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Strategic Capabilities of Emerging Market Firms

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

STRATEGIC CAPABILITIES OF EMERGING MARKET FIRMS

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

BUSINESS ADMINISTRATION

by

Mohan Song

2021

To: Dean Joanne Li
College of Business

This dissertation, written by Mohan Song, and entitled Strategic Capabilities of Emerging Market Firms, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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The dissertation of Mohan Song is approved.

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Vice President for Research and Economic Development
and Dean of the University Graduate School

Florida International University, 2021

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DEDICATION

I dedicate my dissertation work to my family and friends. A special feeling of gratitude to my loving parents, Bin Song and Wenjing Cai, who gave me moral lessons on discipline from an earlier age and continuously encouraged and supported my studies.

I dedicate this dissertation to my advisor, Professor Bill Newburry, who was the guiding light every step of the way as I researched for this dissertation. I also dedicate it to my mentor, Professor Jinlin Zhao, who inspired me to pursue a doctoral degree.

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ABSTRACT OF THE DISSERTATION
STRATEGIC CAPABILITIES OF EMERGING MARKET FIRMS

by

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Strategic capabilities assist emerging market firms at the corporate level in developing and managing capabilities in the processes to better use resources and sustain competitive advantages. The umbrella of strategic capabilities includes ordinary capabilities and dynamic capabilities. Dynamic capabilities focus on change internally and externally (e.g., existing resource base, external environment). The dissertation is composed of three essays.

The first essay, titled “Dynamic Capabilities of Emerging Market Firms: A Multi-disciplinary Literature Review,” provides a critical summary of changing views of dynamic capabilities processes in recent decades. The review aims to identify possible avenues for future research in emerging markets.

The second essay, titled “Emerging Market Firms’ Dynamic Capabilities: Case Studies of Traditional Industries in China,” analyzes the dynamic capabilities processes (sensing, seizing and reconfiguring) of emerging market firms. This essay is based on multiple cases in Chinese manufacturing industries. Study findings suggest that firms not only sense, seize and reconfigure opportunities and challenges, but also gain the

capability of anticipation before the change occurs, which helps them stand out in competitive industries.

The third essay is titled “Drivers of Export Intensity by Emerging Economy Firms: City Government Efficiency and Its Moderators,” and concerns how emerging market firms are able to seize opportunities in export markets. This essay, a quantitative study, indicates that city government efficiency has a positive relationship with export intensity. Compared with non-state-ownership, state-ownership negatively impacts internationalization. Additionally, firm age negatively moderates the relationship between city government efficiency and internationalization.

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CHAPTER I: INTRODUCTION

Strategic capabilities assist emerging market firms at the corporate level in developing and managing capabilities in the processes to better use resources and sustain competitive advantages. The umbrella of strategic capabilities includes ordinary capabilities and dynamic capabilities. Dynamic capabilities focus on change internally and externally (e.g., existing resource base, external environment). The dissertation is composed of three essays.

In more than two decades, dynamic capabilities has made great progress in its theoretical development. At the same time, controversies regarding the theory remain. Most of the debate centers on the lack of awareness of the process of dynamic capability building, especially in emerging markets. Our study analyzes the dynamic capabilities research in emerging market firms in different disciplines to understand the research status of this field and find common areas of interest. Based on the analysis, in the first essay, we put forward limitations of current research, look forward to the research agenda, and outline directions for future research.

The second essay analyzes how emerging market firms develop capabilities. A theoretical model drawing on the process of dynamic capabilities theory is developed through analyzing multiple case studies in traditional industries in both manufacturing and service industries in China. The model extends the dynamic capabilities literature by more thoroughly integrating influences of both external change and internal organizational change. The findings suggest that emerging market firms, besides the process of developing dynamic capabilities in sensing, seizing and reconfiguring, need to

anticipate external change to facilitate these other activities. Three external linkages help firms build up anticipating capability. In response to external changes, firms need to make specific internal organizational reconfigurations. Finally, theoretical implications and managerial implications, and limitations are suggested.

For emerging market firms, exports are generally the most viable way to internationalize given limited capital and experience. However, this crucial first step in the internationalization process has been under-researched, as academic literature has primarily focused on later stages of foreign investment, such as acquisitions and joint ventures. To better understand this phenomenon, in the third essay, we first hypothesize relationships of city government efficiency with export intensity in emerging markets. We then examine how performance, ownership types and firm age moderate the main relationship. City government efficiency is an important source of social capital in many emerging markets that can provide more proximate benefits to firms than higher-level government support at provincial or national levels. We consider this form of social capital as an important external-oriented capability that promotes cross-border activity and supplements our understanding of dynamic capabilities. We empirically test our theoretical framework using an unbalanced panel dataset of 36,265 Chinese manufacturing firm-year observations from 2001 to 2007. Our findings indicate that city government efficiency has a positive relationship with export intensity. Compared with non-state-ownership, state-ownership negatively impacts internationalization. Additionally, we find that firm age negatively moderates the relationship between city government efficiency and internationalization.

CHAPTER II: DYNAMIC CAPABILITIES OF EMERGING MARKET FIRMS: A REVIEW OF THE MULTI-DISCIPLINARY LITERATURE

INTRODUCTION

Compared with other strategy theories, dynamic capabilities, which was proposed in 1997, is a relatively new theory. Since it was put forward two decades ago, scholars have become increasingly interested in this topic. Extending from its origins in strategic management, the extant literature on dynamic capabilities has been conducted by researchers in a variety of disciplines, including international management, operations management, entrepreneurship, innovation and technology development, human resources management, finance, marketing, and management information system (Bititci et al., 2011; Zahra, Sapienza, & Davidsson, 2006; Vu, 2020; Lawson & Samson, 2001; Helfat & Peteraf, 2015; Barrales-Molina, Martínez-López & Gázquez-Abad, 2014; Karimi & Walter, 2015; Khan, Daddi & Iraldo, 2021; Kumar et al., 2014; Turulja et al., 2018; Mostafiz et al., 2019). Over the past decade, scholars have shifted their focus from generalized dynamic capabilities research to more niche levels, for example, to different economic contexts (e.g., Fourné et al., 2014); however, a systematic literature review that sums up the dynamic capabilities research related to emerging market firms has not been conducted yet. The only economic context literature review was conducted by Fainshmidt et al. (2016), illustrating how the nature of the dynamic capability and the economic context shape its value and exert effects on the dynamic capability-performance relationship. Under different economic environments, the required capabilities of companies vary from each other (Cuervo-Cazurra et al., 2020). In order to distinguish different capabilities that appear in different economic contexts, the literature in different

economic contexts should be systematically examined so as to summarize the literature in this field.

Another consideration that should not be ignored is that when researchers discuss dynamic capabilities, the first few years of dynamic capability research have been the overwhelming focus (e.g., Teece et al., 1997; Helfat & Peteraf, 2003; Eisenhardt & Martin, 2000; Teece 2007). It seems that scholars can reach a consensus on the first phase of research in this area; however, they are less likely to refer to and build upon research after 2010. On the one hand, it may be because the research on dynamic capabilities over the past decade has often contradicted and refuted each other (Zollo & Winter, 2002). Although contradictory arguments can bring various perspectives to a theory, excessive contradictions will result in the stagnation of theoretical development. Therefore, it is necessary to carry out more literature reviews in this field so as to sort out these contradictory studies in order to provide guidance to assist the theory of dynamic capabilities in developing faster.

With the rapid change and development of emerging markets, the environment of emerging markets' has become turbulent and uncertain (Luo, 2003; Belderbos et al., 2019). In an emerging market, a variety of changes are taking place every day. Such changes are multi-faceted; namely, they not only include regulations and policies but also involve people's consumption habits, which are not as easily changed in mature markets. These changes are happening quickly and profoundly in emerging markets. This raises the question of how dynamic capabilities in emerging markets differ from those of companies in mature markets? Do the companies that are born in emerging markets have some inherent ability to adapt with such changes?

The aim of this review is to provide a critical summary of changing views on dynamic capabilities in emerging market firms across different disciplines and to identify possible avenues for future studies. The research will take some of the earliest contributions in the field as a starting point and review subsequent developments in the literature. It aims to fill a research need by pursuing two objectives. The first objective is to sum up insights from numerous previous studies and bring greater continuity to the existing knowledge base. To achieve this, an interdisciplinary review of the current state of dynamic capabilities research was conducted. As part of this review, the research on the dynamic capabilities of emerging market companies, which has received less scholarly attention, was reviewed. This review collected articles from multiple disciplines in this field to the greatest extent possible, in an attempt to enrich the research in this field from multiple perspectives. In addition, the review of the current state of knowledge involves important foundational issues, such as research type, sample, and methodology, economic sector, capabilities, geographic information, key issues, and conclusions. The second objective is to identify the major gaps in the literature, unsolved issues, and promising directions to address these problems by going beyond existing knowledge so as to obtain a glimpse of the future of dynamic capability research. To achieve this, the research coded the important information in previous studies, analyzed the reasons hindering the rapid development of this field, and identified limitations to further dynamic capability research, thereby providing bottom-up insights into how the field might advance.

The next section provides an overview on the development of dynamic capabilities theories and explains the review methodology through the explanation of the

coding rules and coding sheets, followed by the research findings. Next, combining the findings and research gaps that have been identified, suggestions for new directions of future research are provided.

CONCEPTUAL BACKGROUND

Given the complexity of dynamic capabilities related phenomena and the resultant multifarious nature of published studies, a guiding conceptual framework is needed to help us systematically categorize and analyze these studies.

What are dynamic capabilities and where does the theory come from? Scholars stick to their own arguments. According to Teece et al. (1997; 2007; 2018), dynamic capabilities were considered as enterprises' abilities to integrate, build, and reconfigure internal and external competencies to cope with the quickly changing environment. Since then, the definition has been modified and extended (Zollo & Winter, 2002; Winter, 2003; Helfat & Peteraf, 2009; Teece, 2007). Generally, most scholars reach a consensus that the dynamic capabilities view (DCV) extended from the resource-based view (RBV), both of which focus on enterprises' capabilities according to their current resource bases (Helfat & Peteraf, 2003; Wang & Ahmed, 2007; Schilke et al., 2018). The development of RBV theory occurred over many decades and finally developed into what it is today (Penrose, 1959; Wernerfelt, 1984; Wernerfelt, 1989). The core of RBV is to stress whether resources are Valuable, Rare, Inimitable and Non-Substitutable (VRIN), and that resources and capabilities are considered as the competitive advantages of enterprises (Barney, 1991). Due to the intensification of market competition and the highly changing dynamic external business environment, simple resource competitive advantages can no longer guarantee an enterprise's success in market competition. In addition, researchers

like Eisenhardt and Martin (2000) even challenged the RBV, stating that its “being static and sustained competitive advantage” cannot satisfy dynamic capabilities (Schilke et al., 2018; Eisenhardt & Martin, 2000). RBV fails to address issues stemming from market dynamism and enterprise evolution over time. These changes challenge the original RBV’s core assumptions and arguments, and then, DCV was born under such a context. With respect to the problem of a dynamic business environment that cannot be explained by RBV, Teece et al. (2018) followed by other scholars defined DCV as the abilities of enterprises to integrate, build, and reconfigure internal and external competencies, with an attempt to distinguish dynamic capabilities from RBV. In contrast to RBV's focus on resource allocation, the evolutionary roots of DCV turned to change-oriented routines and learning. However, since 1997, numerous studies haven't explicated the concept of DCV, and some even bring in contradictory arguments (Zollo & Winter, 2002). Several systematic literature reviews in this field have classified the various dynamic capabilities definitions (e.g., Schilke et al., 2018). In this review, the most widely recognized definition proposed by Teece et al. (1997) will be used for continuous research.

The most recognized definition places focus on the process of “sensing, seizing, and reconfiguring” in the DCV (Teece, 2007; Martin, 2011). (1) Sensing refers to an enterprise’s capability to sense changes in the competitive environment, such as technology changes, market changes, and regulation changes (sense opportunities and threats); (2) Seizing refers to seeking opportunities through planning strategies, communicating them and providing an action framework (choosing among possible actions, making investments, and deploying resources); and (3) Reconfiguration refers to putting the plan into action, which changes the organization, creates value and sustains

profitability (reconfigure and transform organizations and their resources and capabilities). Some researchers changed their focus from the firm level to the management level by examining the micro-foundations of dynamic capabilities in terms of sensing and shaping capabilities, mastering capabilities, and managing reconfigurations and threats (Teece, 2007; Augier & Teece, 2009; Helfat & Martin, 2015). Existing research on the process of dynamic capabilities also brings in contingency theory to illustrate the importance of sensing, seizing and reconfiguring (Zhang et al., 2018; Irfan et al., 2019).

In different economic contexts, the antecedents and outcomes of dynamic capabilities will be different. For example, in emerging markets, because the market environment is constantly changing, if a company can build capabilities to change with changes, then these capabilities will be very valuable and will become a competitive advantage for this company (Peng et al., 2009; Helfat & Winter, 2011). Some researchers have compared firms' dynamic capabilities in different economies (Fainshmidt et al., 2016; Bitencourt et al., 2020). Additionally, some existing literature believes that the high degree of uncertainty in emerging markets and institutional opacity have inhibited the building of dynamic capabilities of emerging market firms (Chari & Banalieva, 2015). However, the needs of emerging market companies for dynamic capability building have been ignored. First of all, since firms were born in these highly uncertain environments, changing with changes has become a necessity for emerging market firms. Second, in these uncertain and highly competitive environments, companies need to build dynamic capabilities in order to stand out in their industry, or even to compete in the international market. Driven by these motivations, emerging market firms have a strong willingness

and ability to build dynamic capabilities; at the same time, the advantages of dynamic capabilities in emerging market firms are more obvious (Fainshmidt et al., 2016).

Because the DCV features “change” and “adapt to change”, the rapid changing economic context of emerging markets warrants greater attention by more scholars.

METHODS

Sample

The sample selection occurred in a few stages following the procedures of PRISMA protocol (Moher et al., 2009). The first step of selecting a research query was to conduct a literature review of the cornerstone manuscripts on the ABI/INFORM ProQuest database about the dynamic capabilities of emerging market firms, with dynamic capabilities as the major essential theory to grasp all the terminologies used to describe the phenomena the researchers would like to analyze. The ABI/INFORM ProQuest database is viewed as one of the most up-to-date and reliable databases, including most research papers published in prestigious journals in the past; therefore, it serves as the primary database for this review. After several iterations to define a broad research query, the final query was:

TS = ((“dynamic capabilities” OR “dynamic capability” OR “agility” OR “adaptive capability”) AND (“emerging markets” OR “emerging economies”) AND (sensing OR seizing OR reconfiguring OR integrating)).

The final query consists of a complete search for the terms selected in the title, summary, and keywords. (“sensing OR seizing OR reconfiguring OR integrating” in anywhere) was used to manually check for papers not already included in the query. The search was limited to peer-reviewed articles (excluding conference papers and

dissertation/thesis), as source types and document types. The language was limited to English.

The timespan is from 1997 to 2021. 1997 was selected as the starting year because it was the publication year of the seminal work by Teece et al. (1997). Web of Science was also used to manually check if any paper was not already included in the ABI/INFORM ProQuest database results. In addition, a series of manual searches were conducted in journals from the management, international business, strategic management, entrepreneurship, and marketing fields in order to review the reference sections of published review articles (Fainshmidt et al., 2016). Those that could not be downloaded were excluded from the research. The query generated a preliminary dataset of 47 entries.

Second, this review only includes articles from the top 100 management journals (IF>1), based on the Thompson Reuters' 2013 Journal Citation Report (Schilke, Hu, & Helfat, 2018). The broad journal scope allows for the inclusion of studies from various subdisciplines of management with the adoption of a dynamic capabilities perspective while ensuring a certain level of academic rigor. After this step, 38 articles were left. Then, the abstract, keywords, introduction, discussion, and conclusion of the 38 articles were manually checked and those irrelevant to the topic were eliminated. These procedures yielded a final set of 21 studies. Since this is an emerging topic, the majority of journals have published only one article. The articles contained in the literature review are marked with an asterisk in the section of References.

Coding Rules

As previously mentioned, this literature review collects studies across multiple disciplines. In the coding process, an attempt was made to use the same standard to extract similar information from papers in various disciplines to improve reliability. In the coding sheet, the types of studies (e.g. conceptual article & empirical article), sample size, methods for empirical articles (e.g. case study, survey, & database), economic sector (manufacturing & service), type of capabilities (strategic agility, human resource capability, dynamic marketing capability, etc.), countries and regions, key issues examined, and results and conclusions were recorded. Limitations that are not included in the coding sheet will be addressed in the discussion section to aid in identifying fruitful future directions (Schilke et al., 2018). After the first round of coding, an external researcher was invited to conduct a blind check of the coding sheet so as to ensure the reliability of the coding. Table 1 presents the coding sheet in details.

