The Dynamic Core Capability Utilization via Big Data Management for Sustainable Competitive Advantage on Micro Enterprises Performance in Beijing, China

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Abstract

This research aimed to study (1) the factors that affect the sustainable competitive advantage; (2) the mediating role of corporate innovation and value creation between dynamic core capability and sustainable competitive advantages; and (3) develop the dynamic core capability utilization of big data management on sustainability. The research instrument is a mixed method, collected data from a sample of 468 employees of enterprises in the 15 industries in Beijing of China. The statistics for data analysis were frequency, percentage, mean, standard deviation, and structural equation model path analysis.

The results of this research found that: (1) the factors of corporate innovation, Dynamic core capability and value creation affect the sustainable competitive advantage by the values of 0.124, 0.255 and 0.319 respectively. (2) the mediating corporate innovation (0.085) and value creation (0.103) between dynamic core capability (0.246) and sustainable competitive advantages (0.348) to organization performance. And (3) To develop the dynamic core capability utilization of big data management on sustainability of the SEMS in Beijing, China for Chinese enterprises, explore the mediating role of enterprise innovation and value creation between dynamic core competencies and sustainable competitive advantage, provide new perspectives and practical insights for the realization of sustainable competitive advantage.

Keywords: Dynamic core capability; Big data; Small and medium-sized enterprises; Transformation ability; Organizational ability; Collaborative ability; Sustainable ability

Introduction

SMEs in Beijing have strong innovation ability, high technological content, good activity and growth, contributing more than 30% of the city's tax revenue, more than 40% of the business income, more than 50% of the technological invention patent authorization, more than 60% of the employment opportunities, and more than 90% of the number of enterprises, which is an important foundation for promoting technological and industrial innovation (Circular, 2023: Online) and realizing high-quality economic development, and an important support for promoting the "Five Sons" linkage strategic layout of the capital city. "In 2021, with the continuous optimization of the city's business environment, the number of SMEs will increase steadily, their business revenue will continue to grow, their technological innovation will become more active, and the overall development trend of quality and quantity will rise. Source (Beijing SME Development Report 2021) (Beijing, gov, 2022: Online)

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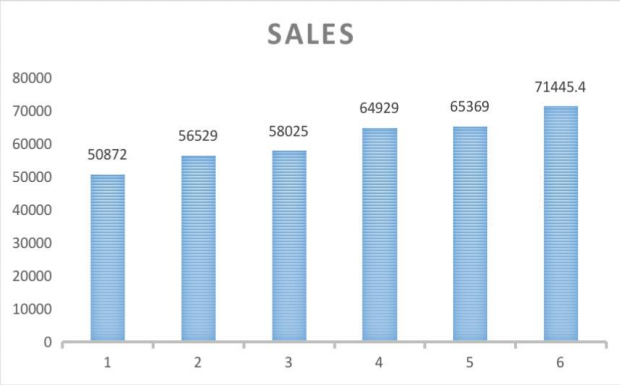
At the end of 2021, there were 1,694,000 MSMEs operating in Beijing, employing 2,942,000 people. This is an increase of 120,000 from the end of 2020. (China, gov, 2023: Online)

In 2021, the city's small, medium and micro enterprises above designated size realized operating revenues of 7144.54 billion yuan, a year-on-year increase of 15.1%; and total profits of 532.52 billion yuan, a year-on-year increase of 48.4%. Among them, the manufacturing, accommodation and catering, culture, sports and entertainment, and software and information service industries grew faster, with operating revenues increasing by 29.4%, 22.4%, 22.3%, and 23.7%, respectively, year-on-year. (National Bureau of Statistics of China, 2022: Online)



Picture 1 2016-2021 Operating Income of Small, Medium and Micro Enterprises Above Scale in Beijing (Billions of Yuan)

In 2021, the city received a total of 10,159 pre-examination cases of patent applications, of which 6,591 came from small and medium-sized enterprises (SMEs), accounting for 65%; 4,935 patents were authorized, of which 3,020 came from SMEs, accounting for 61%, with an average authorization cycle of 78 days, which is far lower than China's average review cycle for patents.2021. (European Patent Office, 2022: Online) The cumulative number of recognized and registered technology contracts was 93,563, with a turnover of 700.57 billion yuan, an increase of 10.9% over the previous year. Among them, 48,640 technology contracts were exported by small and medium-sized enterprises, with a turnover of 155.88 billion yuan. Improve the policy and regulation system. (Rong, 2024: 4)

The patent application process is complex, and the time cycle is too long, which is very unfavorable for small and medium-sized enterprises to apply. (Singh, 2024: Online) In addition, the transformation of patent achievements and patent financing are still very difficult.

