would mean that project-based firms could add legitimacy incrementally with each new project. Integrating notions of legitimacy as both dichotomous and continuous Zimmerman and Zeitz (2002, p. 427) contend that there is a "threshold" of legitimacy below which firms fail but above which they can accrue more legitimacy. But it remains unclear how such a threshold could be determined in temporary business when project formation is dynamic. In light of these gaps we respond to their call for more research by asking: how can entrepreneurs in temporary project-business attain and tailor the legitimacy they need to survive?

We focused on the independent television production sector in the UK, as it is organized around the development of temporary projects. Here, entrepreneurs must repeatedly win new program project commissions from broadcasters to sustain their businesses. To provide insights into the recurring process of legitimacy construction the study adopts a qualitative inductive approach, drawing on data from 81 projects developed by five new independent television production companies. Our study finds that new firms can exploit the varying roles that their projects can play by developing these in sequence in order to develop their business. We contribute to work on legitimacy by identifying the processes of gaining legitimacy in temporary business.

Theoretical Background

Legitimacy is defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions" (Suchman 1995, p. 574). As such, it provides a means to overcome the "liability of newness" that contributes to the high failure rate for new ventures (Stinchcombe 1965). Legitimacy is not only a resource in its own right, but also a potential conduit to other resources vital to the firm (Aldrich and Fiol 1994; Delmar and Shane 2004). In other words, in order to gain optimal access to these resources, such as information, entrepreneurs must convince the individuals and organizations that hold them that their new ventures conform to wider social judgments about what is legitimate (Suchman 1995). The literature on legitimacy has grown rapidly in various directions, and now exhibits substantial plasticity in the use of the term (Deephouse and Suchman 2008). Here we limit ourselves to the modest task of identifying two features of current developments on legitimacy-building: conformity and novelty.

Legitimacy in Entrepreneurial Ventures: Two Facets

The distinctive feature of entrepreneurship—newness—is also its singular liability (Stinchcombe 1965). To attenuate such liability, entrepreneurs must meet the seemingly contradictory expectations of major stakeholders concerning both conformity and novelty. This is the means through which entrepreneurial ventures attain what Navis and Glynn (2011) refer to as "legitimate distinctiveness." On the one hand, entrepreneurs must align with expectations arising from institutionalized conventions and stakeholders' expectations of what constitutes proper behavior and practices. Entrepreneurial projects that deviate too much from expected rules, norms, and practices hinder the ability to calibrate such offers against other venture proposals that better conform to the decision-makers' perceptions of what is legitimate. For instance, in their study of creativity-assessment in Hollywood pitch meetings, Elsbach and Kramer (2003) found that the work of screenwriters who did not fit the prototypic expectations of those who evaluated them were quickly discarded.

The need for legitimacy has received substantial attention in the field of entrepreneurship. Established markets generally have clear and predictable demands. These markets contain broadly recognized patterns of relations and practices that recur over time (Aldrich and Fiol 1994), with little ambiguity about what constitutes proper behavior (Baron 2006; Krueger 2007; Santos and Eisenhardt 2009). Addressing the various dimensions of these expectations, the Aldrich study distinguishes between socio-political and cognitive legitimacy, with the first referring to an entrepreneur's deference to existing laws and standards of "good citizenship"; and the second to the degree to which a new product, process, or service is taken for granted.

On the other hand, entrepreneurs are also expected to bring something novel to the marketplace and distinguish themselves from institutionalized conventions "in ways that are meaningful" (Navis and Glynn 2011, p. 480). This facet has received substantial attention by scholars and is, to be sure, the hallmark of entrepreneurship in the wider media. Both would emphasize entrepreneurs' ability to capitalize on previously overlooked opportunities (Shane and Venkataraman 2000) while defying resource constraints through recombination and other social processes (Baker and Nelson 2005). Here we find the emancipatory potential of entrepreneuring, which allows those who embark on new ventures to challenge and disrupt "the status quo and change their position in the social order in which they are embedded—and, on occasion, the social order itself" (Rindova, Barry, and Ketchen 2009, p. 478).

Thus, while novelty and conformity are indeed contradictory facets of entrepreneurship, both constitute its very essence. Researchers are thus faced with the task of understanding how entrepreneurs, vying for legitimacy, fall in line with expected norms and practices while simultaneously distinguishing themselves through unique stories and offerings (Lounsbury and Glynn 2001). Such tension is further compounded in the case of a growing number of industries organized around temporary business (Eccles 1981; Starkey et al. 2000; Sydow 2009), as legitimacy in these industries does not automatically extend from one project to another. Thus entrepreneurs working in these fields face the repeated challenge of gaining legitimacy with every new project. Temporary environments therefore constitute a particularly telling setting in which to examine the process of building legitimacy as a piecemeal rather than linear process.

Attaining Full or Partial Legitimacy?

Researchers have often treated legitimacy as dichotomous. However, they have in fact operationalized it as a continuous variable, thus implying a sort of "pointalism" (Deephouse and Suchman 2008). Hence, numerous studies have closely examined how legitimation occurs over time. For instance, Johnson, Dowd, and Ridgeway (2006) offered a four-stage model of legitimation consisting of innovation, local validation, diffusion, and general validation. Similarly, Katz (2008) highlighted entrepreneurship education as a fully mature but *not fully legitimate* field. These studies suggest that there are different degrees of legitimacy.