FINDINGS AND DISCUSSIONS

As mentioned earlier, this study focuses on how to build up emerging market firms' dynamic capabilities through sensing, seizing and reconfiguring processes (Teece, 2007; Kump, Engelmann, Kessler & Schweiger, 2019; Khan et al., 2021). Hence, all selected studies attempted to answer a similar question, which is what capabilities do emerging market firms have and how do these capabilities emerge and evolve so as to help firms survive challenges. With the economic rise of emerging market countries, more and more scholars have begun to pay attention to the dynamic capabilities of emerging market firms. Generally speaking, compared with dynamic capabilities in general, dynamic capabilities of emerging market firms have not been examined by many

researchers. More scholarly is needed to derive and extend the theory of dynamic capabilities in emerging markets. Within the final set of 21 studies, 67% of studies were published in last four years, which demonstrates that researchers have devoted significant increasingly attention to address issues in this field. However, this is far from a mature research topic and needs more attention.

As we have mentioned earlier, researchers in this field still struggle with the definition of dynamic capabilities. They question whether dynamic capabilities exist, or if scholars are just “putting new wine into old bottles”. Hence, how firms gain dynamic capabilities over time and what is the outcome of dynamic capabilities have become practical questions for scholars in this field. Ultimately, empirical research can better answer these questions (Schilke et al., 2018). Within the final set of 21 studies, 86% are empirical studies and only 14% are conceptual, which shows that the theory development emphasizes a more empirical data support direction. Within the empirical studies, most of them conduct case studies or use survey data. 39% of studies adopted a case study method, 44% adopted a survey method, and only 17% were based upon secondary data. The limitation of the data fully proved the theory is in initial stage of its development, which is consistent with a previous literature review by Schilke et al. (2018). Within the existing studies, 61% of studies did research in the manufacturing sector and 11% of studies did research in the service sector. Although blurring industry boundaries makes business environments increasingly dynamic, we still find it more difficult to collect data to measure dynamic capabilities in service industries than in manufacturing industries (Zhou, Zhou, Feng, & Jiang, 2019). We coded the remaining 28% studies as mixed sector because some of them collected data from both manufacturing and service industries,

while a few others did not mention the economy sector. 78% of studies collected data from a single country and 22% of studies collected data from multiple countries or regions. Among the single country studies, 50% collect data in China and India, demonstrating the strong economic development momentum of these leading emerging market countries and that firms in these emerging markets are more likely to achieve superior performance (Tattara et al., 2018).

Existing articles across different disciplines analyze the dynamic capabilities that emerging market firms have or need to have. Although studies all use the process of dynamic capabilities as the fundamental theory, their emphases are different. At the corporate level, some studies focus on technology capability (e.g., Turulja et al., 2018), some focus on knowledge management capability (e.g., Dong et al., 2016; Turulja et al., 2018; Pereira et al., 2019), and some focus on human resource capability (e.g., Kumar et al., 2014; Turulja et al., 2018; Mostafiz et al., 2019). At the managerial level, studies are more focused on how to use processes to help entrepreneurs or top managers improve their capabilities to sense opportunities, seize opportunities and reconfigure internally (Mostafiz et al., 2019). The interdisciplinary studies discussed how to use dynamic capabilities to help firms achieve sustainability (Zhang et al., 2018), or to help firms seize opportunities in the market to achieve greater market share (Kumar et al., 2014; Ngo et al., 2019). Additionally, several other studies explained how to build strategic agility through sensing, seizing and reconfiguring processes of dynamic capabilities (Fourne et al., 2014; Pereira et al., 2019; Irfan et al., 2019).

It is not difficult to illustrate that these research emphases and findings on emerging markets dynamic capabilities are relatively scattered, and there has not been

much development and extension of the theory over time. Although there has been a significant increasing focus on the research of emerging market dynamic capabilities, the findings have not greatly promoted the development of theory. For example, studies confirmed previous research finding but did not identify what kinds of dynamic capabilities can be more effectively used to overcome challenges (Amui, 2017). Also, studying a single emerging market country (e.g., China and India) may not be representative of dynamic capabilities building in other countries due to the complexities and particularities of different emerging market countries (Jiao et al., 2019). An emerging market in many ways implies more opportunities and changes (Ma et al., 2015). Based on the 21 studies we reviewed, there may be several reasons for that. First, the theory is still in its initial stage of development in emerging markets, and it will take several years to clarify the definition and conduct of dynamic capabilities in this setting with more in-depth research within the theory. Some studies have stayed in the conceptual stage and will require future empirical results to confirm the propositions (Degbey et al., 2021). Second, the lack of data limits the rapid development of the theory. Most studies are laboratory and exploratory in nature and can only offer conceptual frameworks (Deng et al., 2020). However, single case studies cannot fully explain dynamic capabilities building in emerging markets (Dong 2016). And cases may have idiosyncratic characteristics, which makes it difficult to generalize the findings to other firms and other emerging countries (Ellonen, 2009; Hong et al., 2019; Irfan et al., 2019). Some studies highly rely on primary data, but the lack of secondary data does not help with methods improvement, such as could be obtained through longitudinal studies and mixed methods studies (Akter et al., 2020). Third, the particularities of individual emerging markets

increases the difficulty of research, including methods. For example, most case studies and survey data adopt a cross-sectional approach to collect data, which limits the ability to track of changes over time (Akter et al., 2020).

CONCLUSIONS

The paper has reviewed the literature on dynamic capabilities of emerging markets that has been published over the past two decades. We aimed at producing an integrative paper, embracing key strands of the literature that have analyzed dynamic capabilities from different perspectives. By doing so, we tried to create a common platform of dialogue that connects various disciplines, taking onto account their differences and focusing on the similarities.

This paper focuses on the economic context of emerging markets and teases out differences withing the literature based on types of studies, research methods, data sources, etc. It deepens and broadens our understanding of the antecedents and outcomes of different dynamic capabilities building processes (Protogerou, Caloghirou, & Lioukas, 2012; Schilke et al., 2018). The understanding of dynamic capabilities clarifies the relevant theories behind the view of dynamic capabilities, including its microfoundations and across disciplines. Due to the 21 articles analyzed in this review examining dynamic capabilities across disciplines with research directions that are very scattered, we cannot conclude with confidence regarding the similarities of the findings and theoretical contributions across these studies. At the same time, we pointed out the problems and limitations of dynamic capability research in emerging markets; that is, most studies still collect data in the form of interviews or surveys, and they use case analysis to illustrate their viewpoints and arguments (Dong, 2016; Hong et al., 2019). However, we need to

put more efforts in the mining of databases as well as the measurement of different variables. Data limitations may result from two factors. One is that most databases of emerging market firms are unreliable and incomplete; hence, this can cause biases in the process of data argumentation. The other limitation is that the dynamic capabilities of emerging markets are still in the early stage of development. If emerging market firms do not have or do not know whether they have these capabilities, then it becomes difficult to demonstrate the process of building the capabilities. As dynamic capabilities are repeatedly mentioned in emerging markets, we expect that the development of dynamic capabilities will significantly improve over time. At the same time, we also suggest that scholars should consider mixed-methods to improve the rigor of research instead of just using interviews or surveys to collect data (Schilke et al., 2018). Overall, as the first literature review of the process of developing dynamic capabilities in emerging markets, this article has contributed to the field of dynamic capabilities and help fill a gap in this specific area, and expanded the research to new dimensions.

As with any research, there are limitations associated with this study. Because this article only focuses on the economic context of emerging market countries, and only focuses on the process of developing dynamic capabilities, it will inevitably miss other aspects of dynamic capabilities. Future literature reviews on emerging markets can be considered to focus on other aspects of dynamic capability theory. At the same time, because this article has a unique focus, and because this theory has not been fully developed in emerging markets, the number of sample articles is small. We expect that these limitations can be made up by future scholars over time.

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APPENDIX A
TABLE 1: Coding Sheet

Authors (year)	Methods	Sample	Economic sector	Capabilities	Country and regions	RQ	Results
Fourne 2014	Case study	7 MNCs	manu	Strategic agility	Mixed	What factors improve strategic agility?	(Modular organizational systems, integrative thinkers in the TMT, and HR systems) →strategic agility →DC
Kumar 2014	Case study	1	service	human capital, marketing, innovation, customer relationship, and project management.	India	How these capabilities emerge and evolve in a born global firm?	Dynamic ability is the result of the symbiosis of experience and deliberate learning process, produced in a changing pace, changing industrial and international business environment.
Ma 2015	Case study	5 start-up firms;	manu	sensing, seizing, reconfiguring	China	What dynamic capabilities that start-ups have? How they emerge and evolve in the emerging market of China?	(1) the ability to perceive opportunities depends on the entrepreneur's existing knowledge and past experience, and the ability to quickly adapt to external feedback over time; (2) the ability to seize opportunities and act quickly depends to a large extent on the mobilization and orchestration of external supplementary resources; (3) can reorganize internal resources and external contacts.
Henisz	Conceptu	-	-	sensing, seizing,	-	What does	Through corporate diplomats;

2016	al article			reconfiguring		stakeholders play a role in dynamic capabilities?	play a central role not only sensing risks and opportunities in the external environment, but also in shaping short- and long-term strategic responses.
Dong 2016	Case study	1	manu	Dynamic knowledge capability	China	How a firm's knowledge management contributes to its capability catching-up and adaptation in emerging economies?	First should focused on one particular knowledge capability to align with its competitive strategy. The longitudinal capability building enables the firm to possess a healthy portfolio with multiple knowledge resources and capabilities.
Konwar 2017	database	254	manu	dynamic marketing capabilities	India	Examine the role of dynamic marketing capabilities in developing economies.	DMC assist FOAs to gain better sales performance in an emerging market.
Zeng 2017	Case study	2	manu	DCs, meta-capabilities, network	China	How firms develop, manage, and deploy dynamic capabilities to renew their resource?	Dynamic capability assists repeatedly renew the firm's overall capability set as a fully integrated package.
Zhang	Survey	321	mixed	DCs for	China	How strategic	Organizations need to

2018				sustainability		contingency makes differences in the transformation between learning and performance resources through innovation efforts?	embrace an ecological strategy and engage employees in learning.
Turulja 2018	Survey	395	mixed	IT capability, knowledge management capability, HR capability	South Eastern Europe	To clarify information technology capability, knowledge management capability and human resource management capability on organizational business performance.	IT capability enhances HRM capability which enhances KM capability. As a result, KM capability together with IT capability enhances organizational business performance.
Ngo 2019	Survey	150	mixed	technology and market sensing capabilities	Vietnam	How do explorative and exploitative innovations, linked to the extent of firm	A firm's ability to compete in a complex market depends on its possession of adaptive capabilities.

						ambidexterity, affect firm performance?	
Jiao 2019	Survey	370	manu	Dynamic capabilities in general	China	Which two types of commercial partnerships (business partner and non-business partner) affect the collaborative innovation of firms in emerging economies?	(1)strong business relationships with business partners have a more positive impact on collaboration. (2) the innovation ability of non-commercial partners is weaker. (3) When a company's performance is high, the positive influence of business partners on collaborative innovation will be weakened
Md Imtiaz Mostafiz 2019	Survey	two waves of data (168/205)	manu	dynamic managerial capabilities, human capital, social capital, cognition	Bangladesh	The evaluation of dynamic managerial capability scale in the context of early internationalizing firms from an emerging economy.	Dynamic capability is a valid and reliable scale to capture the individual-level capability of entrepreneurs.
Pereira 2019	database	4128	mixed	agility and knowledge management	Mixed	Analyze the impact of dynamic capability of EMNEs on their firm	Higher investments in DC allow EMNEs to be more agile and gain competencies through KM.

						technological performance.	
Cezarino 2019	case study	1	manu	organizational capabilities, environmental capabilities, capabilities for sustainability	Brazil	Examines the factors that support the development of dynamic capabilities towards sustainable management.	the organization has developed new ways to change and adapt in a disturbing environment (1) integrative strategy (2) sustainable culture and (3) organizational routines for innovation.
Parameswar 2019	database	102	manu	adapting and reconfiguring collaborative relation	India	Explore dynamics of post termination interaction between international joint venture (IJV) partners.	The choice of post-IJV termination interaction between IJV partners as supplier, complement or competitor is influenced by interdependence, bargaining power, foreign partner's purpose of IJV, complementarity and type of IJV termination.
Irfan 2019	survey	148	manu	supply chain agility	Pakistan	Which firms can achieve supply chain agility?	Supply flexibility mediates the effect of PI on supply chain agility. Supply chain agility influences firm performance.
Hong 2019	case study	3	-	visionary entrepreneurial leadership; program quality excellence; scale growth and scope expansion;	India	Examine how three organizations in different industries manage change, growth	Visionary entrepreneurial leadership; program quality excellence; scale growth and scope expansion; network capabilities; and sustainable stakeholders' engagement.

				network capabilities; and sustainable stakeholders' engagement.		and transformation in their organizational ecosystem?	
Md Imtiaz Mostafiz 2019	survey	365	manu	dynamic managerial capabilities, human capital, social capital, cognition	Bangladesh	Establish the antecedents and the outcomes of foreign market knowledge accumulation in emerging economies.	Managerial social capital and managerial cognition positive affect FMK accumulation. FMK mediates the relationship between: managerial social capital and financial and non-financial performances and managerial cognition and financial and non-financial performances.
Deng 2020	Conceptual	-	-	recognizing, leveraging, learning	-	Examine how EMNCs help form learn, integrate, build, reconfigure internal and external ordinary resources.	three strategies for EMNCs international expansion: sequential international ambidexterity and structural international ambidexterity.
Gounaris 2020	survey	118 managers, 543 team members	service	sensing, seizing, reconfiguring	single country	The impact of perceived resource adequacy and competence on new service	PRA and PRC are important in explaining NSD teams' IP at the organizational level.

						development teams' internal performance.	
Degbey 2021	Conceptual	-	-	sensing capacity, seizing capacity, reconfiguration capacity	Africa	How dynamic capabilities help African EMNEs to achieve competitiveness?	Sensing, seizing, and transforming help with African EMNEs' cross-border M&A competitiveness.

CHAPTER III: EMERGING MARKET FIRMS' DYNAMIC CAPABILITIES: CASE
STUDIES IN CHINA

INTRODUCTION

In recent years, the attention of the International Business and Global Strategy fields to the firm's dynamic capabilities has increased significantly (Barreto, 2010; Fainshmidt et al., 2016; Schilke, Hu, & Helfat, 2018; Bitencourt et al., 2020). Globalization brought about closer ties between countries, and political and economic environmental changes in one country, particular major countries, will have a profound impact on other countries in the world. Previous research has demonstrated the importance of dynamic capabilities to company development (Teece et al., 1997; Eisenhardt & Martin, 2000), which extends the theory of the resource-based view. Dynamic capabilities focus more on the firm's ability to obtain capabilities in response to a rapidly changing environment. These capabilities help firms to make better use of their resources and sustain their competitive advantages (Penrose, 1959; Barney et al., 2001, 2001a, b; Zahra & George, 2002; Wang & Ahmed, 2007). Although dynamic capabilities play a vital role in advanced economies, unfortunately, less attention has been paid to dynamic capabilities in emerging markets (Luo, 2000; Weerawardena et al., 2007; Teece, 2014). Emerging market firms have gone through significant change processes, and need to develop and manage capabilities in these processes to better use their resources and sustain their competitive advantages. In particular, China is one of the largest emerging markets which has received significant academic attention, but has not been investigated by many scholars with respect to the dynamic capabilities of its firms (Li & Liu, 2014; Teece, 2019). Given its stature in the emerging markets literature, it might be a

particularly suitable context to provide results to inform other emerging market settings. Moreover, due to uncertainty and unpredictable changes in the economic and political environment in China, there are countless possibilities to investigate variation within this market (Williamson, 2016). Given the importance of research on capabilities in emerging market firms and the fact that we do not understand capabilities in emerging market firms well, our research question is how do firms develop dynamic capabilities in emerging markets?

Dynamic capabilities are essential to firm development. Theoretically, all companies should strive to obtain a strong position in their markets. Moreover, once they obtain this position, they should strive to maintain it, which requires firms to understand their capabilities and use their capabilities dynamically. Teece et al. (1997: 516) defined dynamic capabilities as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.” A firm’s ordinary capabilities enable it to perform its current activities efficiently. Dynamic capabilities are “strategic” and distinct from ordinary capabilities, and enable firms to perform their current and future activities efficiently and effectively under conditions of change (Teece, 2012).

While advanced market MNEs seek to develop and exploit new capabilities, emerging market firms are often stuck trying to catch up to advanced market MNEs due to their complicated country contexts (Awate et al., 2015). Emerging market firms have to overcome poor governance and accountability, lack of global experience, limited managerial competence and professional expertise, and weak technological and innovation capabilities (Luo & Tung, 2007). However, not all is negative when we focus

on emerging market firms' capabilities. Cuervo-Cazurra and Genc (2008) argued that having weak institutions in an emerging market can be a relative advantage when firms need to face more difficult governance conditions in unpredictable environments, or when firms need to move to another emerging market with worse institutions. Therefore, it is crucial to understand what capabilities emerging market firms enjoy and how these firms build these capabilities in uncertain institutional contexts (Ramamurti & Singh, 2009).