Revision of the Beijing Municipal Regulations on the Development of Small and Medium-sized Enterprises and the promulgation of the Beijing Municipal Regulations on Optimizing the Business Environment; (Beijing, gov. 2022a: Online) issuance of the Opinions on the Implementation of Further Enhancing the Vitality of the Private Economy and Promoting the High-quality Development of the Private Economy, the Measures for Handling Complaints Regarding the Protection of Small and Medium-sized Enterprises' Payments and the Opinions on Implementation of the Informative Commitment System for the Registration of Market Entities (for Trial Implementation). (International Monetary Fund, 2024: Online)

The support policies for small and medium-sized enterprises in various districts of Beijing are not very unified, and currently there are too few policies targeting small and medium-sized enterprises, which are not specific and detailed enough. (Chen, 2016: 13)

According to the Beijing Municipality to formulate policies to support the development. Continuously introduced to support the normalization of the epidemic prevention and control to speed up the recovery and development of the new 6 measures to deal with the epidemic prevention and control of the normalization of the healthy development of small and medium-sized enterprises and the promotion of "specialization, specialty and new" small and medium-sized enterprises of the high-quality development of the "double 16" measures, the formation of policy "Combination punch", to help small and medium-sized enterprises to tide over the difficulties and resume production has played a practical and effective role in helping. (Beijing, gov, 2021: Online)

Promoting service facilitation. Realize one-stop handling of all business start-up matters, continue to promote the "separation of licenses" and "multi-certificate" reform and expansion, in the original "twenty-six certificates in one" based on the sale of prepackaged food into the scope of the "twenty-seven certificates in one" reform, to achieve "twenty-seven certificates in one". (World Bank, 2009: Online) On the basis of the original "twenty-six certificates in one", only the sale of prepackaged food into the "multi-certificate" reform category, to "twenty-seven certificates in one". A four-level online government service system covering "city, district, street and community" has been built, and 91.88% of government service matters at the municipal level have been realized as "full network operation". (Vapnek & Spreij, 2005: 152)

Reducing the burden of business operations. Implementing national policies such as VAT exemption for small-scale taxpayers and tax mitigation for small and medium-sized enterprises in the manufacturing industry, increasing the proportion of R&D expenses plus deduction for manufacturing enterprises to 100%, and promoting the realization of "no application, instant enjoyment" and "direct and fast enjoyment", the city will exempt 650,000 taxpayers with a monthly sales of less than or equal to 150,000 from the VAT in 2021, and reduce the VAT levied on 293,000 small-scaled taxpayers. The city has continued to reduce social insurance premium rates, with the unit rate for pension insurance reduced to 16%, the total rate for unemployment insurance reduced to 1%, and the full implementation of the "no-application-now-enjoyment" service model for unemployment insurance premiums, which has benefited 8,040,800 insured persons from 473,400 enterprises. (China-Briefing, 2024: Online)

Overall, it is acceptable, but there should be relatively few policies targeting high-tech innovation, tax reduction, and office space reduction for small and medium-sized enterprises.

Building platforms for innovation and entrepreneurship. It has organized 206 online and offline activities represented by the "Small and Medium-sized Enterprises Service Month", serving more than 374,400 enterprises annually; held a series of dual-creation brand events such as HICOOL, "Creative Beijing", "Innovation Competition" and "Entrepreneurship Competition", with more than 10,000 teams participating annually. HICOOL, "Creator Beijing", "Innovation Competition", "Entrepreneurship Competition" and other series of dual-creation brand events are organized, with more than 10,000 participating enterprises and teams. By building a platform for exchange and cooperation, expanding the application scenarios of products and helping enterprises expand their markets, we have summarized the financing intentions of more than 500 enterprises, with a financing amount of about 5.8 billion yuan. (OECD, 2023: Online)

Beijing actively carries out the pilot project of intellectual property insurance. 2021, 201 enterprises were precisely supported to insure 1,706 patents in the form of premium subsidy, providing premium subsidy of 19 million yuan, and realizing insurance coverage amounting to 1.667 billion yuan. (Beijingetown, 2022: Onleine) The patent enforcement insurance claims of two insured enterprises have been completed, with a claim amount of nearly 600,000 yuan, initially forming the "Beijing model" of intellectual property insurance. (Hkexnews, 2024: Online)

Currently, small and medium-sized enterprises still face difficulties in financing and high financing costs. (Yoshino et al., 2016: Online)

Research Objectives

1. To study the factors that affect the sustainable competitive advantage of the firm in China.

2. To study the mediating role of corporate innovation and value creation between dynamic core capability and sustainable competitive advantages.

3: To develop the dynamic core capability utilization of big data management on sustainability of the SEMS in Beijing, China.

Research Methodology

Sample and data collection.

1. For quantitative method, Enterprises in the above 15 industries all have less than 300 employees and an annual output value of between 30 million and 50 million yuan. A sample of 468 enterprises was selected from 2,571 enterprises in the 15 industries, and the questionnaires were distributed according to the corresponding sample size of the industries, with at least one person filling out the questionnaire in each enterprise. The sample size (n) determined according to the Yamane (1973:1140) sampling formula is about 400, which meets the requirement of a total population of 169.4 enterprises, and the error is less than 0.05, so the population sample of this study is real and valid.

2. For qualitative method in this study, Based on the norms and principles of semi-structured expert interviews, for the form and content of interviews, interviews are mainly based on predetermined questions, not necessarily using the original words of the questions, and new questions can be raised in the live conversation, but the core topics have always been on the list. During the semi-structured visit, a detailed understanding of an issue of particular interest will be carried out, and case data and examples will be collected comprehensively, systematically, and in-depth (Jahani., Jain., & Ivanov, 2023).