In this vein, research has increasingly shown that entrepreneurs are capable of proactive behavior in the pursuit of legitimacy (Deeds et al., 1997; Zimmerman and Zeitz, 2002). Lacking material resources, new entrepreneurs typically rely on strategic action that incurs no financial cost. Zimmerman and Zeitz (2002) suggest that they can act in "deliberate, goal-oriented ways" proposing four basic strategies: conformance, selection, manipulation, and creation. Others stress different strategies that can be used to influence impressions, such as storytelling (Lounsbury and Glynn 2001) engaging in impression–management (Elsbach and Sutton 1992); and taking action with symbolic significance (Nagy et al. 2012; Zott and Amit 2007). The main message we can extrapolate is that boosting positive impressions of their ventures (Rao, Chandy, and Prabhu 2008) helps entrepreneurs to negotiate the constraints of attaining legitimacy given limited time horizons.

These are important mechanisms but do not resolve the question of how new entrepreneurs can build legitimacy repeatedly in temporary businesses settings in which such legitimacy is constantly assessed by multiple audiences (for example, commissioners, key broadcasters, potential investors, on- and off-screen talent, and contributors) and with respect to multiple activities. Temporary businesses possess some key characteristics not seen in more enduring organizational forms. For instance, resources are constantly being assembled for each new project and dissolved upon its completion, only to be reassembled for every subsequent new undertaking (Soda, Usai, and Zaheer 2004; Starkey et al. 2000). This ongoing cycle of acquiring, dispersing, and reacquiring resources unique to temporary business necessitates that legitimacy be built from scratch for every new project.

Traditionally, research on new venture growth and legitimacy-building has generally assumed that there are no differences in the latter between more enduring long-term structures and the temporary ones. Yet in contrast with more enduring business temporary modes of organization entail time constraints (Bakker 2010; Grabher 2002a; Lundin and Soderholm 1995). As opportunities are fleeting, "time" is "crucial" (Lundin and Soderholm 1995, p. 438). Thus these entrepreneurs face the additional challenge of operating in an environment where there is limited project stability (Bakker 2010; Sydow and Staber 2002) and limited time to establish legitimacy with each new project.

Drawing on Abbott (1990, 1995) recent literature in the field of entrepreneurship has illustrated different "learning sequences" (Bingham and Davis 2012) and suggested that the sequence in which firms undertake legitimating actions is key to survival (Delmar and Shane 2004). Doz et al. (2000) suggests a role for sequencing, that is, doing some activities before others, in facilitating the build-up of R&D consortia. However, despite the increased recognition of the sequencing of different sources of legitimacy, Zimmerman and Zeitz (2002) call for more work. Existing studies, while important, still do not adequately address how legitimacy unfolds in business environments where entrepreneurs must continually build discrete new projects as part of their business model, or even how they make the transition into new project areas. This is the focus of our study.

Research Design, Data, and Methods

Research Setting

In order to understand the processes at work in a temporary business venture's quest for legitimacy, we focus on the independent television production sector in the UK. This sector is based on the repeated production and delivery of temporary program projects for broadcaster clients. In this industry, ideas for television programs are typically commissioned from independent producers (known as indies) by broadcasters before production commences and well before a finished product can be observed. As the capabilities of new indies often cannot be independently verified, legitimacy is a particularly salient concern for commissioners (Pollard, Sheppard, Tamkin, and Barkworth 2004; Preston 2003). To increase their chances of survival, many indies seek to broaden their areas of expertise by expanding into different genres. We thus also have the opportunity to reflect on how legitimacy is built in order to effect this transition.

An inductive qualitative and multiple-case study approach is appropriate, as the study focuses on a largely uncharted area of research and facilitates the collection of rich data that can be used to develop theory (Yin 1984). The study also implements a longitudinal design so as to capture events and underlying dynamics unfolding over time (Pettigrew 1997). The time frame of this study spans from 2006 to early 2011.

Data

The data we present were collected from a variety of sources over a 5-year period between mid-2006 and early 2011. This allowed sufficient time for projects to be commissioned, yet short enough for respondents to easily recall events (Miller, Cardinal, and Glick 1997). We identified informants by initially drawing on the first author's inside industry experience and senior contacts gained over many years as an executive producer. Insights gained from these early interviews as well as the first author's industry experience were used to help identify key issues and understand industry complexities.

At the end of the first round of interviews, we focused on collecting data from a few companies in greater depth. We applied theoretical sampling (Glaser and Strauss 1967), a recommended approach for analytical induction (Bansal and Roth 2000), to identify these companies. In line with our targeted demographic, we

Table 1
General Information About the Firms

Firms	Prior experience	Entrepreneurial team	Program genre/size	Firm location	Age (months)
Argos	Senior producers	2	Genre area: A/B Small Company set up by former work colleagues with aim to move into new areas of production	London	4
Blitz	Senior producer	4	Genre area: B/C Small Company up by lead director and three investment colleagues	UK regions	11
Chariot	Senior producer	1 (2[a])	Genre area: B/D Small Company set up by former work colleagues following redundancy	London	8
Dominion	Producers	2	Genre area: B/C/D Small Former work colleagues	UK regions	11
Eros	Producers	1 (2[a])	Genre area: B/D Small Formerly working as freelancer	London	11

[a]Number of partners at firm founding.

focused on companies started by first-time entrepreneurs in the UK that had been in business for less than 12 months when the study commenced. We identified a total of six qualifying firms that were willing to participate in the study (see Table 1). For the purpose of this very paper, we focus our analysis on five of them. Their names have been anonymized.