Since multiple definitions of dynamic capabilities exist, scholars debate not only their perspectives of how to define the concept (what are they?), but also the dimensions of dynamic capabilities (how do they help firms sustain capabilities?) (Ludwig & Pemberton, 2011; Schilke, Hu & Helfat, 2018). In this study, instead of focusing on firms' expansion (e.g. M&A) (Deng, 2009), we are interested in how firms gain capabilities through the development process of sensing, seizing and reconfiguring. To better understand this, we mainly focus on in-depth case analyses, hoping to demonstrate the processes of sensing, seizing, and reconfiguring empirically. Instead of following previous literature and focusing mainly on innovation and change in technological high-tech industries, our cases come from traditional high-tech and low-tech industries, within the manufacturing and service sectors (Wu, 2007; Qaiyum & Wang, 2018; Colombo, Piva, Quas, & Rossi-Lamastra, 2020). Given a combination of inefficiencies and slower innovation in low-tech industries, it seems that low-tech industries should be more concerned about their dynamic capabilities (Woetzel et al., 2017).

Prior research has investigated the importance of the dynamic capabilities process in advanced countries (Kanta Ray, Ida, Suh & Rhaman, 2004; Woiceshyn & Daellenbach,

2005; Newbert, 2005; Heider, Gerken, van Dinther, & Hülsbeck, 2020). We seek to contribute by developing theory analyzing how firms develop dynamic capabilities in emerging markets. Instead of focusing on technological high-tech companies, we focus on traditional industries (Ester, Assimakopoulos, Von Zedtwitz, & Yu, 2010). We analyzed our study cases, focused on how firms gain capabilities, and confirmed that the process can be applied to emerging markets. More importantly, we included *anticipating* in the development process and raised the point that firms need to be able to anticipate external changes within uncertain political and economic environments. Our managerial contribution is to enlighten other emerging market firms' managers on how to anticipate and then to sense, seize, and reconfigure in today's unpredictable and continuously turbulent environment.

LITERATURE REVIEW

Dynamic Capabilities

Firms realize the importance of their capabilities because capabilities allow them to compete in the market. Firms always look for strategic capabilities that are hard imitate (Stalk, Evans, & Shulman, 1992). Dynamic capabilities, which differ from strategic capabilities, reflect a firm's ability to actively adapt its resource base and to address a rapidly changing environment (Teece et al., 1997). If a firm possesses resources/competencies but lacks dynamic capabilities, it has a chance to make a competitive return for a short period, but superior returns cannot be sustained (Augier & Teece, 2009). Similar to Teece and his colleagues, several other scholars also consider dynamic capabilities as the firm's process to integrate, reconfigure, gain and release resources to match or to create market change (Kogut & Zander, 1992; Henderson &

Cockburn, 1994; Eisenhardt & Martin, 2000). Augier and Teece (2009) highlight that dynamic capabilities play distinctive roles in selecting and developing routines, making investment choices, and in orchestrating nonreadable assets to achieve efficiencies and appropriate returns from innovation. Peng et al. (2009: 65) stated, “Dell’s capabilities in the “flexible manufacturing” of PCs added value when the competition was moderately dynamic. However, in the new context of high velocity, dynamic competition, Dell’s ‘flexible manufacturing’ capabilities turned out to be not flexible enough.” Firms not only need to have capabilities, but the capabilities also need to be dynamic. Dynamic capabilities influence firm performance, which enables firms to optimize firm processes and affect ongoing changes (Teece & Pisano, 1994; Teece et al., 1997; Ambrosini & Bowman, 2009).

Teece (2007) divides dynamic capabilities into capacities to sense, seize, and reconfigure. *Sensing* is the ability to notice changes in the competitive environment, such as technology changes, market changes, and regulation changes (by identifying opportunities and threats) (Ambrosini & Bowman, 2009; Birkinshaw, Zimmermann & Raisch, 2016). *Seizing* is the process of obtaining opportunities through planning strategies, communicating them, and providing structure for action to capture value (by choosing among possible actions, making investments, and deploying resources) (Teece, Peteraf, & Leih, 2016). Scholars like Harrell, O'Reilly, and Tushman (2007) also explained dynamic capabilities in terms of sensing (strategic insight) and seizing (strategic execution). *Reconfiguration* is putting a plan to action, which changes the organization, creates value, and sustains profitability (by reconfiguring and transforming organizations, their resources, and capabilities) (Girod & Whittington, 2017).

Additionally, in order to help develop the firm's dynamic capabilities, managers need to be able to sense changes in the external environment accurately, and they need to be able to seize them by reconfiguring "both tangible and intangible assets to meet new challenges" (Harreld et al., 2007: 25).

Rich literature has been published on dynamic capabilities in advanced country contexts (Heider, Gerken, van Dinther, & Hülsbeck, 2020); however, emerging market research is scarce. At the same time, the process of dynamic capabilities has been well examined in advanced countries (Wagner, Wenzel, Wagner, & Koch, 2017). This study extends the attention to emerging markets, where firms face greater environmental changes and threats. Hence, we attempt to fill the gap: (1) how do dynamic capabilities influence emerging market firms? (2) how do traditional industry firms develop their dynamic capabilities?

METHODS

Given that the objective of this study was to analyze how firms develop dynamic capabilities in emerging markets, we employed a multiple case study approach from in-depth interviews (60 to 90 minutes). The reasons for this are several. First, the focus on dynamic capabilities in emerging markets lacks an extant body of both theory and data. Second, qualitative studies help unfold the process of dynamic capabilities and dig deep into "how it works." The case study has been demonstrated as a useful tool for theory development, which in our case provides details regarding a firm's development of capabilities (Brouthers & Bamossy, 1997; Eisenhardt, 1989; Larsson, 1993; Yin, 1992). Using a multiple case approach strengthens the results by replicating the patterns and then increasing the robustness of the findings (Eisenhardt, 1989; Yin, 1994). We selected

cases from both manufacturing (high-tech and low-tech) and service traditional industries in the emerging market of China, for the purpose of developing findings that could be generalizable across different industries rather than be limited to one industry (Bourgeois III & Eisenhardt, 1988; Eisenhardt & Graebner, 2007).

From May 2018 to July 2018, we spent three months in China, interviewing CEOs or top managers who are in charge of the strategic development of their firms and are familiar with the histories of their companies. We identified interview subjects through alumni and faculty contacts of a major research school in China, focused on executive education, combined with personal contacts. This research school's EMBA and MBA programs are among the highest quality programs in China, and the school has developed rich alumni resources across a comprehensive industry range. The sample selection process is listed as follows. First, the school alumni office sent out an invitation email to qualified companies inviting them to participate in this research. The qualified companies should be Chinese Emerging Multinational Companies (EMNCs) with at least ten years history in either manufacturing (high-tech and low tech) or service industries. The companies had to be in operation for at least 8 to 10 years in order to develop dynamic capabilities (Yan & Gary, 1994). Additionally, qualified companies could be either state-owned or private-owned EMNCs. Second, we arranged interview dates and times with the EMNC companies that agreed to be interviewed. Participants who agreed to be interviewed were sent an email invitation letter, including the interview purpose, researchers' bios, the interview format, and a list of general questions in advance to help them adequately prepare. With the permission of interviewees, we recorded the interviews. An interview protocol ensured the confidentiality of the interviewee's name

and company name. During the 60-to-90-minute interviews, after gaining information on the companies' development histories, we mainly questioned interviewees on how their firms develop dynamic capabilities in China (e.g., How does your firm develop sensing, seizing, and reconfiguring opportunities, and do these capabilities sustain your company in the face of unpredictable changes (and how)?). In order to reduce the effects of memory biases and ensure the accuracy of the information, we requested the most knowledgeable interviewees and sent transcripts to the interviewees to double-check after the interviews were finished (Huber & Power, 1995). We followed Lincoln and Guba (1985) and conducted coauthor checks to ensure the accuracy of the interview data. In addition to interviews, we used external resources as information supplements, such as newspapers and magazines, company official websites, annual financial reports, and published case analyses (Yan & Gray, 1994).

Insert Table 2 and 3 about here

For this manuscript, we selected three prototypical cases (company A, B, and C) with comprehensive information from the interviews conducted during this period. We use the remaining cases for robustness tests. Tables 1 and 2 present a brief description of each of the three prototypical cases. Specifically, company A comes from a low-tech manufacturing industry. It is an industry-trade company exclusively selling and distributing a series of A brand bicycles and parts. Company B comes from a service industry. It is one of the largest interior design companies in Asia. Company C comes from a manufacturing high-tech industry. It is a well-rounded pharmaceutical equipment enterprise, which provides private process support, core equipment, integrated systems, and pharma engineering for the pharma and biotech industry. Since most studies in the

dynamic capabilities literature focus on technological high-tech industries, we believe comparing these cases provides valuable information regarding the applicability of our theory beyond high-tech settings (Wu, 2007).

Interview recordings were transcribed into Chinese. Then, one of this manuscript's authors and an outside researcher translated and back-translated the Chinese transcripts into English versions. While trying to analyze the data from the transcripts in these three interviews, we sat together and interpreted key terms and passages before individual coding (Gioia, 2013). Then, we coded the three interviews individually by extracting useful key terms and passages in an Excel document. Potentially useful quotations were also added to the Excel document for future use. The interviews have been coded from the environment, product, market, leadership, organization, process, human resources, and internationalization perspectives. In each perspective, two authors independently assessed the process of sensing, seizing, and reconfiguring. For example, in the market perspective of an interview, an interviewee from company A said, "We found a child between the ages of 7 and 13. His height does not fit the little kids' bicycles anymore, and he could not ride adult bicycles yet". Since this is the stage of finding opportunity and change, we coded it as "sensing." Another statement noted that "We did research in this niche market and decided to produce new products to satisfy customers in this market." This is the process of planning strategies, and we coded it as "seizing." A third example relates that "Then after we designed and produced, a new product comes out and we call it students' bike, that is for the age of 7 to 13 years old kids to ride to school." This is the stage that the company puts a plan to action and adds more value to sustain capabilities. Accordingly, we coded it as "reconfiguring."

In addition, for each perspective, we independently searched for internal and external changes affecting the companies. For example, an interviewee in company C mentioned that “after 2000, the country brought in GMP (Good Manufacturing Practice) certificate, and it changed the standardization in the pharmaceutical industry.” This is a description of regulations and policies change, and we coded it as “regulations change.” After independent coding of the interviews, we compared coding documents. If agreements about some coding were relatively low, the data was revisited to generate a better understanding of the dissenting part (Campbell, Quincy, Osserman, & Pedersen, 2013).

After the three individual interviews were coded by the two authors, we created a chronology of events to list what each company did in the timeframe of the case. Based on these timelines, we wrote a detailed case description for each interview, including internal and external changes that affected the companies. Then, we analyzed and compared the three cases for similarities and differences through the process of sensing, seizing, and reconfiguring. After the comparison, we extended the theory with major findings. (Please find example quotations in Table 3, 4 and 5.) Based on the analysis, we generated a theoretical model with the major findings. (Please find the model in Figure 1.)

Following our analysis of our three prototypical cases, as a robustness test, we then analyzed three additional cases (company D, E, and F). To ensure consistency with our earlier analysis, these three cases come from traditional manufacturing and service industries (Eisenhardt, 1989; Yin, 1994; Eisenhardt & Graebner, 2007). Our robustness check confirmed our prior findings. While the robustness results are not presented in detail below, some representative quotes are included in Table 4 and Table 5.

In the next section, we present a detailed comparison across our three original prototypical cases.

CASE SUMMARY AND ANALYSIS

Case 1: Company A

Company A is an industry-trade company exclusively selling and distributing a series of A Brand bicycles and parts. While Company A registered its brand in 1959, it targeted not only the Chinese market but also the global one. At that time, domestic bicycle production was in short supply and little competition existed in the domestic market. Hence, almost no competitors had the intention of exporting. Also, due to different measurements between the Chinese market and several major Western ones (metric vs. inch; e.g., Canada, U.K., U.S.A.), exporting was even more challenging, as the company had to produce bicycles by switching between the two measurement systems. Nevertheless, Company A sensed the difficulty not only as a challenge but also as an opportunity. It seized the opportunity promptly and overcame technological and managerial problems, and then successfully opened up the international market with its inch-measured bicycles. China was in a planned economy from the 1960s to the 1970s, which required that exports had to be carried out through foreign trade enterprises. In international trade, Company A's strategy was different from other companies, which did OEM and worked for other brands. In contrast, Company A persevered in making its own brand and spared no effort in quality assurance. Gradually, Company A built its own brand reputation not only in the domestic market but also in the international market. In the process of grasping opportunities constantly and maintaining product quality, Company A's brand could be maintained and developed.

In 1993, Company A reached its production capacity peak. Moreover, it also listed A-shares and B-shares in the Shanghai stock market in the same year. Nevertheless, the large-scale production and sales volume led to the gradual detachment of this company from the market. Additionally, due to the fact that China was at the initial stage of reforming and opening up, the domestic society had undergone tremendous changes. Many foreign-funded enterprises entered the bicycle market in the form of joint ventures. Also, a large number of low-cost, private enterprises joined the competition. In the meantime, there were changes in customer behaviors and distribution channels, which significantly affected the decrepit enterprise of Company A. As a consequence, Company A's performance declined rapidly. In 2010, Company A made a system reform from a state-owned enterprise to a joint venture enterprise with the introduction of non-government capital into the company (via Management Buyout, MBO). After the MBO in 2010, Company A has become more flexible in management and strategic decisions. For instance, the management team can hire and fire employees, which was difficult to do previously as a state-owned company. The enterprise can empower employees to make decisions as well. Since then, the company has developed in a better direction.

Case 2: Company B

Company B was founded in 2004 in Shenzhen, China, and was one of the biggest interior design companies in Asia that year. As the first interior design company that was listed in the Shenzhen A-share stock market on June 19th, 2017, it was also ranked 31st among the Top 100 industry giants in the world in 2018 in the U.S.-based Interior Design magazine. Additionally, it placed 3rd in retail design, which was the highest ranking for an interior design company in both Asia and China. Company B has already set up

regional branches in Hong Kong, Beijing, Shanghai, Dalian, Wuhan and Xi'an, and mainly runs three design areas, including a commercial complex, transportation complex and healthcare complex. It boasts more than 600 international designers, who specialize in architecture, interior, M&E, sign system, lighting, decoration and intelligent design, with projects covering shopping malls, hotels/properties, offices, healthcare, public buildings and transportation.

At the initial stage of the company's foundation, Company B was quite flexible in project selection, as long as the project was going to build a large public space. After a few years, Company B became a comprehensive design enterprise engaged in different industries with a wide business scope. However, the company still maintained its high flexibility despite the increase in its size. Whenever Company B encountered significant challenges in a certain segment, it was able to withdraw from this segment and stop losses in a timely manner. For instance, it temporarily quit the healthcare segment.

“hospitals and other government departments do not pay attention to interior design, because it controls the cost, so the government prefers to hire the Architectural design institute to finish the job. And the Architectural design institute was looking for design companies who have lower quotes, so you can see that the quality in public hospitals is very low, the floors will be laid out casually, the walls will be done casually, and the whole function design is not reasonable. That was the fast-growing period in China. Everyone's requirements for quality were not so high, so we decided to quit this segment. I didn't say that it was dead. I just didn't focus on this field at that moment.”

The company left the railway segment decisively again as a result of the corruption within the segment, but it did not leave the segment fully, as it still kept a team in this field and prepared to return.

In 2013, Company B established its wholly-owned subsidiaries, Sub 1 (Hong Kong) and Sub 2 (R&D Center). To enhance the enterprise's comprehensive forward-looking design ability and service quality, multi-cultural international employees are recruited by Sub 1. Multi-speciality cooperation increases the integrative service of Company B. In the meantime, the founding of Sub 2 enables Company B to be more professional in R&D. In addition, the enterprise recruits 10% more international employees annually. In the design industry, fresh blood and better vision have been infused by young talent. Company B always gives priority to innovation (SOHO Vita is a typical example), and encourages designers to innovate by holding a "Foresight Design Salon." This salon also shows the industry that Company B has a different vision, and it desires to make contributions to the industry, thus making it stand out in this industry.

Case 3: Company C

Company C was a well-rounded pharmaceutical equipment enterprise founded in 1993 in Shanghai, China, which provides private process support, core equipment, integrated systems and pharma engineering for the pharma and biotech industry. Since its foundation, Company C has supplied over 8,000 systems and pieces of equipment to 2,000 pharmaceutical enterprises, spanning over 40 countries and regions globally. Such equipment and systems are widely used in the fields of liquid and lyophilization injectables, chemical Active Pharmaceutical Ingredient (API), bioengineering and pharma packaging, etc. During 1993-2001, Company C advanced steadily. Prior to 2001, the entire pharmaceutical industry in China was relatively weak and needed governmental support. As of 2001, pharmaceutical companies blossomed everywhere.