- Access the object: total of 15 interviewees were invited, including 5 business decision makers (Chairman); Enterprise managers (General Manager) (8 people); Scholars (2 people);
- Pre-interview preparation: The interview process is recorded using electronic devices with the consent of the interviewee, and then transcribed.
- Precautions: Maintain close communication with the interviewee and contact them in case of special problems to ensure the correct interpretation of relevant issues.

Instrument

In this research, according to the existing mature scale, and each variable, design the questionnaire, collect a certain amount of empirical data to test the reliability and validity of the scale, and determine the measurement scale of each variable.

At the same time, a small-scale pre-test was conducted, and then the order of the questions and expressions were adjusted according to the results of the test to ensure that the interviewees could correctly understand the contents of the questions and answer them conscientiously by

1. For quantitative methods

This study will use a questionnaire to collect relevant data, combined with the background of this study is the Enterprises in the above 15 industries all have less than 300 employees and an annual output value of between 30 million and 50 million yuan in Beijing, China, the research object is the entrepreneur in Beijing, China, the content of the questionnaire is based on the variables of the scale for the questionnaire design, which can be divided into a total of fourth parts.

The first part of the questionnaire is the introduction, indicating the purpose of the survey, the use and the survey background description, to ensure that no personal privacy, to obtain the first step of the trust of the respondents, while giving a certain amount of background information, and to guide the respondents on how to fill out this questionnaire, in order to reduce their vigilance, and fill out the questionnaire seriously.

The second part of the questionnaire is the basic information, in order to understand the distribution of the sample.

The third part is the variables related to the organization performance. This part mainly asks employees about their enterprise while working in their industry, which is measured in four aspects: Dynamic core capability by transformation capability, organization capability, collaboration capability; corporate innovation; value creation; and sustainable competitive advantage.

The fourth part is the mediating variables are organization capability, collaboration capability.

All variables in this questionnaire are scored on a 5-point Likert scale, where 5 stands for "Strongly Agree", 4 stands for "Somewhat Agree", 3 stands for "Unsure", 2 stands for "don't really agree", and 1 "don't agree at all".

2. For Qualitative Method

Semi-structured interviews are widely used in academia for survey research. In general, Semi-structured interviews were mostly face-to-face exchanges between the researcher and the interviewee on the main content of the study. To explore the understanding, attitude, and motivation of research subjects towards issues related to education in practice.

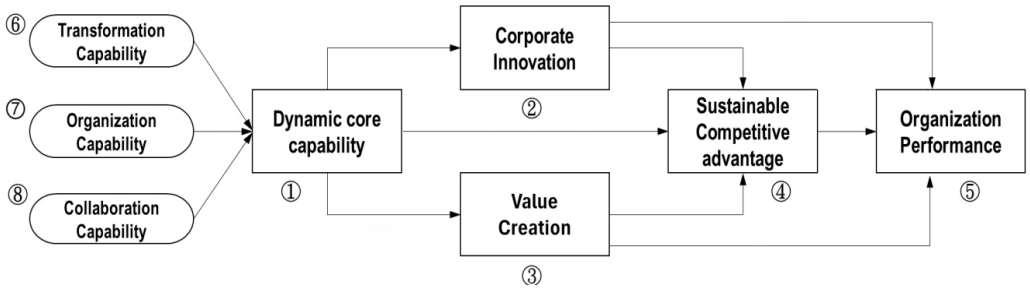
A relevant aspect of this study is the survey of entrepreneur within Beijing, China. Selecting in the above 15 entrepreneurs of 15 industry all have less than 300 employees and an annual output value of between 30 million and 50 million yuan, for a total of 15 people, the interviewer was selected as a person who had experience in for sustainable competitive advantage on micro enterprises performance. The interview was open-ended so that the interviewer could explain the message that was on their minds through their most recent experience for competitive and working.

Data Analysis

The data analysis software used in this study was SPSS and AMOS, with the help of which the reliability and validity of the scales, the basic descriptive statistics of the samples, and the regression model for hypothesis testing were statistically analyzed.

Research Conceptual Framework

A review of the relevant theoretical literature above shows the effect and influence of the first three variables (the ability to change organizational power and cooperation power) shown in the conceptual framework of this research on the formation mechanism of dynamic core capabilities (independent variables) are explored, and the mediating moderating effect and relationship between dynamic core capabilities in intermediary variables (Corporate innovation and value creation) are clarified, explained and verified, and the impact of sustainable competitiveness (dependent variable) caused by the role and intervention of the above variables is clarified. and the results for organizational performance (dependent variable) based on this impact, which provide a theoretical basis.