In total, data were collected on 81 projects commissioned from the five independent television production companies. Each project was treated as a "case," which was the primary unit of analysis. The main source of data consisted of multiple face-to-face interviews with founding directors, their first clients, and industry experts. Some 67 interviews were conducted during this period (see Table 2). Interviews with founders continued even after they failed to win any projects or their business ceased to trade. As we completed the different sets of interviews, we started to refine emerging themes and asked respondents to comment directly on specific aspects of these nascent findings.

The interview data was supplemented by a questionnaire that captured descriptive information about each firm and its projects. We also collected a wide variety of documents for analysis, such as letters, production records, some emails, company websites and press cuttings. These materials not only provided us with a specific understanding of the nature of the projects and the industry, but also facilitated data triangulation (Glaser and Strauss 1967).

Data Analysis

The analysis unfolded over two key stages in a process that allowed us to go back and forth between the data and the emerging theoretical arguments (Miles and Huberman 1994; Strauss and Corbin 1998). The first stage used established coding techniques to classify and reduce data by determining key themes; while the

Table 2
Interviews Summary

Firm	Interviews	2006–2007	2008	2009	2011	Interview subtotals
Argos	Founders	2	2	2	2	8
	Commissioners		2	1		3
Blitz	Founders	1	1	2	1	5
	Commissioners		1	1		2
Chariot	Founders	2	2	2	1	7
	Commissioners		2			2
Dominion	Founders	4	2	2	2	10
	Commissioners	1	3	1	2	7
Eros	Founders	2	1	1	1	5
	Commissioners		1	1	1	3
Others	Industry experts	7	4	2	2	15
	Total					67

second involved analysis of these themes against each project at firm level.

Stage 1: Assessing Projects' Roles in Legitimacy Building. This stage consisted of three steps (Pratt 2006). The first step involved the creation of provisional categories and first-order codes (Van Maanen 1979). Following the procedures suggested by Miles and Huberman (1994), our first categorical codes provided descriptive labels for the different sorts of project roles that entrepreneurs sought to exploit. The second step involved axial coding (Strauss and Corbin 1998), in which codes were grouped based on similar emergent ideas and concepts, then named or relabeled as new data emerged or key codes were reassigned. This process of refinement and data reduction continued until we identified six second-order themes (e.g., reshaping identities, maintaining production façade) that seemed to have a close fit with the first-order codes extracted in the open-coding process. As such it was an inductive, recursive process through which we identified a set of more abstract, theory-rich constructs. In the third step, we identified important dimensions from this set of second-order constructs. We consolidated these into theoretical dimensions corresponding to three different project roles: *Crystallizing, normalizing*, and *catalyzing*. Figure 1 provides a schematic overview of this analytic process.

Stage 2: Sourcing Sequencing Patterns. Our second stage of data analysis began by abstracting up from these three project roles until an aggregate dimension (called *project role sequencing*) was identified. Next, we analyzed each of the three aggregate dimensions against every project using cross-case and within-case replication techniques to identify patterns in the data and uncover relationships between project and firm-level legitimacy (Yin 2003). The result of this is presented in Figure 2 where the sequence pattern of projects attained by each company based on the role that they played is depicted.