Then, the Chinese government decided to rectify and regulate the industry. It stipulated that pharmaceutical enterprises should get Good Manufacturing Practice (GMP) certification to continue to develop within the industry.

“This certificate is the key guarantee of equipment production in pharmaceutical companies. Those primitive and crude productions may not meet the standard; therefore, it requires companies to change their operation principles, aspects of the process, hardware, etc. Under such environment change, our company got the opportunity.”

Company C was able to sense the opportunity and keep up with the pace of national reformation, and it realized the need for changes in not only craftsmanship, but also in the pharmaceutical philosophy. Hence, changes in the external environment and laws and regulations have offered Company C an opportunity to stand out in the industry. Meanwhile, the nature of the drug demand has changed gradually from chemical drugs to biological products, blood products, and cellular drugs. Particularly, with the outbreak of the SARS virus in 2003, there was an explosive demand for biological product breeding in the society. The market, the timing and the environment prompted Company C to greatly improve its production capacity.

In the global pharmaceutical industry, the requirements for injections are the most rigorous, as these are placed into the body or blood directly. Hence, the equipment needed for injections is the strictest as well.

“.....regulatory requirements are increasingly strict, the requirements for injections are the highest because it is directly gone into the body or blood. So, for the three different categories, the level is different, and the degree of influence on people is different as well.....”

One of the strong points of Company C lies in its manufacturing of injection equipment (biological products, pharmaceutical products, and various vaccines). The market regulations and the firm's strengths impelled it to go toward rapid development.

Furthermore, Company C concentrates on R&D and technological applications. The requirements are from the demands of clients who generally come from international pharmaceutical enterprises, which have been ahead of the domestic market for many years in product efficacy. In general, the principle and pharmaceutical formulations are very similar. So, where is the difference? The difference exists in the pharmaceutical process.

“For example, you always feel different efficacy between imported drugs and domestic drugs. The principle and chemical formula are almost the same, but why is the efficacy different. The differences come from the process, the control during the production, and the technology. Just like the bread we are eating every day. The recipes are the same, but good bread from a good bakery is very tasty.”

In this way, the technical requirements in the pharmaceutical process are very high. To satisfy client needs, Company C has invested in R&D and technology more heavily.

“We have our own laboratory, it (is) equipped with very expensive instruments, like freeze-dried microscope originally from British. We are the first one to bring in this instrument.”

At that time, Company C was advanced in the domestic market in terms of R&D and technology. Nevertheless, in the international market, there was a large gap between Company C and advanced enterprises.

In 2002, Company C established its international strategy and set up its own international department. Moreover, it mainly paid attention to getting orders from foreign countries, which is an internal change for the enterprise. At the time it became international, its overall ranking in the world was low. As all the machines and devices must be customized, Company C needed to communicate frequently with customers. In the communication process, Company C realized the cognitive disparities between itself and advanced enterprises.

“Our products are all customized, when we communicate with our clients, we felt (it was) super difficult to understand the principle behind the process. For example, we are producing a pipeline. We thought it was easy because we only need to connect it. To make it look beautiful, we can even design a right angle. But the foreign expert disagreed with that. They said we must design a curve or arc. We didn’t understand at that time because we never had the concept in the domestic market and nobody did the same thing in China. But it makes sense after they explained. The machine can't have a dead end. If you are making a right angle, it must have a dead head when you rinse and sanitize it, and the angle cannot be cleaned. If you make a circular arc, the angle will be easy to be cleaned, rinsed and sanitized.”

Something that was considered to be simple by Company C was not, in fact, simple. Moreover, many design hazards will show up only in operation or in maintenance.

“Our equipment looks perfect if you only see from outside, but when you go to the actual operation level and the later management and control, to the later verification aspects, the problems and the potential risks come out.”

Also, Company C found that foreign clients require a file system attached with each device.

“when a device/equipment is handed over to them, they want the file system, not only the file. It is the file system, like the operation manual in the car. We didn't understand it at the time. So, they explained, if I don't know how you produced it, how do I know that you are doing it very seriously? I don't know how you did it, when the problem comes out, how do I maintain my equipment? So, the clients want to understand the whole process.”

Initially, the company felt that the file system was redundant, but later, it realized the value of the system after explanation and communication. Thus, it agreed to prepare the file system attached to each device/machine, and it was the first enterprise in China with its own file system. It was a constant learning process full of Company C's deep reflection. By continuously exchanging and communicating with foreign enterprises, Company C succeeded in gaining both advanced manufacturing concepts and principles and customer trust. Evidently, these well-established relationships benefited Company C a lot.

“Foreign clients think it is appropriate and necessary to have the files. but in the domestic market, many competitors think it is an obstacle, it is a troublemaker. Thus, clients feel we are trusted suppliers.”

In some cases, business may not have been achieved, yet Company C did not give up and continues to communicate with advanced companies with a learning attitude. This approach to business can be attributed to the company's forward-looking attitude, making it not confined to immediate gains. What matters most is that the enterprise is skilled in learning, and can keep up with technological developments in the international market. In

the learning process, Company C increasingly enriches its understanding of the product, bringing itself potential development opportunities.

In its product development, Company C insisted on giving priority to product quality in order to win customer recognition. Apart from this, it holds the view that the enterprise can gain benefits from social recognition and reputation by transforming into a public company. The course of transiting from a private enterprise to a public one is filled with difficulties and risks. However, from the client's perspective, a public company is more reliable, especially for an emerging market company, as public companies usually have richer capital and more standardized management systems. In this way, Company C had prepared to become public since 2007. It was finally listed in the market in 2011, and raised 1.57 billion in the financial market.

In order to develop a deeper understanding of how firms develop dynamic capabilities in emerging markets, in this section, we first analyze each of the three cases through the process of sensing, seizing and reconfiguring, paying particular attention to how these factors relate to external and internal change. Second, we compare across our three cases and summarize commonalities and differences, and then use our findings from the cases in order to contribute to the dynamic capabilities literature.

Dynamic Capabilities Process

Company A

As a historical enterprise, company A has rich experience in terms of sensing, seizing, and reconfiguring opportunities and changes. Company A has been continually changing with the development of new China, and believes that change has become “part of its genes. Company A sensed changes in market and customer needs, and it seized and

reconfigured the opportunity by enriching product functions and adding more subdivided product lines to satisfy different customers. As consumer needs changed, company A's product line also became more diversified.

In the southeast Asian market, company A noticed that kids over five years do not fit in baby strollers and toddler bike anymore. At the same time, they don't fit adult bicycles yet. The marketing team sensed that this is a niche market that hadn't been filled. Hence, the marketing team sent a proposal to the headquarter management team. They stated in the proposal, "we can produce a smaller size bike to satisfy kids in different ages.....Technically, we have all parts available. We only need to change the regular size adult bike to a smaller size one. We can call it children's bike." Therefore, after the feasibility analysis between the Southeast Asian market and the headquarter in China had been approved, the management team decided to manufacture children's bikes for southeast Asian countries. First, the management team in charge of design developed different models of children's bikes. Second, in order to save time and occupy the market and decrease logistic costs, the management team authorized local factories in Southeastern Asia to process different specifications of children's bikes. Third, the management team asked the marketing team to collect data on customer's satisfaction with the new bike, so that they can ask local factories to make timely adjustments.

"In the children's bike field, we are the first company to produce and sell children's bike in southeast Asian. We quickly occupied most of the market share. Based on the feedback we collected through our marketing team, we then subdivided our product lines to bikes for 1-3 years old, for 3-7 years old, and for 7-13 years old."

----- The Sales Director of Company A

Company B

With technology development, company B believed that independent innovation

is the most significant capability in their industry and sensed the opportunity to capture technological change. At the same time, company B also sensed the needs of clients.

“Two-dimension software is designed for professional designers to draw sketch designs, but it is not client-friendly, which means clients do not understand the designer’s idea and cannot tell the intersection between the structure. Obviously, it does not help with communicating with clients.”

----- *The Vice President of Company B*

After discussed within the management team and obtaining advice from the sales team, company B decided to learn from advanced market companies and insist on incorporating Building Information Modeling (BIM) technology into its operations and replaced traditional 2-dimensional with 3-dimensional BIM in its processes. For designers, BIM software is easier to learn. Clients will also be able to read the design sketch that is made by BIM software. Company B strengthened its relationship with clients through technological upgrading.

“By using BIM 3D technology, clients can understand lines, structure, and intersections clearly. Moreover, we are the first company in China to use BIM technology...”

----- *The Vice President of Company B*

Company C

With a view to being in step with international standards, the government’s supervision of the pharmaceutical production process has become increasingly stricter, requiring less manpower or even no humans involved in the production.

“After 2000, China adopted GMP (Good Manufacturing Practice) certificate from advanced markets, and it changed the standardization in the pharmaceutical industry.”

----- *The General Manager of Company C*

Company C benefited from long-term communication with advanced international enterprises and a better understanding of the international market. Hence, it knew GMP before the government adopted it. Thus, when regulation changes came out, company C

understood the reason behind the stricter regulations and was ready to change. For example, in the past, company C produced single devices, and humans operated the connections between devices. However, to follow the GMP standard and to reduce human intervention in the intermediate environment and lower the chance of contamination by bacteria, company C upgraded its pharmaceutical equipment by connecting devices together.

“We develop this product according to this trend, and it will certainly bring a good market. This is also relying on an understanding of regulations and the understanding of products.”

----- *The General Manager of Company C*

Through the three case analyses, we can learn that Chinese companies are capable to “integrate, build and reconfigure internal and external competences” within a rapidly changing environment, whether it belongs to the manufacturing or service sector.

Insert Table 4 about here

Anticipating External Change

After compare the three companies from different perspectives, we also add *anticipating* to the existing theory on how emerging market firms’ process development through sensing, seizing and reconfiguring. As we mentioned earlier, sensing is the ability to notice changes (e.g. what changes have occurred in consumer behaviors; what new regulations or policies have been formulated; what new technologies can be applied) in the competitive environment. Anticipating, compared with sensing, is the ability to anticipate changes before they occur or become obvious (Helfat & Peteraf, 2015). Simon (1993) raised the point of “anticipating the future”, in which firms need to have skills in anticipating changes in an uncertain future. Amit and Schoemaker (1993) also

emphasized that anticipating possible future changes is one of the tasks for managers. Prahalad and Hamel (1994) even dramatically stated that “Imaging and anticipating the future is a crying need”. The importance of anticipating is self-evident, but theory on process development does not pay close attention to it. Recently, there have been a few articles mentioning anticipating in the field of dynamic capabilities (e.g. it requires executives to have experience, knowledge and information to anticipate the future), but they have not systematically incorporated the concept into their models or conceptualizations of process development (Kor & Mesco, 2013; Helfat & Peteraf, 2015). In addition to demonstrating the abilities of emerging market firms to develop capabilities to sense, seize and reconfigure, our interviews also suggest that sensing external changes, which is also called noticing changes, is not sufficient.

Besides sensing, good companies need to be capable (e.g. use their experience, knowledge, and collected information) to anticipate before things occurs. Additionally, anticipating prepares firms to sense, seize, and reconfigure change better. In the process of anticipating, a company needs to undertake certain risks because the anticipated things may or may not happen. For example, Huawei predicted that the 3G network would develop rapidly and that the market would jump quickly from 2G to 3G. Hence, it arranged a large number of 3G preparations. However, the Chinese government delayed the use of 3G networks. Instead, the government spent more time on 2G network development. Huawei's anticipation mislead the company's product development efforts and made it miss the time to deploy 2G sufficiently.

Looking at methods by which companies anticipate from our study data, Company A participates in the city's board of directors meeting every month so that the

company has first-hand information to assist it in understanding new regulations and policies. The management team also actively attends conferences across industries to learn about trends and new technologies. For example, in a conference, the CEO learned that the “sharing economy” is becoming popular. After he came back from the conference, he held two days of brainstorming. In the brainstorming meetings, the management team anticipated that if company A becomes the bicycle supplier of the sharing economy, it will receive a large number of orders.

Company B worked on a Medicare project, which helped design a nursing home for senior citizens. Company B anticipated that nursing homes will be the new trend in China. However, the concept of “nursing home” doesn’t exist. Hence, there are no industry regulations in this market segment that company B can follow. For example, according to the Vice President of Company B, “how big should we make the bathroom and what kind of non-slip floor material can meet the standard?” Later on, company B learned that Medicare building standards were being developed by the government, and that Professor X was a key person in setting the standards. After unremitting efforts, company B built a relationship with Professor X and convinced Professor X to be their consultant in the nursing home project. Under the guidance of Professor X, company B anticipated the rules and regulations to be issued in the future and ensured that the project would not have any violations. Because company B was the first mover in the nursing home interior design market segment in China, it occupied most of the segment.

Company C has been communicating with leading international companies and has used this communication to help anticipate trends that could apply to the domestic market. For instance, Chinese doctors often suggest taking injections to relieve pain

quickly for patients. However, developed countries' doctors prefer not to give injections unless the patients are very sick. Due to the fact that China usually follows international standards or uses foreign standards as a reference, consequently, company C anticipated that the future direction of pharmaceutical production in China would require fewer injection drugs. Based on this anticipation, company C made a strategic decision in advance of this potential change in market demand to focus on the development of new pharmaceutical equipment. As expected, a few years later, doctors in China started to give less injections to patients. Correspondingly, the market needs for injections decreased. Because of this anticipation, company C prepared ahead of its competitors.

The unpredictable environments of emerging markets and the fierce competition within many industries require firms to have anticipating capabilities, which then help firms better use dynamic capabilities to sense, seize, and reconfigure. In order to anticipate, our case studies suggest that firms gain knowledge, enrich their experience, and collect information through three different drivers: government linkage, industry linkage, and global linkage. Here we define government linkage as “firms build and sustain a close relationship with the local government through different channels”. For example, company A participates in the city's board of directors meeting every month. We define industry linkage as “firms build and sustain close relationships with direct/indirect competitors and suppliers within an industry or across industries”. For example, the CEO of company B is well known, and he sits on the boards of several different associations in the field. We define global linkage as “firms build and sustain close relationships with international companies that have advanced technologies and regulations”. For example, company C maintains a close relationship with an

international company to learn advanced pharmaceutical principles because regulation development is based on understanding these principles. As we stated above, the three linkages help firms to obtain access to information, which helps them anticipate changes and move before their competitors.

Table 4 presents example quotations related to the capability to anticipate through these three types of linkages. We include quotations not only from our three focal study companies A, B, and C, but also from the previously noted companies D, E, and F, which we included in our data for robustness checks. Specifically, after we analyzed information from companies A, B, and C to develop our study model, two authors then followed the same procedure to examine companies D, E, and F. We compared the coding sheets between the two sets of companies, focusing on content related to “anticipating” and the “three linkages”. The robustness check confirmed our initial results that firms purposefully developed capabilities to anticipate external changes and collect information through the three identified linkages.

Insert Table 5 about here

Micro-foundation: Internal Organizational Change

As managers differ in deciding how resources are to be orchestrated and allocated, after anticipating and sensing the external change, academia and industry are more concerned with a series of questions: “How was the decision-making process? Who made the decision? How was the organization changed? What accomplishment has been made?” (Augier & Teece, 2009).

While developing its organizational capabilities, company A set up its organizational system gradually, which is named the “micro organization.” It is

embedded in the enterprise by many small groups and serves as the company's grassroots. "Grass-root" activity is crucial to the survival of the modern enterprise (Simon, 1999). It helps to ensure strategic adaptation and change in the face of fast-moving environments (Dutton et al., 1997). The purpose of the "micro organization" is to get as close to domestic and international markets as possible, to sense the different changes in different markets, and, in turn, to guide companies to make quick changes promptly (e.g., products, customer channels, internal suppliers, and outsourcing factory changes) in the future. The organization maximizes the flatness of organizational management, shortens the decision-making process, and empowers employees with decision-making ability. In the Bangladesh market, company A has a market segment that had never been previously captured by the company, namely, the children's bike market. To enter this market, the "micro organization" developed a comprehensive understanding of market competitors by constantly visiting the market and understanding the local brands. It then returned with first-hand information to find a suitable local OEM factory for production. In just two years, company A's children's bike segment achieved 30% of the market share of the local market. The "micro organization" is conducive to not only information collection and strategy implementation, but also talent cultivation, as it motivates employees through reasonable empowerment.

As a 600-person, large-scale design company, company B implements organizational changes continuously. Intending to maintain organizational flexibility, company B decided to change its internal organization to a project system, which means the company began organizing based on different project teams. Project managers were empowered to make decisions.

“I argued that as a growing company, you could not keep adding different processes to daily operation whenever you have issues. Otherwise, the organization will become more and more rigid, and the overall efficiency will be lower and lower. We still maintain the flexibility to adapt to the market.”

