INNOVATION CHINA: CHINESE SMALL AND MEDIUM-SIZED MANUFACTURING SECTOR SMALL- AND MEDIUM-SIZED BUSINESS OWNERS AND MANUFACTURERS CREATE TRANSFORMATIVE INNOVATION NETWORKS

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ABSTRACT

China is moving very quickly towards structural reform and transformation in the face of a global slowdown in economic growth in order to support and promote the expansion of sustainable economic development. China is working hard to change its reputation as a nation that manufactures low-quality items into one that is recognized as a global leader in innovation and design. These supporting policy initiatives have targeted Small and Medium-sized Enterprises (SMEs), which make up the vast majority of Chinese businesses and are the main foundation of the country's manufacturing base. SMEs are rapidly emerging as a key player in China's innovative scene examines networks and innovative tactics among SMEs in China's industrial industries to gain understanding of the country's shift to a homegrown and cutting-edge innovation system, investigates the creation and sharing of information in the core Chinese market, gives information on China's shift to a home-grown, cutting-edge innovation system. Three significant conclusions are presented by the inquiry, which employs a methodology that includes several case studies: Three methods are used to achieve this: The article delineates five distinct categories of innovation strategies, namely Exist, Enhance, Integrate, Edge, and Switch strategies, that vary in their choices and arrangements of exploitation and exploration. Additionally, it examines the connections and interplays between these five strategies and diverse external resources, such as vertical and horizontal networks, and examines the process of knowledge generation and dissemination within China's innovative ecosystem.

Keywords: small and medium-sized enterprise; SME; digital transformation; sustainability; sustainable development; systematic literature review; SLR.

1. INTRODUCTION

The worldwide outbreak of new coronaviruses has resulted in a devastating economic shock that may perhaps surpass the effects of the 2008 financial crisis (Brown and others, 2020). Because China was at the center of the original outbreak, it has been hit the most. China's economic growth has thus slowed down more than in other regions of the globe. All businesses in China will have to postpone going back to work until after the 2020 Spring Festival, with the exception of those that provide medical supplies. Even though 76.8% of China's SMEs resumed operations on March 29, the effects of the shutdown persisted for many weeks after that date. China's gross domestic product decreased 6.8% annually in the first quarter due to health-related accidents. However, our economy grew by 3.2% in the second quarter of this year. Therefore, even though China's efforts to contain epidemics have only lasted a few months, they have shown to be highly effective. Chinese enterprises have been unable to resume regular operations due to the pandemic, and they have had limited time to finish any necessary repairs. 85.5% of them have a maximum three-month shelf life, while 67.1% have a two-month shelf life. Thirty million small and medium-sized enterprises (SMEs) and seventy million human being industrial and for business homes in China account for thirty percent of the nation's GDP, sixty percent of its tax revenue, seventy percent of its technological

innovation achievements, and eighty percent of the country's labour force employment (Xinhua News Agency, 2019). Therefore, ensuring the survival of small and medium-sized businesses and supporting their continuous development as they adjust to the economic climate produced by the pandemic will have a significant influence on China's future economic and social stability. Since SMEs are more likely to be impacted and still depend on sales for cash flow, it should not be surprising that the pandemic would have a negative effect on them. Compared to large corporations, small and medium-sized businesses have a range of difficulties.

2. PROBLEM STTEMENT

"Chinese SMEs find it difficult to get outside funding, which prevents them from modernizing and expanding to their full potential. 92% of small and medium-sized enterprises (SMEs) in China suffer from varying degrees of liquidity difficulties, and obtaining funding is a crucial factor in the 67% of SMEs that fail during their first three years of operation. One common business difficulty faced by executives of small and medium-sized enterprises (SMEs) in China is the absence of innovative strategies for obtaining external funding needed for firm expansion. A number of Chinese small- and medium-sized firm (SMEs) leaders have said that they do not intend to seek venture capital investments".