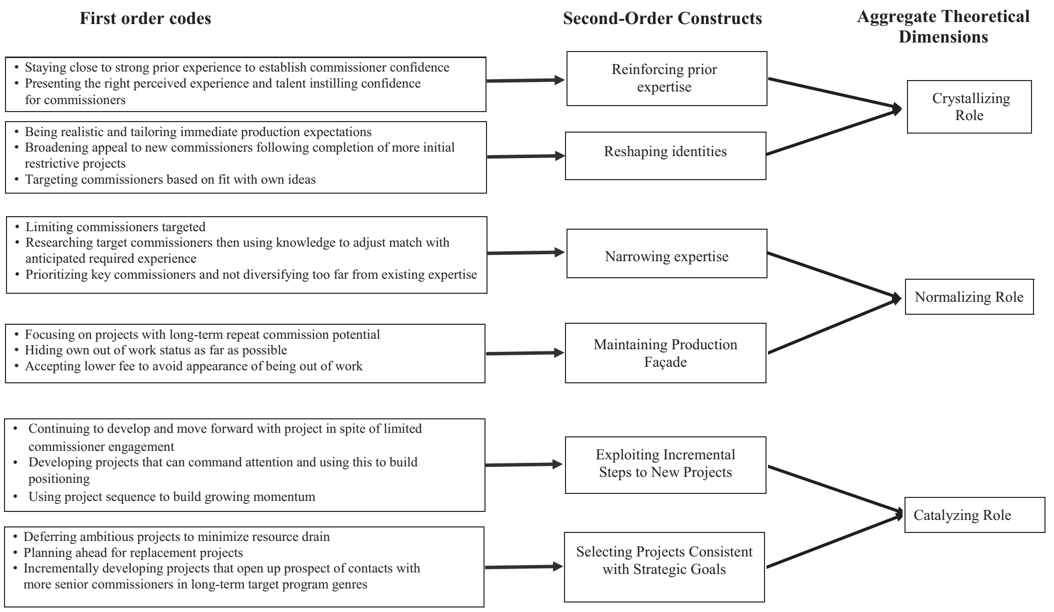
Findings

This study examines how entrepreneurs can gain legitimacy in short-term temporary business environments. Data from our five focal entrepreneurs yielded three key project roles aimed at doing so. All entrepreneurs in our sample articulated ambitions to progress into more creatively challenging or valuable production areas that could afford them a higher profile and greater recognition. Such projects required higher levels of legitimacy than typically possible for new entrepreneurs beginning their ventures. Determined to achieve this, our subjects engaged in a behavioral process aimed at increasing legitimacy. It entailed targeting and exploiting the role that each project could play, then sequencing these to enhance their chances of building a portfolio of projects and experience over time.

Project Roles

Exploiting project roles was evident when entrepreneurs sought to leverage the signal that

Figure 1
Analytical Coding Process to Induce Theoretical Dimensions



different projects could convey about their potential legitimacy. This allowed them to incrementally, and thus more effectively, attain and develop the legitimacy needed to acquire projects in time-constrained environments. Three key project roles—*crystallizing, normalizing*, and *catalyzing*—were observed from our data. Each one will be considered in turn.

First Role: Crystallizing. Entrepreneurs sought to build on experiences gained during prior employment, focusing on areas where they had the most potential credibility before developing other more ambitious projects. Tying past work experience with a new target project could signal coherence and begin the process of legitimation. This was identified in eight projects developed by four of the companies observed (Argos, Chariot, Dominion, and Eros). We labeled this project role as crystallizing, and this was composed of two different sets of activities (second-order constructs in our coding analysis): *Reinforcing Prior Expertise* and *Reshaping Identity*.

Reinforcing Prior Expertise. The first set of activities involves identifying a close fit between prior experience and targeted projects. As a new production company's lack of experience in a given area heightened the perception of risk among commissioners, they could mitigate this by targeting projects linked to capabilities gained during previous employment. An Eros entrepreneur found it easier to attract projects in her area of experience "as soon as I step outside of that and into just straight [unrelated programs], then the warning bells go up as far as the commissioners are concerned because it's not my natural home." Similarly, a Chariot entrepreneur highlighted the importance of linking projects this way (see Table 3, extract 1). This suggests that entrepreneurs rationalize limited resources by deliberately eschewing projects that could stretch claims to legitimacy.

Reshaping Identity. A second set of activities highlights the efforts by the entrepreneurs making the transition from employment to business to foster a shift in perceptions of their identity. In their former roles, often working in large established or respected organizations, they did not have to adopt multiple functional roles such as HR, marketing, assume financial liability,

Figure 2
Model of Sequencing Process [Colour figure can be viewed at wileyonlinelibrary.com]

ARGOS

PROJECT	VALUE £	TYPE	CLIENT	ROLE
2006				
1	3.5m	SERIES	AA	CRYSTALLIZING
2	150k	SERIES	AB	NORMALIZING
2007				
3	4.1m	SERIES	AB	NORMALIZING
2008				
4	2.8m	SERIES	AA REPEAT (A1)	NORMALIZING
5	1.5m	SINGLE	AB	CATALYZING
2009				
6	1.9m	SERIES	AB	NORMALIZING
7	1.4m	SINGLE	AC	NORMALIZING
8	340k/8m	SERIES	AD	CATALYZING
2010				
9	3.6m	SERIES	AB	CATALYZING
10	1.3m	SERIES	AB REPEAT (A3)	NORMALIZING

BLITZ

PROJECT	VALUE £	TYPE	CLIENT	ROLE
2006				
1	750k	SERIES	BA	NORMALIZING
2	70k	SINGLE	BA	NORMALIZING
3	140k	SINGLE	BA	NORMALIZING
2007				
4	190k	SINGLE	BA+BB	CATALYZING
5	750k	SERIES	BA REPEAT (B1) 1	NORMALIZING
6	140k	SINGLE	BA	NORMALIZING
7	750k	SERIES	BA REPEAT (B1) 2	NORMALIZING
8	140k	SINGLE	BA	NORMALIZING
9	80k	SINGLE	BC	CATALYZING
10	140k	SINGLE	BA	NORMALIZING
11	190k	SINGLE	BA	NORMALIZING
12	145k	SINGLE	BA	NORMALIZING
13	750k	SERIES	BA REPEAT (B1) 3	NORMALIZING
14	140k	SINGLE	BA	NORMALIZING
2008				
	750k	SERIES	BA REPEAT (B1) 4	NORMALIZING
15	140k	SINGLE	BA	NORMALIZING
16	140k	SINGLE	BA	NORMALIZING
17				
2009				
18	750k	SERIES	BA REPEAT (B1) 5	NORMALIZING
19	750k	SERIES	BA REPEAT (B1) 6	NORMALIZING
20	850k	SERIES	BA REPEAT (B1) 7	NORMALIZING
2010				
21	850k	SERIES	BA REPEAT (B1) 8	NORMALIZING
22	850k	SERIES	BA REPEAT (B1) 9	NORMALIZING
23	140k	SINGLE	BA	NORMALIZING
24	140k	SINGLE	BA	NORMALIZING
25	140k	SINGLE	BA	NORMALIZING
26	140k	SINGLE	BA	NORMALIZING
27	140k	SINGLE	BA	NORMALIZING
28	140k	SINGLE	BA	NORMALIZING