----- The Vice President of Company B

To achieve project quality control and guarantee a customer-oriented feature without losing flexibility, company B added several processes to restrict and monitor project managers. First, it added an evaluation process to its projects to ensure that designers provide products and services with high quality. Second, it set up an operations department, specializing in a complaint center to obtain customer feedback. The marketing team also highly valued the feedback obtained from clients. After the reform in company B, there was a rise in productivity, output value, and also output value per capita. Company B’s reform moved in the right direction, and it gradually changed to a “small team and big platform.”

“The big platform is all the resources in the company. Our operation center serves it, and our R&D team serves it. We also have a quality control center that conducts a comprehensive review. Moreover, our marketing center provides these projects for them. Our finance provides comprehensive resource support for our project teams.”

----- The Vice President of Company B

Eventually, company B decided to enrich its existing corporate culture and change from a family culture to a team culture, with a view to match its flexible strategy and project system.

Company C used to produce single devices. As pharmaceutical device regulations have become more strict, to meet market needs, company C changed to produce system devices. It also changed its business model from providing devices only to providing devices and solutions, including factory layout design, process design, craft design, water

purification, and air purification. The change was based on company C's deep understanding of products and industry trends.

“And we are not only focusing on a single machine but also system devices, and then we provide full coverage service to our clients.”

----- The General Manager of Company C

Based on external changes, we found that firms in our study made specific internal organizational changes. These decisions were made through management team brainstorming (company A) or debate (company B). For example, before deciding whether to enter the “sharing economy,” an economy that provides internet-based platform businesses (Parente, Geleilate & Rong, 2018), company A conducted in-depth discussions within the organization. The top managers held a two-day brainstorming session and discussed all the pros and cons before making a strategic decision. The purpose of the organizational change was to provide firms with continuous flexibility to cope with the external environment change. Table 4 presents example quotations of micro foundation organizational change. As with our previous anticipation results, we include quotations not only from companies A, B, and C, but also from robustness analysis companies D, E, and F. Both our base analysis and our robustness check confirmed that firms implement organizational change (such as structure change, business model change) in response to external change.

Insert Table 6 about here

After we analyzed our cases, we found that emerging market firms need to anticipate external changes and then better use sensing, seizing, and reconfiguring capabilities in reaction to rapid changes in the environment. Firms should fully understand the changes in the social, economic, and political environments (external

environment) before identifying future development directions and market trends. To be specific, they should know what changes have occurred in consumer behaviors and how these may impact production, what new regulations or policies are being formulated and how they will affect the industry, and what new technologies can apply to new products. Our research suggests that firms become aware of different changes through government, industry, and global linkages.

In addition, emerging market firms need to develop organizational capabilities to adapt to change. In this process, firms need to prepare for business model changes within the organization to adapt to market changes. In addition, leadership plays a significant role in sensing, seizing, and reconfiguring through top managers' vision, cognition skills, social networks, and human capital. Besides brainstorming and debate within the organization, executives often participate in external organizations and associations to sense markets and seek collaborations. They frequently communicate with people outside the industry, including cross-industry cooperation, participation in the city's board of directors meetings, and pursuing some of the most cutting-edge technology investments. The underlying intention of this is to jump out of their industry setting and re-examine the company, to inspire the organization to reflect on how to combine products with advanced technology, and thus, to anticipate problems earlier than rivals within the industry. A highly qualified leadership team and its forward-looking vision and thinking ensure strategy implementation.

Insert Figure 1 about here

DISCUSSIONS AND CONCLUSIONS

Our study yields a deeper understanding of how firms develop dynamic

capabilities in emerging markets. We reviewed related literature in the dynamic capabilities-related area, and we used this literature as a basis for analyzing each case through the process of sensing, seizing and reconfiguring, with particular attention to external and internal change. We then compared the three cases in order to discover commonalities and differences of how the companies are obtaining dynamic capabilities. We found evidence consistent with previous theories, and we also extend our understanding of existing theories by adding new elements related to anticipating and organizational change.

More specifically, first, we confirmed that emerging market firms keep building capabilities and sustaining them through sensing changes in the competitive environment, strategic planning, and putting the plan into action to obtain opportunities, create value and sustain opportunities (Luo & Tung, 2007; Teece, 2007; Ramamurti & Singh, 2009). The three cases from emerging market firms in China confirmed the process and disassembled how the firms sensed, seized, and reconfigured in an unpredictable environment. Once company A sensed that customer needs had changed, it quickly began planning a strategic change to satisfy these needs. Specifically, it added more functions to its original products and enriched its product lines to target a broader market. Similarly, company B emphasized the transformation from technology to products, such as using BIM 3D technology to replace 2-dimensional design software. Company C is also very sensitive to changes in its industry. It benefits from frequent communication with advanced international companies in the industry. With international industry trends in mind, once change happens, company C can quickly sense the change and understand it.

Second, we extend our understanding of dynamic capabilities. Beyond the traditional sensing, seizing, and reconfiguring process, we argue that firms need to build capabilities to anticipate before external change occurs because of the rapidly changing environment. The capability to anticipate becomes even more crucial than other specific factors. Besides fully understanding the external environment, this anticipation requires firms to have a developmental vision for trends and rich experience in the industry. This argument extends several scholars' viewpoints on "develop new capabilities that anticipate and respond to a turbulent marketplace", "anticipating the future", and "market participants usually anticipate changes" (Simon, 1993; Amit & Schoemaker, 1993; Schilke, 2014; Felin & Powell, 2016). This finding moves dynamic capabilities theory forward by more extensively incorporating an anticipation perspective, which has not received enough attention in prior research. With anticipation, firms convert passivity into initiative and sometimes change disadvantage into advantage. In doing so, firms can better sense, seize and reconfigure in relation to external changes and be better prepared than their competitors. We also argue that three linkages (government, industry and global) are primary drivers of anticipating and serve to provide sufficient information regarding external changes. Firms need to build their linkages and collect useful external information to address change and challenge.

Third, to reflect external change, we argue that firms need to make specific internal organizational change to ensure implementation of the process (Amit & Schoemaker, 1993: 35; Collins, 1994). Essentially, first, organizations change their structure from redundant to flat. The "micro organization" of company A and "project teams" of company B divide a large organization into many small groups. From the perspective of process in developing and utilizing dynamic capabilities, small groups

working at the grassroots level allow companies to be closer to the market and customer. They are able to sense changes earlier and are more flexible in implementing strategic plans. Additionally, we confirmed that business model changes help firms improve their competitiveness and the efficiency of the process of developing and utilizing dynamic capabilities, and a firm's dynamic capabilities in turn help shape business model design (Teece, 2018). As manufacturing firms, company A and company C reveal that a future trend is to establish comprehensive service and solutions business models rather than an isolated business model of selling products only. Company B, as a service company, also reveals that it has changed its business model to a more resources-integrated and customer-oriented platform. What's more, leaders play an essential role in internal organizational change through cognition skills, social capital and human capital of dynamic managerial capabilities (Adner & Helfat, 2003).

Fourth, we selected cases in both high-tech and low-tech traditional industries. Most existing studies inferred a relationship between technology dynamism, dynamic capabilities and performance (Fainshmidt et al., 2016). We extended these findings from technological high-tech industries to different traditional industries in China. Similar to technological high-tech industry firms, traditional industry firms also actively seek opportunities and change (Foss & Saebi, 2017).

Our study also has implications for practice. First, as cases were collected in the emerging market of China, our findings may enlighten other emerging market firms' managers on how to sense, seize and reconfigure in today's unpredictable and constantly changing environment. In particular, they should start to build capabilities to anticipate by building strong relationships with the government, industry and international

advanced companies. They also should focus on internal organizational change to reflect external changes. Second, emerging market firms have a relative advantage in expanding to other emerging markets in countries with worse institutions (Cuervo-Cazurra & Genc, 2008). Our findings point the way for emerging market companies who are looking to internationalize. Third, today's developed countries are also facing unprecedented political crisis, economic challenges and ethnic conflicts. Considering that advanced market firms are also undergoing a continually changing environment, our findings also can be used for reference in advanced markets.

This study has some limitations. First, we were generally only able to interview the management team in each company. Although these people have the greatest knowledge regarding the overall capabilities of their companies, we were unable to interview more people in each company. During the data collection in Summer 2018, due to ongoing tariff issues, the political conflict between the U.S. and China continued to escalate. Since July 1st of that year, most Chinese companies have declined to be interviewed by researchers from the U.S. Hence, we were unable to analyze the cases through the lenses of different employee levels and their opinions on how companies obtain dynamic capabilities. Second, due to the sensitivity and privacy of management-level questions, we did not collect enough information to fully analyze microfoundations of dynamic capabilities, which concern how managers implement sensing, seizing and reconfiguring through their cognition skills, social capital and human capital (Adner & Helfat, 2003). Future study could continue to measure dynamic managerial capabilities using other appropriate approaches, such as through surveys.

Nevertheless, our study extends the literature on the role of dynamic capabilities in terms of the process of sensing, seizing and reconfiguring in emerging market firms, focusing on anticipating external change and implementing internal organizational change. Our study has implications for managers. Although China is an advanced emerging market, we still hope our findings will enlighten other emerging market firms on how to build dynamic capabilities in today's unpredictable and constantly changing environment. We also hope the experience of sustaining capabilities in a rapidly changing environment can be a reference for advanced market firms.

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APPENDIX B
TABLE 2
Company Histories

Name	History
Company A	<ul style="list-style-type: none"> • It is an industry-trade company exclusively selling and distributing a series of “A” Brand bicycles and parts which was established in 1897. • In 1959, it registered its “A” brand and targeted not only the Chinese market but also the global one. • In 1980, it was admitted into the European market and became the first Chinese bicycle brand to enter the European and American markets. • In 1993, it was reorganized and went public with A and B shares on the Shanghai Stock Exchange. • In 2010, it was restructured through Management Buyout and took new opportunities for development.
Company B	<ul style="list-style-type: none"> • Company B was founded in 2004 in Shenzhen, China, and was one of the biggest interior design companies in Asia. It received projects in shopping centers, public architecture and retail transport when Shenzhen was under great development. • From 2008 to 2010, it expanded its business to northeastern China, eastern China and north China, and established branches in Dalian, Shanghai and Beijing. • In 2012, it became the first interior design firm that passed ISO 9001 certification. • In 2013, it established two wholly-owned subsidiaries. • As the first interior design company that was listed in the Shenzhen A-share stock market on June 19th, 2017, it was also ranked 31st among the Top 100 industry giants in the world in 2018 in the U.S.-based Interior Design magazine. • It placed 3rd in retail design, which is the highest ranking for an interior design company in both Asia and China. • It has already extended its regional branches in Hong Kong, Wuhan and Xi’an, and it mainly runs three design areas, including a commercial complex, transportation complex and healthcare complex. It boasts more than 600 international designers, who specialize in architecture, interior, M&E, sign systems, lighting, decoration and intelligent design, with projects covering shopping malls, hotels/properties, offices, healthcare, public buildings and transportation.
Company C	<ul style="list-style-type: none"> • It was a well-rounded pharmaceutical equipment enterprise founded in 1993 in Shanghai, China, which provides private process support, core equipment, integrated systems and pharma engineering for the pharma

and biotech industry.

- It is the world's largest and fastest growing freeze-drying system brand.
- Since its foundation, it has supplied over 8,000 systems and pieces of equipment to 2,000 pharmaceutical enterprises, spanning over 40 countries and regions globally. Such equipment and systems are widely used in the fields of liquid and lyophilization injectables, chemical Active Pharmaceutical Ingredient (API), bioengineering and pharma packaging, etc.
- It prepared since 2007 and finally listed in the Shanghai Stock Exchange in 2011 and raised 1.57 billion in the financial market.

TABLE 3
General Information of Interview Companies

Company Name	Major Products	Year	MBO	HQ	S/P	Public	HQ/Sub	Industry	Annual Income (\$)
Company A	Bicycles, Electronic bikes	1958	Y	Shanghai	State	Y	HQ & Subsidiary	Manufacturing	1.4 billion
Company B	Interior design	2004	N	Shenzhen	Private	Y	HQ	Service	0.24 billion
Company C	Pharmaceutical equipment supplier	1993	N	Shanghai	Private	Y	HQ	Manufacturing	1.7 billion

TABLE 4
The Dynamic Capabilities Process

Company Name	Sensing	Seizing	Outcome Reconfiguring/Integration
Company A	In 1950s, it sensed international market opportunities; domestic bicycle production was in short supply and little competition existed in the domestic market. Hence, almost no competitors had the intention of exporting; due to different measurements between the Chinese market and several major Western ones (metric vs. inch; e.g., Canada, U.K., U.S.A.), exporting was even more challenging, as the company had to produce bicycles by switching between the two measurements.	It seized the opportunity promptly and overcame technological and managerial problems	It successfully opened up the international market with its inch-measured bicycles.
	It sensed the importance of building its own brand in the international market; China was in a planned economy from the 1960s to the 1970s, which required that exports had to be carried out through foreign trade enterprises; In international trade, other Chinese companies did OEM and worked for other brands.	It seized the opportunity and preserved in making its own brand and spared no effort in quality assurance.	It built its own brand reputation not only in the domestic market but also in the international market. In the process of grasping opportunities constantly and maintaining product quality, its brand could be maintained and developed.
	In 1993, it sensed the opportunity of environment and market change,	It seized the opportunity and expanded product capacity. It also listed A-shares and	It reached its production capacity

	which are reformation and market opening up.	B-shares in the Shanghai stock market.	peak. It also received sufficient capital from the Stock Exchange.
	Government advocated enterprise mix reform and encouraged Management Buyout. It sensed this opportunity; After 1993, the large-scale production and sales volume led to the gradual detachment of this company from the market; More competition in the market. Many foreign-funded enterprises entered the bicycle market in the form of joint ventures. Also, a large number of low-cost, private enterprises joined the competition; It was affected by customer behaviors and distribution channels change.	In 2010, it made a system reform from a state-owned enterprise to a joint venture enterprise with the introduction of non-government capital into the company (via Management Buyout, MBO)	After the MBO in 2010, it has become more flexible in management and strategic decisions. For instance, the management team can hire and fire employees, which was difficult to do previously as a state-owned company. The enterprise can empower employees to make decisions as well. Since then, the company has developed in a better direction.
	It sensed the environment change under different economies, either planned economy or sharing economy.	It adopted the wholesale business model under planned economy; it changed to “online and offline” new retail business model based on sharing economy.	The business model changes increased its sales capacity.
	It sensed the unpredictable environment and market in domestic and international and realized that the organization need to be changed to a flatter management.	It seized the opportunity and created a micro-organization within the organization. The Micro-organization works as a grassroots effort to collect market information	Micro-organization makes the firm work flat and effectively.
Company B	Data management is a trend	Introduced data management system	Increased work efficiency and motivated employees; Better managed all current and future

			projects.
	Leaders learn from external environment how to manage	Leadership style changing, and leaders improve their cognition skills, etc.	
	Market business model is changing; Customer needs are changing (customer-driven organizational change).	Keep reform within organization; Change business model from single projects to comprehensive solutions; Change the organization to different project teams	Integrate all resources to a platform and provide comprehensive solutions and services
	Realized innovation is the key and young talent is important to innovation.	Establish own R&D team and widely use BIM 3-D technology to replace 2D; Recruit talented people who have good vision and created innovation evaluation system to evaluate them.	Young talent stood out in the “Foresight Design Salon” and showed the industry that Company B has a higher vision and it desires to make contributions to the industry. The activities contribute to the reputation of Company B.
Company C	Sense the opportunity of regulation changes in the industry	It prepared in advance and followed the international market standard; It gets Good Manufacturing Practice (GMP) certificate	It stands out in the industry
	Sense the necessity to change not only craftsmanship but also the pharmaceutical philosophy; Sense demand shift from chemical drugs to biological products, blood products and cellular drugs	Be prepared to produce more biological product equipment	Mass production of international standard equipment
	Sense strict international requirements for injection; Sense industry injection product requirements are stricter	Good at manufacturing injections equipment	Mass production of international standard equipment
	Sense the international market	Decide to go international to other emerging markets; Learn from international companies	Capture the international market

		in technologies and philosophy	
	Sense clients' needs change	Change business model from providing single devices to providing services; Focus on R&D and transfer ideas from clients' demands to real products	Integrate resources and provide comprehensive solutions and services instead of single device
	Capital market is changing	Listed in Shanghai Stock Market; Change from private to public company	Received capital support from the financial market

TABLE 5
Example Quotations of Anticipating

Anticipating	Linkages		Quotations
	Government Linkage	Companies A, B, and C	<ul style="list-style-type: none"> • “We participate in the city's board of directors meeting every month so that we have the first-hand information of the understanding of the new regulations and policies.” • “Once every new regulation come out, we consider it as a prediction for next one. Our CEO communicates the regulation and policy with governors for guidance in order to better understand the new regulation.” • “...and he often discusses with government officers on how to improve regulations and policies in our field...”
		Companies D, E, and F (Robustness Tests)	<ul style="list-style-type: none"> • “Local government supports us to apply for national grants...” • “The relationship helps us better understand policies. Sometimes, a new policy comes out, our management team always sits down and discusses what signal is behind the policy. Sometimes we know, sometimes we don't. So it is important to communicate with governors and let them explain to us what the policy really wants to say. We are preparing ahead of our competitors because sometimes they don't even realize the policy change.” • “Absolutely, the relationship with government supports us in different investments...”
	Industry Linkage	Companies A, B, and C	<ul style="list-style-type: none"> • “Our leadership team actively participates in external organizations and associations, not only going there to communicate with people in the industry, but also to learn from other industries. We can always apply their cutting-edge technology to our bicycle.” • “The CEO is well known in our field. He has close relationships with the boards in major associations.” • “Our CEO sits on the board of major associations...”