Picture 1 Research Conceptual Framework

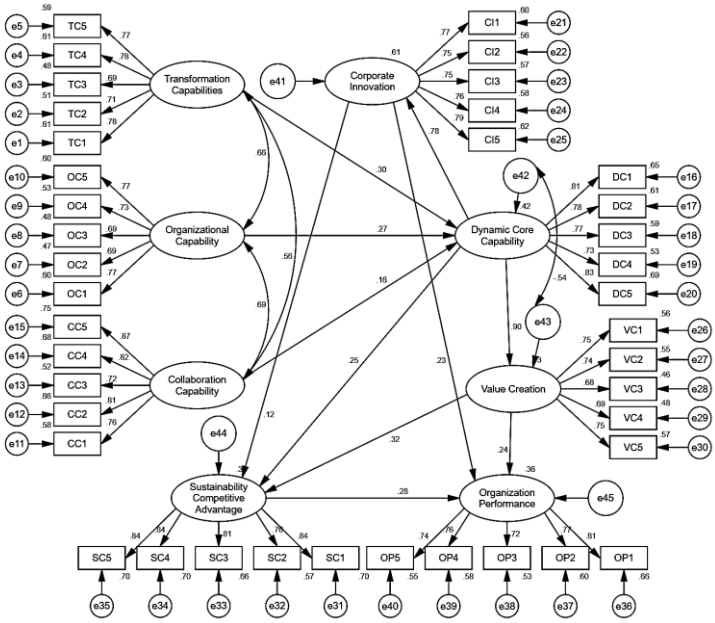
Research Result

For Quantitative Method

1. The demographic sample for this thesis was 468, with more males than females in terms of gender. The frequency of males was 239 (51.1%). The analysis of the age groups shows that: 187 people (40.0%) are 41-50 years. The analysis of education shows that: 188 persons (40.2%) have bachelor's degree. The analysis of the office shows that: 207 persons (44.2%) are manager. And the results of working years show that: 256 persons (54.7%) more than 10 years.

By the 1st objectives of research is to study the factors that affect the sustainable competitive advantage of the firm in China;

Structural Equation Modeling, using AMOS 26.0, a structural equation model was constructed with Dynamic core capability (transformation capability, organization capability, collaboration capability), corporate innovation, value creation, and sustainable competitive advantage as the dependent variable for model testing to organization performance.



Picture 2 Structural equation modeling (unstandardized coefficients)

Table 1 Degree of model fit.

Model Fitness	X^2	df	X^2/df	RMR	GFI	TLI	CFI	RMSEA
statistical value	948.651	725	1.308	0.043	0.910	0.977	0.979	0.026
reference point			<3	<0.05	>0.9	>0.95	>0.95	<0.08
Attainment of standards			reach a set standard	reach a set standard	reach a set standard	reach a set standard	reach a set standard	reach a set standard

From the above table, it can be seen from the table, X^2/df is 1.308, less than 3, RMR is 0.037, less than 0.05, GFI is 0.911, greater than 0.9 , TLI is 0.977, greater than 0.95, CFI is 0.979, greater than 0.9, and RMSEA is 0.026, less than 0.08, and according to the criteria of model fitting indicators, the model's fitting indicators are all in line with requirements , so the path of the model is analyzed.

Table 2 Results of path significance test

Pathway			Estimate	S.E.	C.R.	P
DC	<---	TC	0.303	0.055	5.4	***
DC	<---	OC	0.271	0.067	4.147	***
DC	<---	CC	0.162	0.061	2.981	0.003**
CI	<---	DC	0.781	0.045	14.474	***
VC	<---	DC	0.905	0.077	9.85	***
SC	<---	VC	0.319	0.074	5.633	***
SC	<---	CI	0.124	0.107	1.524	0.127

SC	<---	DC	0.255	0.097	2.885	0.004**
OP	<---	SC	0.28	0.046	4.935	***
OP	<---	VC	0.241	0.06	4.207	***
OP	<---	CI	0.226	0.057	4.208	***

Note: *** indicates P<0.001. *<0.05; **<0.01; ***<0.001.

According to the analysis of the above graphs, except CC->DC, DC->SC P-value is 0.003**, 0.004** which are in the reasonable range and have significant effect. But CI->SC P-value is 0.127 greater than >0.05, there is no significant correlation effect, and all other paths have significant effect.

By the 2nd of objective is to study the mediating role of corporate innovation and value creation between dynamic core capability and sustainable competitive advantages;

According to the results of the path analysis, the hypothesis test is valid, in order to explore whether there is a mediating effect in these significant paths, we run the Bootstrap method in AMOS26.0, and choose to repeat the method 5000 times, the confidence interval criterion is 95%, therefore, we use the syntax that comes with the AMOS software to assign all the relevant paths to the value, and calculate the standardized specific mediating effect.