CHARIOT

PROJECT	VALUE £	TYPE	CLIENT	ROLE
2006				
1	130k	SINGLE	CA	CRYSTALLIZING
2007				
2	120k	SINGLE	CB	NORMALIZING
3	110k	SINGLE	CC	CRYSTALLIZING
2008				
4	125k	SINGLE	CD	NORMALIZING
5	110k	SINGLE	CC	NORMALIZING
6	120k	SINGLE	CC	NORMALIZING
7	110k	SINGLE	CC	NORMALIZING
8	100k	SINGLE	CC	CATALYZING
9	60k	SINGLE	CB	NORMALIZING
2009				
10	155k	SINGLE	CE	CATALYZING

DOMINION

PROJECT	VALUE £	TYPE	CLIENT	ROLE
2006				
1	200k	SERIES	DA	CATALYZING
2	171k	SERIES	DB	NORMALIZING
2007				
3	160k	SERIES	DB	NORMALIZING
4	100k	SINGLE	DB	NORMALIZING
5	3k	SINGLE	DC	CATALYZING
6	35k	SINGLE	DD	CATALYZING
7	90k	SINGLE	DB	NORMALIZING
8	25k	SINGLE	DD	NORMALIZING
2008				
9	10k	SINGLE	DD	NORMALIZING
10	42k	SINGLE	DB	NORMALIZING
11	180k	SERIES	DE	CATALYZING
12	35k	SINGLE	DF	NORMALIZING
2009				
13	95k	SINGLE	DB	NORMALIZING
14	80k	SERIES	DB	NORMALIZING
15	85k (35k)	SINGLE	DD+DF	CATALYZING
16	160k	SERIES	DB	NORMALIZING
2010				
17	180k	SERIES	DE	NORMALIZING
18	40k	SINGLE	DB	NORMALIZING
19	250k	SERIES	DB	CRYSTALLIZING
20	130k	SINGLE	DD	CATALYZING
21	110k	SINGLE	DB	NORMALIZING
22	28k	SINGLE	DE REPEAT (D17)	NORMALIZING
23	200k	SERIES	DB	NORMALIZING
24	90k	SINGLE	DB	NORMALIZING
25	110k	SINGLE	DB	NORMALIZING
26	6k	SINGLE P	DG	CATALYZING
27	100k	SINGLE	DB	NORMALIZING
28	100k	SERIES	DB REPEAT (D19)	NORMALIZING

EROS

PROJECT	VALUE £	TYPE	CLIENT	ROLE
2006				
1	150k	SINGLE	EA	CRYSTALLIZING
2007				
2	16k	SERIES	EB	CRYSTALLIZING
3	16k	SINGLE	EB	NORMALIZING
2008				
4	275k	SERIES	EC	CATALYZING
5	150k	SERIES	EC	NORMALIZING

Table 3
Extracts from Respondents

Extract	Detail
1	"…if you're a producer it's like making sausages. I can make a tomato sausage or a leek sausage. So at the beginning I put my effort into programmes where I had experience because the last thing they want is someone who can make tomato sausages but wants to make leek sausages."
2	"You should always be very careful that you stick to doing what you're really good at, and …don't diversify too far. So, I prioritize, [the department], you know, I look after them, I really focus… I make no apologies for it."
3	"Nobody wants to hire you when you haven't got a job, everybody wants to hire you when you're busy because it's like you just smell different don't you think? And going in to meet a broadcaster like [broadcaster C] when you've got a commission… is very different to going in when you don't have that even if you make very little money…"
4	"Now it doesn't really pay a lot of money, but that doesn't matter. It gets my logo on [the channel] on primetime television [several] times in one week, so frankly you just can't get better than that."
5	"I absolutely think of them as stepping stones…in a way what I'm doing is working my way up the schedule. If you think of the Radio Times listings,[a] at the moment we have a very good reputation at four o'clock…and I'm trying to get to nine o'clock-they are stepping stones, they are. It's like I'm working my way up the schedule."
6	"We always knew the first year was going to be pretty much servicing that contract… But now in the second year we've been looking at the programmes that can take us closer to our longer-term interest in making [genre X] programmes for the network."
7	"Like [this project] is far and away our most ambitious […] series in all sorts of ways… that was a really big deal, we were really bold and ambitious …with [the other project] we took quite a brave leap and we've got it into […] festivals… So both [are] really much more ambitious than we would have done at the beginning and helps us to reposition ourselves."
8	"I wouldn't have put an hour-long [programme] in their hands as they were constituted ….they wanted to do something bigger and longer, but I wasn't convinced. I had a sense that what they were really capable of delivering was a good, tight sort of 13 minutes at that stage, but not an hour-long [programme]… But that did change when they came to me with [a related project in a new area]."
9	"I don't pitch to [series Y with broadcaster X]… I would jeopardize the close working relationship I have with [the commissioner]… At the moment I can have a dialogue where we bounce ideas back and forth, and there can be a discussion over ideas. If I suddenly pitched up to [rival series] as well, that dialogue would stop…The second I said 'no,' that it was going to be pitched to [rival channel] it would all become much more formal."
10	"For me it's a bonus because I'm getting someone who is experienced who I don't have tobaby-sit through every single step…[the entrepreneur] has made a number of long form films yet wouldn't mind coming and making a 10 minute film for me."
11	"I don't go round going ['Channel Y'], you know… because it really doesn't carry as much status but I can say, 'now we've been doing a five-part series' and that says a lot, as long as I don't say who it's for. It's better than doing [channel D] or something."