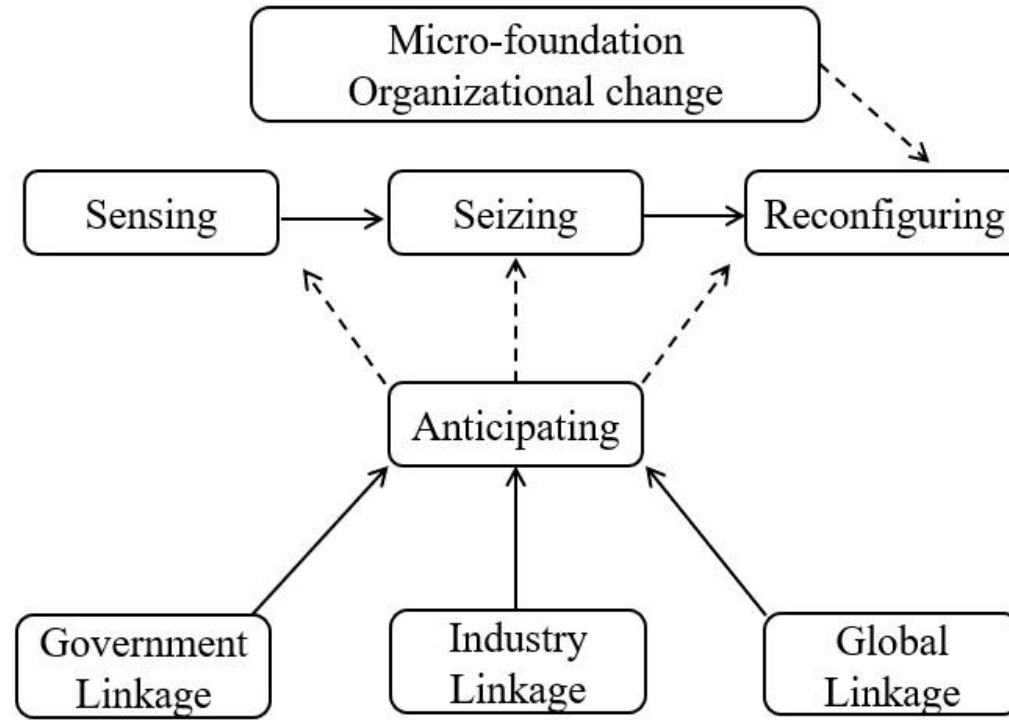
		Companies D, E, and F (Robustness Tests)	<ul style="list-style-type: none"> • “We are one of the developers of industry standards and many companies follow us” • “We sometimes learned the change from our suppliers. They are also other companies’ suppliers, some of them within the industry and some of them across different industries. By observing what new technologies have been used in suppliers’ factory, we can anticipate the new trend and it might affect us soon.” • “I left the big company and started to have my own company. But I still have the strong relationship within this industry. In our industry, the turnover rate is very high. It doesn’t matter where are you from, it does matter who do you know in this field.”
	Global Linkage	Companies A, B, and C	<ul style="list-style-type: none"> • “We often communicate with European markets within our industry and attend other industries’ associations to see what technologies we can learn from them.” • “We learned that US firms are starting using BIM 3D technology.....” • “Since 2002, we started our internationalization and have built relationships with other international companies in advanced markets. We understand that advanced countries are way ahead of us in terms of regulations...of course, principles and technologies....We can learn from them through the frequently communication”
		Companies D, E, and F (Robustness Tests)	<ul style="list-style-type: none"> • “One of our co-founders graduated from one of the top schools in the world and he often publish research papers in peer-reviewed top journals. He has overseas work experience and he helps us build linkages with international companies” • “The linkages we build internationally help us go abroad. At the early stage, we had a very difficult time in opening new markets in several countries. Those friendly companies in international (markets) introduced us to clients and help us to communicate with local governments. We are still partnering and will keep the good relationship.”

			<ul style="list-style-type: none">• “We faced a very difficult time in the past when we want to invest abroad. We failed because we lacked the experience in international markets. Later on, we learned from international companies, and we built relationships with local suppliers in international (markets). Then things changed.”
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TABLE 6
Example Quotations of Micro-foundation

Organizational Change	Quotations
Companies A, B, and C	<ul style="list-style-type: none"> • “We created micro-organization and it works as a grassroots.....” • “We changed our company to small teams and each team has its project focus. The company level only works as a platform and provides resource support.” • “Realizing the need to learn from advanced companies, we set up a special department. It works for learning, communicating with other companies and training within the company.”
Companies D, E, and F (Robustness Check)	<ul style="list-style-type: none"> • “In response to the external competition of sales, we divided the sales department into three parts to deal with three different markets.” • “We followed an integrated product development process and created a reformation team. The reformation starts from that team and then it changes the entire company” • “We created a co-partners system. The system clearly divides the responsibilities of leaders, and each leader can control the external market changes in his field more concentratedly.”

FIGURE 1
An Integrative Model of Dynamic Capabilities Process



CHAPTER IV: DRIVERS OF EXPORT INTENSITY BY EMERGING ECONOMY
FIRMS: CITY GOVERNMENT EFFICIENCY AND ITS MODERATORS

INTRODUCTION

For emerging market firms, exports are generally the most viable way to internationalize given limited capital and experience. However, academic literature on these firms has largely focused on later stages of foreign investment such as acquisitions and joint ventures, while leaving this crucial first step in the internationalization process under-researched. Understanding the conditions that lead firms to internationalize via exports is important as exporting creates a condition that helps enable future foreign direct investment (Lu & Beamish, 2006). Within this manuscript, we examine important predictors of exporting intensity by studying the impact of city government efficiency, along with the moderating effects of performance, ownership types and firm age on the main relationship. City government efficiency is particularly important in our model as a source of social capital in many emerging markets that can provide more proximate benefits to firms than higher-level government support at provincial or national levels.

Firms rely on external factors, such as social capital, to acquire, recombine, and release resources (Adler & Kwon, 2002; Blyler & Coff, 2003). Emerging market firms in particular rely on social capital in doing business. Given its importance to firm performance, prior research has proposed social capital as one of the important underpinnings of dynamic managerial capabilities (Burt, 1992; Gelatkanycz et al., 2001; Adner & Helfat, 2003). These studies focus on how social capital indirectly affects managerial decision making and increases dynamic capabilities (Botts, 2017; Helfat & Martin, 2015). Government efficiency, among all external factors, is an important

component of social capital, particularly in the context of dynamic environments such as those in emerging markets (Shu et al., 2019). Within this study, we examine city government efficiency as an important element of social capital that is particularly important, yet understudied, in understanding firm internationalization in emerging market contexts (Su et al., 2016).

Many scholars have widely investigated emerging market firms' internationalization. Some scholars argue the topic from a corporate governance perspective (e.g., Singh & Guar, 2013), and another group of scholars demonstrate that innovation helps with emerging market firms' internationalization (e.g., Kumar & Mudambi, 2013; Xie & Li, 2018), while some others focus on the relationship between the institutional environment and emerging market firms' foreign expansion (e.g., Wu & Chen, 2014). Although different scholars investigated the research area from different approaches, the interaction of external factors such as city government efficiency and firm-level determinants of internationalization in general, and export intensity in particular, is not well understood. We aim to contribute to this literature.

The dynamics that emerging market firms face when they pursue cross-border activities involve incredible economic, political, institutional, and culture challenges, and as such, deserve greater attention (Shimizu et al., 2004; Cuervo-Cazurra, Newburry & Park, 2016). Herein, our primary interest is in extending prior literature to examine how emerging market firms are able to seize opportunities in export markets with the help of city government efficiency. Although theories on internationalization take diverse approaches and many studies look into moderation effects on relationships predicting internationalization, few scholars explain internationalization, particularly export

intensity, from the perspective of the impact of the external environment on the enterprise and the capabilities of the enterprise to use external resources. To answer this question empirically, we have collected city government efficiency data from 285 cities in China and combined this with firm-level data from 36,265 Chinese manufacturing firms.

This study aims to make two important contributions. First, it introduces city government efficiency more directly into the literature on the dynamic capabilities of firms and illustrates that firms should consider city government efficiency as an important external capability because it promotes cross-border activities. Second, we should be aware of how the relationship between city government efficiency and export intensity is moderated by performance, ownership types and firm age, providing further nuance to our understanding of the influence of this important variable.

The following sections first introduce the applicable literature utilized to validate the constructs in our study model, followed by the hypotheses, methods, results, and finally, discussion and conclusions.

LITERATURE REVIEW

Internationalization

“Internationalization” has long been demonstrated as an efficient and ongoing strategic process that encourages firms to seek integration and involvement internationally (Welch & Luostarinen, 1988; Melin, 1992; Susman, 2007). However, firms struggle in the international market because of its ever-changing nature. In order to address the sustainability of their development in uncertain international environments, firms adjust their daily routines in relation to the strategy, structure, and resources needed

to compete in these environments (Calof & Beamish, 1995). Scholars also conduct in-depth research on internationalization.

Internationalization theories have been developed over decades to explain firms' international expansion activities and experience (Caves, 1971; Hymer, 1976; Dunning, 1988, 1993; Buckley & Casson, 1976; Rugman, 1981; Porter, 2011). The most frequently mentioned relationship is between firm performance and internationalization. On one hand, scholars have investigated the influence of internationalization on firm performance through different theoretical perspectives, and mainstream research generally supports a positive relationship at most levels of internationalization in both developed and emerging contexts (Gomes & Ramaswamy, 1999; Hitt, Hoskisson & Kim, 1997; Ruigrok & Wagner, 2003), although different relationships have been found including negative relationships, U-curves, inverted U-curves and S-curves in prior studies (Contractor, Kundu and Hsu, 2003; Geleilate et al. (2016). On the other hand, research has been much more limited on the impact of performance on internationalization, possibly due to the assumption that firms need significant ownership advantages to overcome the liability of foreignness and facilitate foreign investment (e.g., Dunning, 1991; Zaheer, 1995), which would naturally be tied to performance. Indeed, a few previous studies have suggested that prior firm performance facilitates internationalization because better performance supports firms in their development of tangible and intangible resources to overcome liabilities of foreignness (Fiegenbaum, Shaver & Yeung, 1997; Grant, Jammie & Thomas, 1988). While Jung and Bansal (2009) suggest an inverted-U shaped relationship between a firm's relative performance and its degree of internationalization, Tihanyi, Ellstrand, Daily and Dalton (2000) did not find a

significant relationship between the two factors. Nonetheless, most research focused on the relationship between firm performance and internationalization examined advanced market firms, such as Japanese, German, and English manufacturing firms (Jung & Bansal, 2009; Ruigrok & Wagner, 2003).

Although internationalization theories take diverse approaches, most research focuses on firms' internal capabilities (such as strategy and financial resources), and the impact of external environment resources (such as government role and acquisition opportunities) on internationalization (Calof & Beamish, 1995). However, the approach of considering the external environment's role in augmenting a firm's capability to improve internationalization has not been well quantified (Alcalde-Heras, Iturrioz-Landart, & Aragon-Amonarriz, 2019). In simple words, are firms capable of using external forces to help their internationalization paths? Additionally, the applicability of these studies may well be challenged in an emerging market setting, given that these firms' internationalization goals may differ (e.g., Jung & Bansal, 2009) and they may face considerable challenges abroad beyond those faced by developed country firms (e.g., Cuervo-Cazurra, Newburry & Park, 2016).

As the internationalization process is ongoing, firms usually adopt a suitable strategy to step into international markets. Generally, exporting and foreign direct investment (FDI) are two important internationalization strategies (Lu & Beamish, 2006). Although many firms often employ both modes as components of their internationalization strategies, most firms with less international experience in emerging markets start their internationalization with an export strategy (Lu & Beamish, 2006).
Emerging market firms' internationalization: export intensity

In general, firms need to overcome the disadvantages of foreignness or liabilities of foreignness (LOF) when they invest in foreign markets (Hymer, 1960; Mezias, 2002; Luo and Mezias, 2002). Based on this general and negative impression, firms in various countries, particularly in emerging economies, are often extremely cautious in their overseas investments if they do not have internationalization experience yet.

However, with rapid economic growth, the domestic markets of emerging market countries continue to grow as well. The growth provides a broad market for emerging market firms to do business domestically. At the same time, no matter whether a company is from an advanced or emerging market, entering a foreign country is riskier than investing domestically because information about foreign countries is less available, and geographic and other forms of distance increase the risk (Caves, 1996; Jung & Bansal, 2009; Zaheer, 1995; Ghemawat, 2007). Besides, compared with advanced market firms' relatively frequent international investment activities, emerging market firms usually have less experience and learning process accumulation in international markets, which causes them to react relatively slower to international business environment changes (Gaur, Kumar, & Sarathy, 2011). Given the opportunity to expand relatively easily domestically versus the difficult task of expanding internationally, emerging market firms may tend not to enter a foreign country during early stages of their development if their domestic markets still satisfy them with considerable profits.

The Marketing Director of one of the top design companies in China mentioned in a recent interview with one of the study authors,

“we have planned to expand our business to southeast Asia. However, we failed because we had less experience in doing business in other countries, and we are not

familiar with local regulations and policies.....The mainland China market still satisfies us, and we decided to continue to expand our business with the domestic market.”

We expect the above arguments to prevail for most emerging markets due to the lack of firm capabilities and resources to succeed in international markets. However, we expect that with some level of external support, the most successful emerging market firms will gain the capabilities and resources to successfully export abroad along with the desire to do so as they begin to saturate their domestic markets. It requires firms to sense external changes and seize opportunities to gain their capabilities through external support (Teece, 2007). The external support helps firms overcome the earlier identified challenges and encourages firms to expand abroad. Additionally, we expect that at some point, development in the domestic market will eventually turn from a blue ocean into a red ocean. This will force firms who have relatively rich capabilities and resources to “roll the dice” and pursue other options. Hence, one of the options could be to gain capabilities using external support and expand abroad.

City Government Efficiency

In general, firms are strongly affected by government regulations and policies because every time regulations and policies change, this affects firms' activities and outcomes immediately. This is particularly the case in emerging markets because emerging markets tend to have more frequent policy changes to satisfy the constantly changing environment. Facing constantly changing policies and regulations, a highly efficient government allows firms to understand policies better, and helps firms access information faster than their competitors (Song et al., 2019). Access to a highly efficient government then becomes an intangible capability of emerging market firms. In the

development of emerging markets, governments encourage economic development by promoting exports for the purpose of boosting employment and stimulating economic growth. High government efficiency facilitates emerging market firms' export intensity because the higher efficiency means better access to information (e.g. policies) and resources (tangible and intangible). This helps firms to be better prepared and to compete in international markets.

Hence, government efficiency plays an increasingly vital role in the survival of the organization, no matter whether this support involves macro-control, market orientation, regulation and policy support, or even emergency plans (e.g., financial support due to COVID-19 pandemic) (Rasmussen & Rice, 2012; Su, Peng & Xie, 2016). Scholars have become more interested in the role of government efficiency in facilitating internationalization, especially from emerging market governments (Lu, Liu, Wright, & Filatotchev, 2014). Naturally, emerging market firms have less international experience and resources, and they need government assistance to reduce market uncertainty. Here, government plays a role to establish a platform, where firms can get regulation and policy guidance, as well as support in financing and taxation (Luo & Tung, 2007; Peng, Wang, & Jiang, 2008; Peng, Sun, Pinkham, & Chen, 2009).

The degree to which companies benefit from government efficiency varies (Su, Peng & Xie, 2016). For example, in order to encourage the development of new energy companies and promote their internationalization, the national government, provincial governments, city governments, and even district governments in China have issued corresponding support policies. Assuming that a new energy company meets all the requirements of the policy from different levels of the government, then the company will

receive financial support from different levels of government, while other firms who don't meet all the requirements partially or completely lose government support. Given the fact that city governments have the authority to produce more coherent and stable policies than district governments, and city-level policies are more generally adaptable and targetable to firms than those from national and provincial governments as city governments may be more flexible in improving policy operations (Goldsmith, 1993), in this study, we investigate how city government efficiency facilitates internationalization.