Table 3 mediation effect test

Parameter	Estimate	Lower	Upper	P
CI-SC-OP(indirect effects)	0.085	0.041	0.135	0.000
VC-SC-OP (indirect effects)	0.103	0.055	0.156	0.000
DC-CI-SC(indirect effects)	0.246	0.156	0.343	0.000
DC-VC-SC(indirect effects)	0.348	0.233	0.478	0.000
CI-OP (direct effect)	0.228	0.113	0.339	0.000
CI-OP (total effect)	0.313	0.198	0.421	0.000
VC-OP (direct effect)	0.244	0.128	0.361	0.000
VC-OP (total effect)	0.347	0.240	0.451	0.000

For Qualitative Method

The 3rd objectives is to develop the dynamic core capability utilization of big data management on sustainability of the SEMS in Beijing, China

The summarized analysis of the interview results (Semi-structured) to explore the understanding, attitude, and motivation of entrepreneur within Beijing, China. Selecting in the above 15 entrepreneurs of 15 industry findings are as follows: Dynamic core capability, value creation and sustainable competitive advantage factors was indirect effects between each other estimate is 0.246. Dynamic core capability, corporate innovation and sustainable competitive advantage factors was indirect effects between each other estimate is 0.348. Corporate innovation, sustainable competitive advantage and organization performance factors was indirect effects between each other estimate is 0.085. Value Creation, sustainable competitive advantage and organization performance factors was indirect effects between each other estimate is 0.103. Corporate innovation and organization performance factors was direct effects between estimates is 0.228, total effect is 0.313. Value creation and organization performance factors was direct effects between estimates is 0.244, total effect is 0.347.

Table 4 hypotheses studied in this research:

No	item	Path coefficient	Accepted/ Reject
H1	The Effect between transformational capabilities (TC) and dynamic core capabilities (DC) is monocorrelated. Transformation capability factors have a positive impact on dynamic core capability factors.	0.303	Accepted
H2	The Effect between organizational capability (OC) and dynamic core capability (DC) is single-correlated. Organizational capability factors have a positive impact on dynamic core capability factors.	0.271	Accepted
H3	The Effect between collaboration capability (CC) and dynamic core capability (DC) is a single correlation. The collaboration capability factor has a positive impact on the dynamic core capability factor.	0.162	Accepted
H4	The Effect between dynamic core capabilities (DCs) and Corporate innovation (CI) is linearly related. Dynamic core competency factors have an impact on Corporate innovation factors.	0.781	Accepted
H5	The Effect between dynamic core capabilities (DCs) and value creation (VCs) is linearly correlated. Dynamic core competency factors have an impact on value creation factors.	0.905	Accepted
H6	The Effect between business corporate innovation (CI) and sustainable competitive advantage (SC) is fully correlated. Corporate innovation factors have an impact on sustainable competitiveness factors.	0.124	Reject
H7	The Effect between value creation (VC) and sustainable competitive advantage (SC) is fully correlated. Value creation factors have an impact on sustainable competitive advantage factors.	0.319	Accepted
H8	The Effect between sustainable competitive advantage (SC) and organizational performance (OP) is fully correlated. Sustainable competitive advantage factors have an impact on organizational performance factors.	0.28	Accepted
H9	The effect between corporate innovation (CI) and organizational performance (OP) is perfectly correlated and corporate innovation (Cl) has an effect on sustainable competitive advantage(SC) factors.(CI-SC-OP)	0.226	Accepted
H10	The effect between value creation (VC) and organizational performance (OP) is perfectly correlated and value creation (VC) has an effect on sustainable competitive advantage(SC) factors.(VC-SC-OP)	0.241	Accepted
H11	Dynamic core capabilities (DC) has significant effect to sustainable competitive advantage (SC)	0.255	Accepted

Discussions

1. The results of this study indicate a significant positive impact based on dynamic core competencies and sustainable competitive advantage, and sustainable competitive advantage of firms as one of the lifebloods of long-term development and survival of firms, it emphasizes the positive and significant impact of dynamic core competencies (DCs) on sustainable competitive advantage (SC) of firms. This suggests that having strong dynamic core competencies can help firms gain a lasting competitive advantage in a highly competitive market, as emphasized by Teece., Pisano and Shuen (1997). They argue that core competencies are unique, hard-to-imitate resources of firms and are a key source of sustained competitive advantage. Therefore, the findings are consistent with the key role of dynamic core competencies in terms of theoretical and literature perspectives. So it possesses valuable, unique, hard to imitate,complexity. This researchs responds to the fact that research based on the relationship between dynamic core competencies and sustainable competitive advantage has developed a number of perspectives that are essentially the same despite their differences.

There are two representative views: the second is that Teece, Pisano and Shuen (1997) argue that any homogeneous assets and physical objects that can be bought and sold in the marketplace are not strategic and cannot result in a competitive advantage. Competencies are unique and cannot be acquired in the market form, but only through activities within the firm; therefore, they are valuable, unique, difficult to imitate, and a source of competitive advantage. Dynamic core competencies are unique, heterogeneous and have value, scarcity, complexity and difficulty of substitution, subjectivity and are a source of sustainable competitive advantage. Thus, this view considers capabilities or resources as a source of competitive advantage and dynamic core competencies as a source of sustainable competitive advantage. Second is the view of Eisenhardt and Martin (2000). They argue that competitive advantage comes from the allocation of resources created by dynamic core competencies rather than from the dynamic core competencies themselves.