[a]TV listings guide.

or carry responsibility for the company. However, it became imperative to build impressions that they could manage both the administrative demands of an emerging venture as well as the creative development and execution of their projects. Several commissioners emphasized the importance of this gap in credibility, as one commented, "There are people who are brilliant. They're brilliant producers, they're brilliant directors, they're brilliant executive producers. But they might not be the right person to run a small company." Entrepreneurs tried to counter these perceptions by identifying projects that were not too demanding logistically, and by demonstrating business acumen. As an example, Dominion's two lead entrepreneurs targeted a project that replicated the format and genre area of those they had produced before and presented a business plan in the first meeting with one commissioner to show how they planned to turn this into a business.

Second Role: Normalizing. A second set of identified activities reflected entrepreneurs' attempts to gain repeat projects with the same channel or commissioner rather than disperse project-building efforts. In this way they hoped to develop a portfolio of projects that would permit the swift build-up of brand identity and thus embed their legitimacy. This role, the most prevalent in the data, was identified in sixty of the projects developed by five of the companies observed. We labeled it as *normalizing* to capture its role in embedding and strengthening firm's initial legitimacy. Two different second-order constructs were subsumed under this theme: *Narrowing Project Expertise* and *Maintaining Production Façade*.

Narrowing Project Expertise. By restricting their focus to projects located in target niche areas, some entrepreneurs were able to deepen their expertise and consolidate experience. This entailed narrowing the pool of target broadcasters and commissioners and prioritizing those with whom they had already won projects. Such tactics could swiftly help to build their brand and convey impressions of their capability. Blitz for example commented that it focused on gaining expertise with the same commissioner to the exclusion of developing commissioning relationships elsewhere (see Table 3, extract 2).

Maintaining Production Façade. It became evident that legitimacy had a shelf life and could begin to decay at some point after a project was completed and dissolved. Being out of production had the potential to convey negative signals and undermine legitimacy by raising questions about an entrepreneur's ability to attract resources. A quote from an Argos entrepreneur highlights the difficulty (see Table 3, extract 3). To avert such negative signals, entrepreneurs sought to get into production at almost any financial cost. An Eros producer, for example, targeted a project that would generate low financial return but calculated that "It was better than no work." The entrepreneur explained that the value of the project was the opportunity to build a relationship with the commissioner and to receive continuing exposure on the channel (see Table 3, extract 4). This could allow them to build a portfolio of projects and extend their track record; as a result this was sometimes considered more valuable than the strict financial value alone.

Third Role: Catalyzing. Across multiple cases, we observed that the fit between past experience and target projects frequently changed as ventures progressed. Thus, a third set of activities reflected attempts by entrepreneurs to identify and develop projects that combined existing experience with the capabilities needed to migrate into new production areas where they lacked legitimacy. Existing projects thereby acted as a stepping-stone to new production areas. We noted 12 projects dispersed over the five companies that played this role. We conceived of this as a *catalyzing* role to encapsulate its role as a launch pad into other project areas. It incorporated two second-order constructs in our coding analysis: *Exploiting Incremental Steps* and *Selecting Projects Consistent with Strategic Goals*.

Exploiting Incremental Steps. To build the legitimacy needed to sustain their business, entrepreneurs were attempting to link existing and new production areas.

For instance, Argos explained how using key projects as "stepping-stones" allowed them to incrementally migrate into areas where they had no initial experience (see Table 3, extract 5). Multiple prior projects could convey a patchwork of signals that could shape perceptions of project legitimacy. Dominion used projects in this way multiple times and highlighted how they viewed the process of building their portfolio: "*You have to do stuff step by step and in sequence…it's just a premise…* As one entrepreneur commented, *everything we do is about the next step"* They delayed pitching for more ambitious programs until they had acquire sufficient experience in a related area to reduce a perceived credibility gap (see Table 3, extract 6).