On the one hand, government efficiency plays an important role in firms' internationalization. On the other hand, firms are strongly affected by government regulations and policies. Hence, it is essential for firms to take advantage of government efficiency and to stay informed about new policies issued and updated existing policies as well as to seek government resources. Building and keeping relationships with government in emerging markets is an important intangible capability for firms, and one that is embedded in social capital (Bian & Zhang, 2014; Carlisle, & Flynn, 2005; Luo, 1997; Luo, Huang & Wang, 2012).

However, we also realize that at some point, too much government involvement may suggest an over-involvement of the government in firm activities, which could create difficulties for the firm as excessive government involvement can lead to greater bureaucracy and other problems. At this point, government efficiency may become closely aligned with state ownership, which could drive firms to more domestic-focused goals - particularly in newly emerging economies, suggesting potential diminishing returns from government efficiency and possibly even an inverted u-shaped relationship. While we recognize this possibility, given the nature of our conceptualization of city

government efficiency, which we distinguish from government ownership, we suggest that this is unlikely in most cases.

Previous literature supports that low government efficiency delays firm investment in technology and high government efficiency helps firm with technology adoption (Galang, 2012). An efficient government mitigates difficulties of expanding internationally, since possessing strong city government efficiency improves access to information and resources, such as policy, tangible and intangible resources (Afsharghasemi et al., 2013). But how does government efficiency helps firms operate more efficiently and eventually more easily export? Here we argue that high government efficiency provides fair and rapid policy support and at the same time decreases firms' transaction costs; it minimizes extra production costs and uncertainty imposed by the presence of government corruption; it mitigates transactional uncertainty and provides experience and learning opportunities when firms need to make strategic decisions (Hillman and Hitt, 1999, p. 826; Zhang et al., 2016; Fernandes & Tang, 2012). And emerging market governments typically promote exports for the purposes of boosting employment and stimulating economic growth. Given the above arguments, we hypothesize the following:

Hypothesis 1: Greater city government efficiency will have a positive relationship with export intensity.

Moderation: Performance

Previous literature argues that firms associated with government increase their profitability through internationalization activities (Wang, Hong, Kafouros, & Wright, 2012). For example, high performing firms have been shown to have more resources,

which can assist them in their internationalization. Alternatively, more internationalization activities help firms to perform better. But we don't know how performance plays a role in the relationship between city government efficiency and export intensity. The previous interview quote suggests that emerging market firms with increasing performance in domestic markets tend not to go abroad until they reach a certain level of performance because of their lack of international experience and resources, particularly when their domestic market is growing, which is the case with many emerging markets. They tend not to take the risk to compete in an unfamiliar international market.

In the prior hypothesis, we argued that an efficient local government can help a firm overcome these issues. If city government efficiency is high, emerging market firms are able to gain access to resources which they otherwise would not have access to and are able to enhance their internationalization capabilities (Luo & Tung, 2007; Lu et al., 2014). At the same time, government efficiency helps emerging market firms overcome their lack of international experience and knowledge shortage in international markets by providing policy guidance and support, financial support, and tax support. However, we expect that firm performance will impact that degree to which a firm needs this assistance. High performing firms may have less need to take advantage of government efficiency to cover a shortage in internationalization capabilities because they are already efficient themselves. Their performance persists and keeps generating more money and resources to support their international activities. However, low performing firms have greater needs to take advantage of government efficiency to overcome their issues, such as lack of information, experience, and resources to support their going abroad. Overall, better

firm performance mitigates difficulties of expanding internationally and the importance of government efficiency decreases. Given the above arguments, we hypothesize the following:

Hypothesis 2: The relationship between city government efficiency and export intensity will be moderated by prior firm performance such that firm performance negatively moderates the relationship.

Moderation: Ownership Types

“Ownership” has been widely explored in the international business and management fields. While ownership generally refers to control over firms, extant research approaches ownership through different models and lenses. Here we specifically examine the influence of ownership type, in line with prior authors (Tan, 2002; Jiang, Waller, & Cai, 2013; Peng, Tan & Tong, 2004), which influences the provision of capital resources.

Scholars have long acknowledged that a firm’s ownership influences internationalization strategies (Johansson, Landström, & Palmer, 2013). The motivations of a firm’s owners affect the firm’s propensity to internationalize, while an owner’s capability to access and provide resources affects the firm’s capability to internationalize (Singla, George, & Veliyath, 2017). Liu, Li, and Xue (2011) argue that ownership structure leads firms to choose different strategic orientations and effectively facilitates international business success. Oesterle, Richta, and Fisch (2013) also confirmed that ownership structure influences internationalization and that ownership structure should be considered as one of the antecedents of a firm’s internationalization behavior. Because of variations in international experience and financial support associated with different

ownership structures, ownership affects emerging market firms' decision making on whether to go abroad.

Looking specifically at state-owned firms, there are several reasons that these firms may be relatively less likely to go abroad than domestic private-owned firms. First, when the domestic market is relatively stable and safe, state-owned firms have no incentive to go international unless the national policy requires state-owned firms to do so - for example, due to the policy of "One belt, one road" in China (Liu, Tang, Chen, & Poznanska, 2017). This may be particularly the case with export decisions, which as noted earlier, tend to occur earlier in the internationalization process and are more likely to coincide with domestic development goals of emerging markets. A different relationship might be expected for later stage internationalization efforts such as acquisitions and joint ventures, which are more likely to coincide with more advanced government goals, such as China's "one belt, one road" policy noted above. Second, state-owned firms receive significant resources from state or local governments compared with private-owned firms. These resources may be primarily location bound, prompting state-owned firms to "stay at home" (Cuervo-Cazurra, Inkpen, Musacchio, & Ramaswamy, 2014). Additionally, compared with non-state-owned firms, state-owned firms have better access to information, for example, on regulation and policy (Ralston, Terpstra-Tong, Terpstra, Wang, & Egri, 2006; Amighini, Rabellotti, & Sanfilippo, 2013). However, this information may be most relevant in the domestic market, particularly in early stages of firm, and by extension, country internationalization. Thus, information superiority becomes another advantage of state-owned firms that does not significantly transfer to foreign locations. Compared with well-funded state-owned firms, non-state-owned firms

in emerging markets are more vulnerable. Without the preferred information and resources regarding the domestic market that state-ownership may provide, the domestic market becomes relatively less attractive to non-state-owned firms. Third, the risks of internationalization and a series of potential subsequent events after failures in investment (e.g., who will bear the responsibility) discourage state-owned firms and their top managers from internationalization (Huang & Snell, 2003). For example, a failed investment may reflect failures of governance and leadership, and top managers are usually blamed for these failures, particular in some high-power distance societies.

Previous literature on ownership structure and internationalization has tended to focus on a single ownership type (e.g., Cuervo-Cazurra, Inkpen, Musacchio, & Ramaswamy, 2014; Cahen, 2005). However, fewer studies (e.g., Estrin, Meyer, Nielsen, & Nielsen, 2016; Benito, Rygh, & Lunnan, 2016) focus on comparing different types of ownership in a single study, and there are strong differences between different ownership types and their internationalization (Johansson et al., 2013). In emerging markets, companies with different ownership types have vastly different resources and capabilities, so their enthusiasm for internationalization also differs. Therefore, ownership might also impact that degree to which a firm needs government assistance.

Ownership types in emerging markets influence the provision of capital resources because they help determine if a firm has access to certain resources and information, which then affects firms' capabilities to internationalize (Tan, 2002; Jiang, Waller, & Cai, 2013; Peng, Tan & Tong, 2004; Singla et al., 2017; Johansson et al., 2013). Firms with different types of ownership have different ways of capturing resources. Since state-owned firms have local resource and information superiority, their intension of taking

advantage of local government efficiency is low (Huang et al., 2017, Chang et al., 2019). Non state-owned firms need to take advantage of local government efficiency because they don't have access to local resources and information. For example, state-owned firms get support from the national and local government, while non-state-owned firms get resources primarily from other sources. Therefore, in emerging markets, companies with different types of ownership have different resources and capabilities, so the way they look at the relationship between government efficiency and export intensity may also differ.

Because state-owned firms are affiliated with either national or local government, it is much easier for them to obtain access to certain information and resources. So, state-owned firms have a lower need to take advantage of government efficiency when they consider their internationalization, because they tend to already possess the resources that they need. However, non-state-owned firms don't have this resource and information superiority. This suggests that non-state-owned firms are more likely to benefit from city government efficiency than state-owned firms. Given the prior arguments, we hypothesize that:

Hypothesis 3a: Compared with non-state ownership, state ownership negatively moderates the relationship between city government efficiency and export intensity.

Prior literature demonstrates a similar chance of survival between domestic and foreign-owned firms in a certain market (Mata & Portugal, 2002). Here we also expect that differences between these ownership types will impact that degree to which a firm needs government assistance. If we classify firms into domestic and foreign-owned firms,

foreign-owned firms are more familiar with capital operations and resource allocation of the international market because they have experience in prior step-by-step internationalization activities, and they have access to international resources (tangible and intangible) through their own networks (Johanson & Vahlne, 1977; Vissak, 2003). Instead of dealing with emerging markets' uncertain regulations and policies in local host markets, foreign-owned firms' willingness to go abroad may be higher because of their international experience, resources and capabilities. Also, foreign-owned firms have less resources and information from the local government (Li et al., 2009). Then they may benefit more from an efficient local government which will allow them to take advantage of government offerings, although these benefits may be more applicable to the local marketplace. In contrast, domestic-owned firms' naturally have more local government ties than foreign firms (Kowalski et al., 2013; Liang et al., 2014). However, domestic firms have fewer resources and less information access, which increases the difficulties for these firms to prepare resources and compete in international markets. Given the fact that firms need to obtain experience through step-by-step activities in foreign operations, domestic firms also have fewer international resources and information and less international experience and capital than foreign-owned firms, which also makes international competition more difficult (McDougall, Shane & Oviatt, 1994; Liu, Xiao & Huang, 2008). The above logic suggests that domestic firms will be more in need of the assistance that can be provided by an efficiently government than foreign firms. As such they may be more likely to benefit from city government efficiency than foreign firms. Given these arguments, we hypothesize that:

Hypothesis 3b: Compared with domestic firms, foreign ownership negatively moderates the relationship between city government efficiency and export intensity.

Moderation: Firm Age

Most studies in this field choose to control firm age and use firm size as a moderator because they believe most new firms tend to be small (Kirchhoff, 1994). We argue that the relationship between firm age and firm size may not be linear. Firms can increase in size in a few years, but they need a longer time to accumulate experience in order to mature. Hence, firm age is more valuable in this study. Here we expect that firm age will impact that degree to which a firm needs government assistance.

Young firms in emerging economies face more difficulties in their foreign market entry because young firms have less resources, less experience, and even less local government ties than mature firms (Lechner & Pfeiffer, 1993). They face a lot more difficulties than mature firms in their internationalization. Hence, younger firms need more government assistance since they can benefit from local government efficiency. For example, compared with mature firms, younger firms have not built up strong CEO leadership teams to make strategic decisions; they haven't built strong relationships with government and banks, particularly state-owned banks. Therefore, young firms are the ones who can take advantage of city government efficiency because city government helps cover those shortages that younger firms have and supports them to compete internationally. Given these arguments, we hypothesize that:

Hypothesis 4: The relationship between city government efficiency and export intensity will be moderated by firm age such that young firms positively moderate the relationship.

Insert Figure 1 about here (Conceptual Model)

METHODS

Research Design

As the largest emerging market, China provides an appropriate setting for this research. First, in the past three decades, China has undergone a striking transformation in its economy, from inward-oriented industrialization to an opening-up policy, aimed at integration with the global economy. Second, the Chinese government has promoted exports for the purposes of boosting employment and stimulating economic growth (Fernandes & Tang, 2012). China has developed as a significant exporter in the world markets for manufactured goods (Liu et al., 2005). Third, tremendous political and economic change has created a dynamic environment in China. Moreover, the dynamic environment directly affects internationalization (such as exports) between China and other countries.

From 1999 to 2000, the China government had difficult negotiations with countries and regional organizations (i.e., USA, Malaysia, Latvia, EU, Switzerland). It reached a bilateral agreement on China's accession to the World Trade Organization (WTO). China joined the WTO on December 11, 2001, which significantly impacted internationalization between China and other countries. From the resumption of

negotiations to before the 2008 Financial Crisis (2001-2007), the economy of the Chinese market showed a positive and open attitude to the international market. At the same time, Chinese firms' export volume increased dramatically year by year (World Bank, 2020). Furthermore, this period during which China actively integrated into the international market can serve as a significant example for other emerging markets who aim to be more internationalized or who would like to have more economic connections with other countries.

Sample

We employ a panel dataset (2001-2007) to test our conceptual framework. The data ends just before the 2008 financial crisis. This prevents biases in the analyses that might be caused by external changes. The panel dataset comes from two sources of firm-level data. The financial data and demographic information of Chinese manufacturing exporting firms were obtained from the National Bureau of Statistics (NBS) of China (Chang & Xu, 2008; Deng, Guo, Zhang & Wang, 2014). We focus on manufacturing industries since the service industry sector was much less developed in China during the study timeframe, with only limited service industry data available. We focus on exporting data as this was a critical period for exports in China. Previous research has certified that the NBS dataset is comprehensive, most accurate and internally consistent for empirical analysis (Chow, 1993; Pan, Li, and Tse, 1999; Buckley et al., 2002; Park, Li, & David, 2006; Chang & Xu, 2008; Deng et al., 2014). It includes firm-level financial indicators and demographic information, such as the firm's name, manager's name, year of establishment, zip code, phone number, address, ownership, industry categories, and level of government control. As the dataset does not provide data on exports in 2004, we

excluded data for this year from our analyses, which left us with six years of data (Deng et al., 2014). The Government-Enterprise Relations Health Index data (2017) was collected from the Research Center for Government-Enterprise Relationship and Industrial Development, Renmin University of China. The index was initially measured by the city-level government. We used three pieces of demographic information (zip code, phone number, and address) from the NBS dataset to locate each firm and then merged the data with the Government-Enterprise Relations Health Index data. After merging the two sources of firm-level data and removing missing data, the resulting dataset had six years of firm-level data-points for a total of 51,224 firm-year observations. We divided manufacturing industries into six categories (Foods, Textile, Chemical, Mineral, Equipment, and others) and removed the “others” category (2,625 observations) to avoid biases. We also remove collective firms (4,610 observations) due to their low prevalence within our data set and due to theoretical overlap with both state-owned and private-owned firms, making them difficult to distinguish from the two other domestic categories. Finally, we removed 13 firms with missing data. The final sample size of 43,976 valid firm-year observations generates an unbalanced panel dataset (Bruno, 2005). After we adopt the multilevel regression, the final sample size dropped to 36,279 valid firm-year observation.

Insert Table 7 about here (Breakdown by industry)

Empirical Model

We use a multilevel tobit regression to test our hypotheses (Tobin, 1958; McDonald & Moffitt, 1980). The Tobit model has been widely adopted in international business data analysis. An advantage of this model is that it is a particular regression

analysis that allows the inclusion of zero-value observations of the dependent variable. In this research, we use a multilevel tobit regression model to examine the conceptual model because the dependent variable is constrained to an interval. Three levels are included in the model.

Measurement

Dependent variable

Our dependent variable, Export Intensity, is calculated as export value divided by total sales (Bonaccorsi, 1992). There are two significant modes of internationalization for Chinese manufacturing firms, including exports and FDI (Zeng, Xie, Tam & Wan, 2009). Due to a limitation of the database, in this study, international activities only including export intensity. Export intensity is also appropriate for measuring early stages of internationalization within a country as it is generally the first internationalization method used by firms.

Independent variable

City Government Efficiency

We use a novel dataset to capture city government efficiency. The Chinese government called for an assessment method to evaluate the business environment and the relationship between government and firms. The National Academy of Development and Strategy, Renmin University Center collected public data from 285 cities in China and ranked cities based on a score ranging from 0 to 100. The score was calculated using five major categories of data: (a) *government's concern for firms* (10%), (b) *government services to firms* (40%), (c) *firms' tax burden* (10%), (d) *government integrity* (10%), and

(e) *government transparency* (30%). See Table 2 for a more detailed breakdown of the variable measurement.

Insert Table 8 about here (Breakdown of City Government Efficiency Measurement)

Moderators

Performance

Numerous studies have explored the choice of performance measures, and many researchers agree that it is difficult to choose suitable indicators to measure firm performance in internationalization (e.g., Lu & Beamishi, 2006). In this paper, *return on assets (ROA)* is employed to measure firm performance (Lu & Beamish, 2001; Palich et al., 2000; Zahra & Garvis, 2000). Since the average firm age in the database is 18 years, ROA is a suitable measure of performance as younger firms in manufacturing industries tend to invest in and operate a more extensive fixed asset base (Zeng, Xie, Tam & Wan, 2009).