2. The results of this study show that based on sustainable competitive advantage (SC) has a significant positive impact on organizational performance (OP), the results of the research data support the conclusion that sustainable competitive advantage (SC) on organizational performance (OP) (SC->OP) is valid, i.e., the customer loyalty to the product or service is very high, the impact of a lot of repeat customers is the largest, and the impact of maintaining a good market share is relatively small. Sustainable competitive advantage is temporary in nature because competitors tend to find ways to mimic the competitive advantage gained. However, the average business organization is relatively neglectful of organizational performance management because it must be busy constantly developing new sustainable competitive advantages to stay ahead of competitors. Meanwhile, This research responds that sustainable competitive advantage analysis helps to improve the organizational performance of firms (Bayraktar, Hancerliogullari, Cetinguc, & Calisir, 2017; Chen, Wu, Mao, & Li, 2017; Yasar, 2010).

The impact of sustainable competitive advantage analysis on firms' organizational performance was found to be positive and significant, and the findings of This researchs are consistent with the results of previous studies such as (Alsoboa, Al-Ghazzawi, & Joudeh, 2015; Chenhall & Langfield-Smith, 2007; Fei & Isa , 2023). This can be proved by the fact that the use of sustainable competitive advantage analysis helps the company to assess the capabilities

and potential of the organization, helps to assess the internal and external environment and analyze the internal strengths and weaknesses as well as opportunities and threats.

3. The research questions in this paper, including the factors affecting the sustainable competitive advantage of Chinese firms, the mediating role of firms' innovation between dynamic core capabilities and sustainable competitive advantage, and how to improve the impact of big data management on the sustainability of small and micro enterprises in Beijing, both the competitive strategy school and the resource strategy school emphasize the importance of sustained competitive advantage, and that dynamic core capabilities have a The importance of innovation and the role of dynamic core competencies is emphasized by both the competitive strategy and resource strategy schools of thought, which emphasize the importance of sustained competitive advantage and the direct impact of dynamic core competencies on a firm's competitive advantage, and the important role of innovation in mediating the process (information theory, dynamic capabilities theory, sustainability theory, and the theory of business organization). (Lee.,Wu., & Jong, 2022) The study concluded that firms must continuously update and reshape their core competencies to adapt to market changes and this requires firms to innovate, but what impact firm innovation brings to sustainable competitive advantage (SC) is subject to various conditional factors at the time and the results will be different.

This is to maintain profitability and excellence in the long run in a competitive market environment (Hoffman, 2000). Both schools of theory consider a firm's core competencies as the key to achieving competitive advantage. Core competencies include resources and capabilities, which need to have certain uniqueness, difficulty in imitation and irreplaceability (Lee., Wu., & Jong, 2022), consistent with this paper.

4. Research suggests that value creation mediates the link between dynamic core competencies and sustainable competitive advantage. This is consistent with dynamic capabilities theory and value creation theory.

Related to Porter's school of competitive strategy and Barney's school of resource strategy, these theories focus on the impact of the firm's external environment and internal capabilities on competitive advantage. (Spanos., & Lioukas, 2001: 932) The importance of resources and capabilities is also emphasized in the literature. In China's specific environment, there may be unique factors, such as policies and market dynamics, which may differ from those in other countries. (Tan et al., 2006: 214) Therefore, the factors of sustainable competitive advantage for Chinese firms may be different to some extent from some of the factors in the international literature.

Big data management can help improve the dynamic core competencies of Chinese MSMEs and enhance their sustainability. This is consistent with the resource and capability perspective. (Behl et al., 2022: 387) Big data management as a specific resource and capability may be utilized in different ways and with different effects depending on the type of firm and industry. In addition, different types of resources are mentioned in the literature, which may involve physical and knowledge resources, among others. (Shamim et al., 2018: 49)

In summary, the hypotheses are largely in line with existing theoretical frameworks of strategic management and competitive advantage, but also provide some new insights in the specific context of China. (Barney & Zhang, 2009: 26) The study emphasizes the need for firms in the Chinese market to take into account the particular factors of the domestic and international environment and to flexibly use innovation, value creation and resource management to achieve sustainable competitive advantage.

5. In The effect between value creation (VC) and organizational performance (OP) is perfectly correlated and value creation (VC) has an effect on sustainable competitive advantage (SC) factors. (VC-SC-OP) This hypothesis suggests that value creation plays a mediating role between firm performance and sustainable competitive advantage. The results of empirical research show that value creation has a significant positive impact on organizational performance. Value creation is the process of ultimately creating value by satisfying customer needs, outperforming competitors, and by providing products, services, or solutions. This is in line with related ideas in information theory, dynamic capabilities theory and sustainability theory. (Yakin et al., 2017: 19) Value creation has a significant impact on organizational performance by increasing revenue, reducing costs, increasing market share, improving customer satisfaction and loyalty, increasing brand value, and creating opportunities for innovation that support sustainable growth and competitive advantage. (Dieffenbacher, 2023: Online) As a result, organizations usually consider value creation as a core strategic objective and continuously strive to deliver superior value to achieve performance improvement.