Selecting Projects Consistent With Strategic Goals. Some entrepreneurs deliberately targeted projects that had the potential to take them closer to their strategic goal of moving up into more prestigious network projects screened in primetime slots. For instance, referring to a new project, Argos explained that they had now targeted film festivals as an intermediary outlet for their work (see Table 3, extract 7). Likewise, drawing on an earlier project that yielded key experience, Dominion was able to win a small feature in a more prestigious target series. However, they were not able to fully capitalize on this achievement as their production role was restricted to freelance producers. This suggests that they had attained only partial legitimacy at project level; this was not transferred to the firm.

Project Sequencing

Building on data from our five cases, we found that these entrepreneurs did not have sufficient legitimacy to compete at the top end of the genre areas in which they worked. As a result, they sought to migrate from less prestigious to more ambitious projects incrementally. By targeting and then sequencing key projects based on the role they could play, entrepreneurs could build up legitimacy over time. A pattern was observed across the data in which firms developed the roles that each project played in a given sequence. Typically, this began with a project playing a crystallizing role, followed by one that assumed a normalizing role, and then finally a catalyzing role. This sequence was identified in four of the five companies in the study.

First Pattern: Sequencing Two-Step. Sequencing project roles was an iterative process, much like the two-step of a dance.

Entrepreneurs could move forward in the development of their projects and then repeat the same sequence once they were able to transition into an adjacent project area. Most of the entrepreneurs in the study repeated the same sequencing pattern when attempting to move into new areas. Dominion's entrepreneur, for example, returned to a project performing a crystallizing role early on and used this to open up a relationship with a new commissioner in a neighboring region. They accepted lower budgets to demonstrate commitment and ability to deliver on modest resources. This sequencing strategy paid off as the founders were later able to transition to a major project with the same client by exploiting a catalyzing role. The commissioner revealed that an initial reluctance to commission more ambitious work was gradually overcome as the successful attainment of prior projects signaled their enhanced capability over time (see Table 3, extract 8). Once they were successful in the first project, entrepreneurs adopted a two-step sequencing strategy rotating between projects playing a normalizing and catalyzing role. With this maneuver entrepreneurs could build up legitimacy by developing different projects in the same area. In practice they could opt to develop several projects using a normalizing role before targeting a project's catalyzing role. Where they had prior direct relationships with commissioners they could reduce their use of varying project roles. Blitz, for example, focused on building legitimacy with one commissioner with whom it had had a prior relationship. This sequence pattern facilitated swift and repeated project commissioning (see Table 3, extract 9).

Second Pattern: Consecutive Sequencing. Occasionally entrepreneurs developed their key roles sequentially and consecutively. This was the case, for example, with Eros and this allowed them to migrate from a core area of experience gained during prior employment to a wholly new genre area. Here the entrepreneur exploited the crystallizing role of the second project by returning to a prior area of expertise, in the hope that this would open access to other production areas. While this meant that they were in effect over-qualified for the project, it helped them to attract a new client and enter a new area as the commissioner indicated (see Table 3, extract 10).

Their next project was commissioned by the same broadcaster, allowing the entrepreneur to embed the relationship and build reputation. The entrepreneur targeted its next project for its catalyzing role, thus facilitating the transition into a more creative, logistically challenging, and higher budget series. However this meant trading down to a less prestigious channel (see Table 3, extract 11).

Third Pattern: Nonconsecutive Sequencing. The sequencing of project roles did not necessarily take place consecutively, as entrepreneurs drew on some roles repeatedly. This enabled them to more effectively tailor the legitimacy they needed to fit their own circumstances. A sequencing pattern might thus unfold over the course of their development in which they drew on the same project role several times before making the transition to another project role. Dominion, like Argos, Chariot, and Blitz repeatedly drew on a normalizing role before exploiting projects that could play a catalyzing role. The nature of the projects that they produced with short production time frames and modest budgets meant that they needed to attract several projects each year. In contrast, Argos produced formatted projects that took longer to deliver, but generated higher budgets. This meant they could draw on fewer project roles over time.

Discussion

Our analysis points to a fresh understanding of how entrepreneurs attempt to build legitimacy in short-term temporary business environments. This is an important challenge because in such businesses, long-term survival depends upon firms' ability to repeatedly mobilize resources. However, the time-limited and short-term character engenders time constraints that challenge new firms to build up the legitimacy that can facilitate repeated project acquisition. The study presented here focuses on the behavioral process involved in building and maintaining legitimacy in temporary business by new entrepreneurs, and makes three contributions to this research.

The first contribution suggests that projects can play varying roles that entrepreneurs can exploit to enhance their chances of attaining the necessary legitimacy. Three project roles were identified: crystallizing, normalizing, and catalyzing; each played a different role in helping entrepreneurs to attract and then develop legitimacy. These roles permitted entrepreneurs to create their own narratives about their projects (Lounsbury and Glynn 2001), thus aligning with what they see as potential stakeholder interpretations of what is legitimate (Suchman 1995). Moreover, while the two first roles, crystallizing and normalizing, can be seen as contributing fundamentally to entrepreneurs' ability to "fit in" (De Clercq and Voronov 2009) with major stakeholders expectations of what constitutes proper behavior and practices in the industry, the third role, catalyzing, enhanced their distinctiveness (Navis and Glynn 2011), permitting them to venture into new production areas, notwithstanding that most programs must attain some level of novelty.