Ownership Types

China's political system makes ownership an essential indicator for studying Chinese firms' internationalization. In China, ownership includes state-owned firms, collective-owned firms, private-owned firms, and foreign-owned firms. Researchers have long acknowledged that state-ownership influences Chinese firms' internationalization decision making (Liang, Ren, & Sun, 2015). Researchers also separate emerging market enterprises into state-owned and non-state-owned and analyzed their international expansion, predicting that ownership makes a difference (Luo & Tung, 2007). In this study, comparison of two types of ownership is prominent in our sample. State-owned firms, versus non-state-owned firms, are owned by the national or local government (Li,

Xia, & Lin, 2017). Foreign-owned firms, versus domestic firms, are owned by foreign capital, including capital in Hong Kong, Taiwan, and Macau (Xia & Walker, 2015). As such, we dummy coded ownership types into two comparison groups such as 1 = state-owned and 0 = non-state-owned firms.

We similarly hypothesize that differences in our base relationship between city government support and export intensity may occur based on whether a firm is domestic or foreign-owned. We dummy coded this variable as 1 for foreign-owned firms and 0 for domestic firms.

Firm Age

We classify a firm as young if established less than 12 years prior to a study year. We consider a firm as mature if established greater or equal to 12 years prior to a study year. We dummy coded young and mature firms.

Control variables

We use number of employees as the main variable to control for firm size, and we use total assets as an alternative variable for checking robustness. We control for industry based on the food industry, textile industry, chemical industry, mineral industry, and equipment industry (omitted industry dummy in our analyses). We also control financial leverage (total assets/equity), province and year effects from 2000 to 2006 (with 2000 as the omitted year dummy). We also included three city level control variables, city GDP, total number of firms in each city, and total number of manufacturing firms in each city. In total, we have nine control variables for our empirical analysis.

Our model is: $Export\ Intensity = b_0 + b_1 \times City\ Government\ Efficiency + b_2 \times City\ Government\ Efficiency \times Performance + b_3 \times Government\ Efficiency \times Ownership + b_4 \times Government\ Efficiency \times firm\ age$

Endogeneity test

We conducted an endogeneity test for this study. Since the results showed that an endogeneity correction is needed, these are the results that are reported in the paper and in the Table 4.

RESULTS

Table 3 shows the correlations for our study variables. Due to the large sample size, all the variables appear statistically significantly correlated. We computed variance inflation factors (VIFs) to check for potential multicollinearity. The mean VIF is 1.31, which is below the threshold of 10 (Hair, Black, Babin & Anderson, 2010).

Since we adopt multilevel tobit regression, we first test whether the three levels (firm year, firm and city) are classified appropriately. After checking the results, $p_c < 0$ means the levels are classified appropriately.

Table 4 provides the results of the hypotheses tests. In Model 1, we tested all the control variables. In Model 2, we tested the direct relationship between city government efficiency and export intensity, and we find a positive relationship between city government efficiency and export intensity. In Model 3, we tested H2, which predicted that firm performance negatively moderates the relationship between city government efficiency and export intensity. However, we did not find a significant moderation effect. Thus, hypothesis 2 was not supported. In Model 4, we tested H3a, which predicted that state ownership negatively moderates the relationship between city government

efficiency and export intensity. However, we did not find a significant moderation effect for H3a. Thus, hypothesis 3a was not supported. In Model 5, we tested H3b, which predicted that foreign ownership positively moderates the relationship between city government efficiency and export intensity. We find a significant positive moderation effect for H3b. Thus, hypothesis 3b was supported. In Model 6, we tested H4, which predicted that young firms positively moderate the relationship between city government efficiency and export intensity. We find a significant moderation effect for H4 such that younger firms are more likely to benefit from an efficient city government. Thus, hypothesis 4 was supported. In Model 7, we tested all hypotheses together. Most of results are consistent with previous results.

Endogeneity Test

We adopt ivtobit to test endogeneity because STATA software doesn't include a metobobit endogeneity test. The Wald test of exogeneity shows a P value less than 0.05, which means the original variables has endogeneity.

Then we adopt 2SLS method and select an instrumental variable. The instrumental variable selection follows two rules: first, it directly affects the independent variable; second, it doesn't affect the dependent variable. The instrumental variable that we selected is financial efficiency. It equals to fiscal revenue/fiscal expenditure.

Robustness Tests and Post-Hoc Analyses

We also tested the robustness of the results. First, robustness checks were performed to separately test the relationships between city government efficiency and export intensity in each industry (food industry, textile industry, chemical industry,

mineral industry, and equipment industry). The direct positive effect is found in all five industries.

Second, we use 8 years and 15 years separately to classify young and mature firms in our firm age as a moderator. The results were consistent with the main findings.

Third, we reexamined the city government efficiency and export intensity relationship by using subcategories of city government efficiency. For example, we use “government service to firms” and “firm’s tax burden” respectively to replace city government efficiency. Comparing the two sets of models, the results are consistent.

Fourth, we substituted an alternate variable measurement: Total Assets to replace Number of Employees to represent firm size. The results were consistent with the main findings, supporting the robustness of the main results.

Fifth, instead of using multilevel tobit regression to test our hypotheses, we adopt the regular tobit regression to retest all hypotheses. Most of the results are consistent with the previous results.

Insert Table 9 about here (Correlation table)

Insert Table 10 about here (Main results)

Insert Table 11 about here (Robustness Tests and Post-Hoc Analyses)

DISCUSSIONS AND CONCLUSIONS

For emerging market firms, exports are generally the most viable way to internationalize given limited capital and experience. Within this manuscript, we have

examined some of the factors that impact export intensity of firms using a dataset of 36,279 Chinese manufacturing firm-year observations from 2001 to 2007. We first hypothesized relationships of city government efficiency with export intensity in emerging markets. Our findings indicate that city government efficiency has a positive relationship with export intensity, which confirms that government plays a big role in internationalization not only in advanced markets but also in emerging markets (Korhonen, Luostarinen & Welch, 1996; Ndubisi, Shamsuddoha & Ali, 2009). This study focuses on the city level government, which brings attention from the national level to the regional and city level (Qian, Khoury, Peng & Qian, 2010). As this is an initial research area, we expect to bring more attention to the role of city level government and how it affects internationalization. The finding also extends external stakeholders as one of the dynamic capabilities of firms to emerging market firms (Henisz, 2016).

We advance the internationalization literature by highlighting the importance of city government efficiency on a firm's export intensity, particularly in terms of exports from emerging markets. Most prior studies imply that emerging market firms use external factors to help them enter advanced markets (Chen, 2017; Alon, Yeheskel, Lerner & Zhang, 2013). While other studies illustrate the importance of external factors in general without looking into specific applications, this study takes a step forward by looking into the relationship between government and the firm. Given the importance of relationships (e.g., *guanxi* in China) in emerging markets, these results support the notion that government assistance positively impacts emerging market firms' internationalization (Shamsuddoha, Ali, & Ndubisi, 2009). We find that city government efficiency has a positive relationship with export intensity in our sample.

Research Implications

We develop a theoretical framework and examine (1) the impact of city government efficiency on export intensity; (2) the moderation effects of performance, ownership types, and firm age on the relationship between city government efficiency and export intensity. This study generates the following significant findings. First, given the fact that city government efficiency helps firms access information and resources, city government efficiency does appear to be an important influence on the ability of firms to seize export opportunities, the support being extremely important to domestic private-owned firms. Second, the relationship between city government efficiency and export intensity was negatively impacted by young firm.

This study contributes to the international business and strategy literature by extending the study of firm capabilities into a non-market context through analyzing how local government efficiency help firms build capabilities in internationalization and increase export intensity. This study also brings government efficiency to the local institution level (Reinecke & Schmerer, 2017). Although city government efficiency is not under the firms' control, the firm can still view this advantage as an external factor that enhances the firm's capabilities.

This study opens up a large area for future research. First, while the sample of the current study focuses on manufacturing firms in China, future research could extend the focus to include the service sector and to compare the relationship between two different sectors. Second, while the government-firm relationship is measured at the city level, future research could extend the study by looking more specifically at the impact of

different types of city government efficiency, or by examining provincial level and national level government efficiency and how they are interrelated with each other.

Managerial Implications

The findings also suggest two different perspectives of managerial implications. From the firm's perspective, managers need to understand the importance of city government efficiency and take the initiative to establish relationships with related departments in the government. City government efficiency helps firms to better understand policy changes and have earlier access to information and resources. From the government perspective, the government should take the initiative to build support structures for companies, given the demonstrated impact of government efficiency on important outcomes for both firms and governments. While beyond the scope of this study, this could include developing information platforms for firms, such as expositions and associations. Those platforms not only provide chances for firms to connect with the government but also help firms to understand information and policies, as well as connect firms with global resources and networks. While this study focused on relationships at the city level, it may have similar implications for higher government levels.

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APPENDIX C
Figure 2. Conceptual model

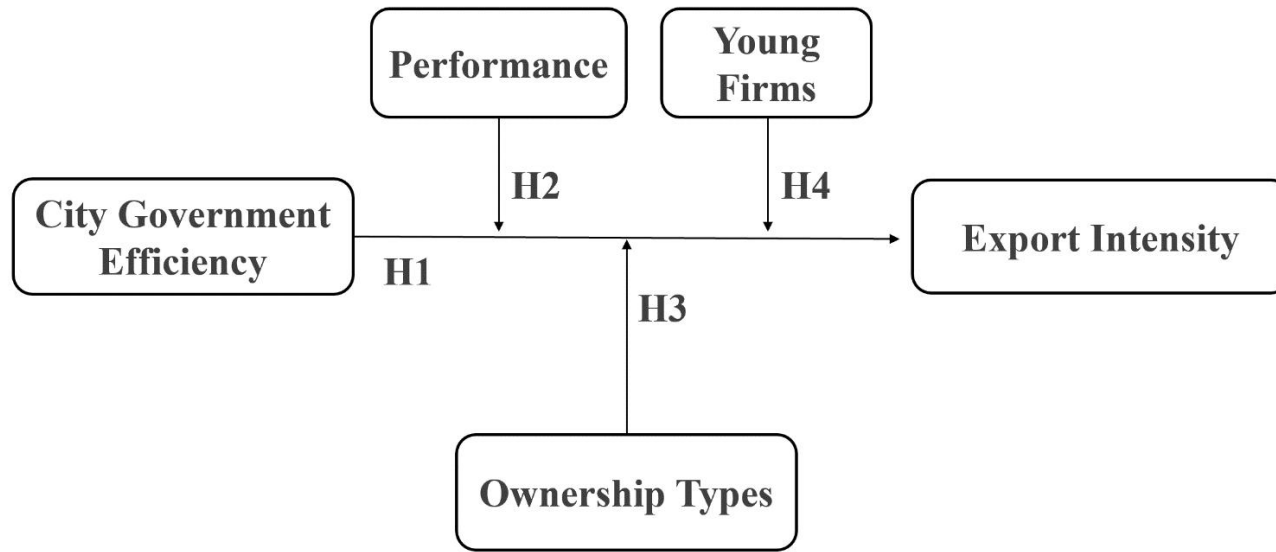


TABLE 7. Breakdown by industry.

Industry Name	Obs
Food Industry	3,152
Textile Industry	8,882
Chemical Industry	7,686
Mineral Industry	5,828
Equipment Industry	15,411

TABLE 8. Breakdown of City Government Efficiency Measurement

<i>government's concern for firms</i> (10%)	number of inspections that a mayor or secretary of the municipal party conducted at a firm (5%)		Data Source: Party Newspaper Database
	number of discussions that a mayor or secretary of the municipal party had with the firm (5%)		Data Source: Party Newspaper Database
<i>government services to firms</i> (40%)	infrastructure (10%)	road area divided by total area of the city	Data Source: Statistical Yearbook of Urban Construction
		high-speed train passes	Data Source: www.12306.cn, an official website of China Railway Customer Service Center
	financial service (10%)	year-end balance of deposits and loans divided by GDP	Data Source: City Statistical Yearbook
		financial sector employment divided by total population	Data Source: City Statistical Yearbook
		number of bank outlets divided by total population	Data Source: Baidu Map, one of the most frequently used maps in mainland China
	market intermediary (10%)	number of law firms divided by total population	Data Source: Baidu Map
		number of accounting firms divided by total population	Data Source: Baidu Map
e-government efficiency (10%)	government websites' online service matters and efficiency and mobile government service efficiency (Wechat public account and official Weibo account)	Data Source: Tsinghua University Institute of Science Research Report on the Performance of the Chinese Government Website	
<i>firms' tax burden</i> (10%)	sales tax and associated charge divided by industrial output in the above scale industrial enterprises		Data Source: City Statistical Yearbook
	VAT payable this year divided by industrial enterprises		Data Source: City Statistical Yearbook
<i>government integrity</i> (10%),	total number of inspected government officials divided by total number of government officials of the city (5%)		Data Source: Central Commission for Discipline Inspection website
	corruption news divided by total number of news (5%)		Data Source: baidu.com, the most frequent used search engine in mainland China
<i>government transparency</i> (30%),	openness of government online service procedures (15%)		Data Source: Tsinghua University Institute of Science Research Report on the Performance of the Chinese Government Website
	fiscal transparency (15%)		Data Source: Tsinghua University Research Report: Fiscal Transparency Index published by the School of Public Administration of Tsinghua University

TABLE 9. Correlation table.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Export Intensity	1.000											
(2) Government Efficiency	0.163*	1.000										
(3) ROA	-0.047*	0.078*	1.000									
(4) State Ownership	-0.342*	0.131*	0.134*	1.000								
(5) Foreign Ownership	0.385*	0.246*	-0.016*	0.475*	1.000							
(6) Firm Age	-0.225*	0.106*	0.091*	0.446*	-0.286*	1.000						
(7) Firm Size	-0.038*	0.100*	0.062*	0.331*	-0.085*	0.288*	1.000					
(8) Leverage	-0.007	0.001	-0.004	0.004	-0.001	0.005	-0.001	1.000				
(9) Innovation Intensity	-0.120*	0.029*	0.024*	0.201*	-0.168*	0.126*	0.199*	-0.004	1.000			
(10) City GDP	0.085*	0.101*	-0.056*	-0.089*	0.166*	-0.094*	-0.039*	0.001	-0.010*	1.000		
(11) City Firm No.	0.037*	0.103*	-0.049*	0.011*	0.116*	-0.025*	-0.037*	-0.001	0.001	0.373*	1.000	
(12) City Manu No.	0.002	-0.001	-0.005	0.008	-0.004	-0.005	0.005	-0.001	0.011*	-0.000	0.432*	1.000

* shows significance at the 0.05 level

TABLE 10. Main Results Predicting Export Intensity.

	(1)	(2)	(3)	(4)	(5)	(6)
H1: City Government Efficiency	0.816*** (0.120)	0.814*** (0.120)	0.806*** (0.114)	0.589*** (0.096)	0.842*** (0.120)	0.608*** (0.097)
H2: ROA		-0.113 (0.082)				-0.127 (0.082)
City Government Efficiency *ROA		0.515 (4.607)				1.147 (4.614)
H3a: Ownership Types			-0.120*** (0.034)			0.008 (0.038)
City Government Efficiency *State			0.204 (1.969)			-0.777 (2.120)
H3b: Ownership Types				0.077 (0.039)		0.076 (0.043)
City Government Efficiency *Foreign				13.216*** (2.444)		13.223*** (2.618)
H4: Firm Age					-0.066** (0.023)	-0.060** (0.023)
City Government Efficiency *Firm Age					4.903*** (1.406)	4.857*** (1.406)
Firm Size	3.978*** (0.337)	3.989*** (0.336)	4.135*** (0.337)	3.794*** (0.331)	4.038*** (0.337)	3.892*** (0.333)
Leverage	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Innovation_intensity	-3.472** (1.280)	-3.468** (1.280)	-3.260* (1.280)	-2.863* (1.277)	-3.477** (1.280)	-2.856* (1.277)
City GDP	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
City Firm No.	0.000***	0.000***	0.000***	0.000*	0.000***	0.000*

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
City Manu No.	-0.000**	-0.000**	-0.000**	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	-	-29.358***	-29.219***	-23.611***	-31.700***	-25.723***
	29.429**					
	*					
	(5.526)	(5.508)	(5.378)	(4.832)	(5.547)	(4.909)
N	36265	36265	36265	36265	36265	36265
chi2	873.694	888.735	935.975	1341.517	887.585	1373.271
p	0.000	0.000	0.000	0.000	0.000	0.000
ll_c	-	-1.34e+05	-1.33e+05	-1.32e+05	-1.34e+05	-1.32e+05
	1.34e+05					
p_c	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Industry and Year dummy included.

TABLE 11. Robustness Tests and Post-hoc Analyses.

	Food Industry	Textile Industry	Chemical Industry	Mineral Industry	Equipment Industry	8 Years	15 Years	Total Assets	Regular Tobit Regression
H1	+	+	+	+	+	+	+	+	+
H2	-	NS	-	-	NS	NS	NS	NS	-
H3a	-	-	NS	-	-	-	NS	NS	-
H3b	+	+	+	+	+	+	+	+	+
H4	+	+	+	+	+	+	+	+	+

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