Similarities: The empirical findings are consistent with related ideas in information theory, dynamic capabilities theory, and sustainability theory, which suggest that value creation has a positive impact on organizational performance. Value creation helps to increase customer satisfaction, loyalty, brand value, reduce costs, increase market share, provide opportunities for innovation, and support sustained growth and competitive advantage. (IMD, 2023: Online)

Differences: Specific empirical findings further refine the ways in which value creation affects performance, such as through high-quality products and services, market share growth, loyal customers, and cost reductions, and these details contribute to a better understanding of the multifaceted role of value creation. (Grönroos, 2017: 242)

Overall, the study's findings are consistent with information theory, dynamic capabilities theory, and sustainability theory, emphasizing the importance of innovation and value creation in Chinese MSMEs. However, the study also emphasizes the role of key mediators in specific contexts, which helps deepen our understanding of the relationship between firm performance and sustainable competitive advantage. (Cagliyan et al., 2022: 637) At the same time, the study provides more directions for future research to explore, such as the differences between different industries and sizes of firms, as well as more specific strategies and approaches to improve the dynamic core competencies of big data management.

6. The effect of corporate innovation on sustainable competitive advantage is not significant. This means that in the Chinese context, the study found that firm innovation does not necessarily lead directly to sustainable competitive advantage. The study shows that dynamic core competencies have a significant impact on sustainable competitive advantage, and that dynamic core competencies are essential for maintaining sustainable competitive advantage. (Papula & Volna, 2013: 5) These capabilities can help firms to adapt and create value in a changing environment, and that firm innovation and value creation play an important role in mediation. There is also a consensus that firm innovation and value creation are important elements, but their impacts may vary in different contexts. (Wilden et al., 2019: 54) The impact of big data management on the utilization of dynamic core competencies of firms and its contribution to the sustainability of sustainable competitive advantage emphasized the key role of big data management in enhancing sustainable competitive advantage of firms.

There is disagreement on the impact of corporate innovation and value creation on sustainable competitive advantage. Some studies may conclude that they do not have a significant impact on sustainable competitive advantage, while others may emphasize their importance. (Farida., & Setiawan, 2022: 163) Some of the literature may provide different evidence on the significance of the mediating role of firm innovation and value creation between dynamic core competencies and sustainable competitive advantage, while other studies may conclude that the impact is small.

Overall, there is some consensus in the literature, but there are also different perspectives, which suggests that the roles of firm innovation, dynamic core competencies and big data management in achieving sustainable competitive advantage may vary in different contexts. (Akaka et al., 2015: 220) This will provide me with a different perspective to think about and look forward to in my future research.

Conclusion

The purpose of this study is to study the factors that affect the sustainable competitive advantage of the firm in China findings are as follows: sustainable competitive advantage factors was direct and indirect effects to corporate innovation, value creation and organizational performance. To study the mediating role of corporate innovation and value creation between dynamic core capability and sustainable competitive advantages findings are as follows: was direct and indirect effects factors. To develop the dynamic core capability utilization of big data management on sustainability of the SEMS in Beijing, China for Chinese enterprises, explore the mediating role of enterprise innovation and value creation between dynamic core competencies and sustainable competitive advantage, provide new perspectives and practical insights for the realization of sustainable competitive advantage.

Synthesize the overall finding as A structural equation model was constructed with Dynamic core capability transformation capability, organization capability, and collaboration capability, corporate innovation, value creation, and sustainable competitive advantage as the dependent variable for model testing to organization performance.

Recommendations

Recommendations in this research

This study explores the utilization of dynamic core competencies to promote sustainable competitive advantage of micro and small enterprises (MSEs) through big data management from different dimensions in different industries. Using MSMEs in Beijing, China, this study explores the complex relationships between dynamic core competencies, firm innovation, value creation and sustainable competitive advantage. It is proposed to study and track these relationships over time as the dimensions change, and therefore, it is proposed to study and track them over time in order to provide more sustainable strategic recommendations that can help firms achieve sustainable competitive advantage in the microenterprise environment in Beijing.

Given that I have used several theories, including information theory, dynamic capabilities theory, sustainability theory, and business organization theory, it is recommended that future research continue to explore the interactions between these theories to better understand the mechanisms of sustainable competitive advantage formation in Chinese microenterprises.

It is recommended that future research delves into and identifies additional factors that contribute to the sustainable competitive advantage of Chinese firms, including external market factors, government policies, corporate culture, and leadership styles. This can be achieved through extensive literature review, qualitative research and surveys. By effectively analyzing the different dimensions of dynamic core competencies in terms of transformational, organizational, and collaborative capabilities, it is further possible to determine which competencies belong to the core competencies.

It is recommended that future research deepens the understanding of the mediating role of firm innovation and value creation between dynamic core competencies and sustainable competitive advantage. This could be done by exploring the mediating mechanisms through more sophisticated statistical analyses, case studies and experiments to validate and explain these mediating relationships, considering that firms' innovation and value creation change over their life cycle and different strategic approaches may be needed at different stages. For example, start-ups may focus more on innovation, while mature firms may focus more on value creation.

It is recommended that future research deepen how sustainable competitive advantage affects different aspects of firm performance. This may include organizational performance, market share, customer satisfaction, etc. Consider the relationship between sustainable competitive advantage and the performance of different industries. Some industries may be more susceptible to sustainable competitive advantage, while others may be affected differently.