Our second contribution suggests that entrepreneurs develop their projects in sequence, based on the role that each project may play. This allows them to leverage the symbolic value (Zott and Amit 2007) of these projects to build a constellation of signals that could convey impressions about their potential quality. The tactical sequencing of project roles enabled entrepreneurs to mitigate inertial constraints by working with those constraints, first using them as a platform to build up legitimacy, then as a springboard to launch into new but related areas. By deliberately identifying projects that combined existing experience with those required in new related areas (Baron 2006), they could signal their quality (Khoury, Junkunc, and Deeds 2013) and minimize perceptions of their projects as risky. This helped them to later incrementally pitch for more ambitious projects that took them closer to long-term strategic production goals. Thus the choices they made about the role and sequence of each project gave them some leverage to address potential customer concerns and so develop legitimacy to fit their own particular circumstances.

Our third contribution is to an emerging stream of research that views legitimacy as both a dichotomous and continuous variable (Rutherford and Buller 2007; Zimmerman and Zeitz 2002). However, in contrast to this work, our results indicate that the attainment of legitimacy in businesses involving temporary projects can be a piecemeal rather than a linear process as new projects are formed and then dissolved once completed. This means that the attainment of legitimacy is a dynamic and constantly shifting process that entrepreneurs may attain in one part of their business yet not in another. Legitimacy may remain fluid and unstable until the new firm can synchronize its attainment at both firm and project levels over time, at which point they can acquire cognitive legitimacy. In our study of temporary business the data points less to a linear threshold above which legitimacy is conferred upon the entrepreneur, or below which it is not, as envisioned by Zimmerman and Zeitz (2002), and more to a series of points in time and space over which they build up legitimacy iteratively. This means that entrepreneurs may gain legitimacy at the firm level but only partial legitimacy with an individual project, insufficient to facilitate transfer to new areas. Over time however they may build up greater legitimacy with more projects that may enable them to migrate into new areas. This insight renders notions of a legitimacy threshold as more diffuse than previously anticipated. While research has indicated that legitimacy may be partial (Katz 2008), our results suggest that its attainment is a constantly shifting dynamic process in which firm- and project-level legitimacy are not always synchronized. Further, legitimacy is not automatically transferable between projects, or from project to company, and project legitimacy itself has a shelf life. This suggests that managing the tension between novelty and conformity in businesses involving temporary projects (Navis and Glynn 2011) is a dynamic and on-going challenge, one in which exploiting and sequencing project roles can help entrepreneurs build their legitimacy profile and navigate the "complex" and "treacherous" early stage of existence (Rutherford and Buller 2007).

Practical Implications and Concluding Remarks

There are compelling implications for new entrepreneurs in this study: those seeking to work in temporary project environments should identify key project roles and then sequence these incrementally to suit long-term goals. By carefully mapping the potential utility of each project and how projects might link up to one another, and by taking a more global view of project development, entrepreneurs can build a stronger base for the attainment of legitimacy.

Our study shows how entrepreneurs can leverage the varying roles that their projects can play. This could help to build initial legitimacy, stabilize what has already been attained, and tailor it for new directions. Our analysis reveals how entrepreneurs could migrate into new but related areas incrementally with key target projects. Developing projects in this way helps to manage the continuing tension of, on the one hand, introducing new creative ideas on which commissions frequently depend and, on the other, exceeding perceptions of their capability to deliver those novel ideas. Furthermore, our findings suggest that these different sets of activities, which contribute to the building of legitimacy in short-term temporary business environments, were sequenced by the entrepreneurs.

Our results suggest that project-sequencing can facilitate different legitimation paths that could help in the process of acquiring legitimacy. In this way new entrepreneurs can develop a legitimacy-building capability that could help to sustain their businesses. Indeed, when sequencing was not carefully thought through, entrepreneurs seriously risked damaging their legitimacy and endangering their survival as an organization.

Despite its insights this study is not without its limitations. The single industry focus and concentration on a creative sector limits generalizability and transferability. Significant differences even within the same industry and across national cultures may also not be captured by the study. However, the in-depth nature of the study offers greater validity to the results uncovered in this setting. Our study points to opportunities for further work on whether there are other project roles and how they may differ by context. A large-scale quantitative study looking at the impact of different sequence configurations would also be useful. In addition more work on sequencing paths in different industries would be valuable. The boundary conditions in this study suggest that there may be variations in the type of legitimacy that new entrepreneurs need to call on, depending upon the type of project they are pursuing. An examination of the notion that legitimacy has a shelf life and the conditions that influence its duration would also be warranted. Finally, more work is warranted on how the development of network ties might be sequenced in temporary project business to aid establishment and survival.

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Corrigendum

Family Business Characteristics and the Approach to HRM in Overseas Ventures

In Bannò and Sgobbi (2016), an affiliation has been added to the author Francesca Sgobbi.

The affiliation details should read as follows:

Francesca Sgobbi is an associate professor of Organisation Planning at the Department of Industrial and Mechanical Engineering, University of Brescia and a research fellow at DINAMIA-CET, ISCTE-University Institute of Lisbon, Portugal.

We apologize for this error.

Reference

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