It is suggested that future research should focus on how to optimize the utilization of dynamic core competencies in the area of big data management, especially among micro-enterprises in China. This may involve the development of best practice guidelines, data privacy protection and data quality management methods.

It was suggested that the government and relevant stakeholders could develop policies and provide support to encourage microenterprises to innovate in dynamic core competencies and big data management. Training and resource sharing can help businesses better address these challenges. Consider conducting a cross-cultural comparative study to compare the differences between Chinese firms and those in other countries and regions. This can help to provide a more comprehensive understanding of the formation and maintenance of competitive advantage in a globalized environment.

Finally, it is recommended that firms establish effective performance indicators and monitoring systems to track the development of sustainable competitive advantage, core competencies and big data management. This will help to correct problems and develop new strategies in a timely manner.

Although the research work of this paper has been completed, the thinking around this paper is not over. According to the current state of research on the theory of dynamic core competitiveness of enterprises and the research content of this study, the following related issues need to be addressed:

This study uses questionnaire survey method to collect research data and quantitative research method to validate the model. Although the questionnaire survey method is not affected by time, it is difficult to truly reflect the long-term impact of certain strategic decisions of the enterprise on the enterprise to a certain extent due to the fact that the questionnaires are issued and collected in a short period of time and concentrated in one region (Beijing). Therefore, future research can introduce dynamic measurement models or adopt other research methods to analyze the long-term dynamic impact of enterprises' dynamic capabilities of big data management on sustainable competitive advantage, and to predict their innovation, value creation, organizational performance, change and synergy capabilities, etc., so as to provide a reference for the improvement of enterprises' efficiency and value creation capabilities.

In terms of the analysis and measurement tools for each level of the scale, although the method proposed in this study is more practical, the key is to ensure the scientific and rational nature of the collection process and the coverage of the volume. The scale selection in this study is mainly for high-tech enterprises, and its applicability to other types of enterprises has not yet been verified. How to improve the theory and method of measuring the dynamic core competence of enterprise big data management will be the direction of further efforts in the future.

In addition, the current research on the dynamic core competence of big data management is relatively scattered, and there are relatively few studies on the impact of enterprise innovation on sustainable competition, etc. It is recommended that scholars focus on the above directions in the future to promote the formation of a relatively perfect theoretical system of dynamic core competence of big data management.

The above recommendations will help guide future research and practical applications to better understand and improve the performance of microenterprises in Beijing and China in terms of sustainable competitive advantage, dynamic core competencies, and big data management. It is important to ensure that the recommendations are clear, actionable, and help facilitate practical business and policy decisions.

Further research

Firstly, the role of dynamically utilizing core competence through big data management in influencing the sustainable competitive advantage of MSMEs is more complicated, and this study only explores the role of enterprises with big data management dynamic core competence in constructing sustainable competitive advantage from the perspective of enterprise innovation and value creation at the enterprise level based on the information theory, Resource Based View Theory, Dynamic capability theory, Enterprise Organization Management Theory, and the information theory. This study is only based on Information Theory, Resource Based View Theory, Dynamic capability theory, Enterprise Organization Management Theory, and from the perspective of enterprise innovation and value creation at the enterprise level, it explores the role of enterprises with dynamic core capability of big data management in the process of constructing sustainable competitive advantage. In addition, leaders at the organizational level and employees at the individual level also play an important role in the implementation and execution of transformational, organizational and coordination capabilities. Therefore, future research needs to combine multiple theoretical perspectives to build a theoretical framework for the role of dynamic core competencies in sustainable competitive advantage under big data management, in order to deepen the research on enterprise organizational performance in the context of big data management transformation.

Secondly, this study adopts semi-structured interviews and questionnaires to collect research data, and utilizes both qualitative and quantitative research methods to validate the model. Although the questionnaire survey method can be independent of the time, because the questionnaire distribution and collection are completed in a relatively short period of time, it is to some extent difficult to truly reflect the long-term impact of certain strategic decisions and organizational performance of the enterprise. Therefore, future research can introduce dynamic econometric models or use simulation and other research methods to analyze the long-term impact of dynamic core competencies on organizational performance under sustainable competitive advantage, predict sustainable competition in the future, and provide references for improving the organizational performance and price level of enterprises.

Third, from a practical point of view, the actual situation of enterprise organizational performance is not very optimistic, a small number of enterprises can only meet the minimum requirements of organizational performance under big data management, and most enterprises even do not have the content and capability of organizational performance under big data management at all. Therefore, finding the obstacles to enterprise performance has an important impact on promoting the development of organizational performance under big data management, although theoretical research in this area is still relatively weak. Future research needs to dig deeper into the facilitating and hindering factors of enterprise organizational performance from the perspectives of technological innovation, industry competition, enterprise value and capability, and organizational management awareness, while identifying the motives behind the behaviors of enterprises without organizational performance, and finding the internal logic that promotes the transformation of dynamic core competencies into competitive and sustainable practices of enterprises under the management of big data, so as to promote the sustainable development of enterprises, and to assist the development and transformation of SMEs and micro-enterprises in Beijing, and to assist the development and transformation of China. Development and transformation of small, medium and micro enterprises in Beijing.

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