According to Rusu, D., 2020, China's small and medium-sized firms have a difficult time obtaining capital from outside sources, which inhibits their potential to grow and develop. Sixty-seven percent of Korea's SMEs would not be able to exist for more than three years without some type of foreign finance, and more than ninety percent of the country's small and medium-sized firms suffer some kind of financial limitation. It is typical for the directors and founders of medium- and small-sized organisations in China to have a difficult time conceiving of original methods to get the external finance that is necessary for the development of their companies. Because of this, their businesses may not be able to expand. The problem at hand is that a sizeable proportion of Chinese CEOs of small and medium-sized businesses lack the industry experience required to properly sell their company to venture capitalists. This is the issue at hand. This is the issue at hand right now.

3. BACKGROUND OF THE STUDY

Successful small and medium-sized enterprises (SMEs) are critical to strong economic growth; nevertheless, determining how to ensure the SMEs' long-term success remains a major challenge. The intricate transformations ushered in by the digital economy or society have an impact on the effectiveness and standing of medium- and small-sized businesses in the economy. The performance of these firms is likewise impacted by these developments (S., Boateng, 2020). SMEs are more than just their comparatively tiny sizes. How their particular characteristics evolve and alter throughout time is influenced by the political, cultural, and economic environments. There are many ways in which small and medium-sized firms differ from its main predecessor. These distinctions include the kind and applicability of their preparation, as well as the dearth of resources at their disposal. However, they may also be characterised by other traits including a flexible and flat organisational structure, a penchant for innovation, a change-opening mentality, and a predilection for embracing and putting into

practise evidence-based strategies. Some experts think that in order for small and medium-sized enterprises to succeed over the long run, they must embrace innovation and digitalization. The need for innovation as a vital skill in the quickly evolving modern economic environment has highlighted the significance of creation as the main line of business for all firms (Owusu, A., 2020). According to performance management research, innovation is a crucial activity for companies to do. Because of this, performance frameworks are being applied to newly emerging domains such as digitalization, research and development, and development, which are fields where success is more heavily influenced by intangible factors like understanding and expertise. Performance frameworks have previously been limited to traditional industries like banking and commerce. Nevertheless, compared to larger companies, small and medium-sized enterprises are more susceptible to the unpredictable nature of the environment (Onokala, U., 2017). They are less able to analyse the industry and influence the organization's course of events since they have less resources available to them. Compared to large firms, small and medium-sized enterprises adapt to environmental changes in a different way.

4. LITERATURE REVIEW

The construction of a national innovation system is a crucial part of the "the revitalization of the China nation," which is the direction that the Chinese leadership has taken the nation. China's creative transition is a direct result of its rapid economic expansion in recent decades, which was based on a growth model that primarily depended on the exploitation of workers and resources. This will have a significant impact on how economies across the globe are reorganized. To understand the current state of China's creative change and the practices and relationships of SMEs in Chinese industries, this section will analyze the institutional framework, governance, rules, and historical background of China's innovation culture. The purpose of this is to get more insight into China's industrial industries. An overview of China's place in the global economy is provided in this section. More information on China's unique economic transition may be found in this section. Section provides a summary of this section's top-down creative development, whereas section (Mohnen, P., 2016) shows this section's bottom-up economic growth.

5. RESEARCH DESIGN

The goal of qualitative and quantitative research is to find statistically significant relationships between variables by collecting numerical data on those variables and feeding it into statistical models. Quantitative studies aim to get a more in-depth understanding of society. Researchers often use quantitative methods when examining phenomena with a personal effect. Quantitative studies provide hard data in the form of tables and graphs. Quantitative study relies heavily on numerical data, which necessitates a methodical strategy to collecting and analysing the data. It may be used in a variety of ways, including averaging out data, making forecasts, looking into connections, and extrapolating results to bigger populations. Quantitative studies are the polar opposite of qualitative studies, which rely on in-depth interviews and observations. Quantitative research techniques are widely used in many academic disciplines, including biology, chemistry, psychology, economics, sociology, marketing, and many more.

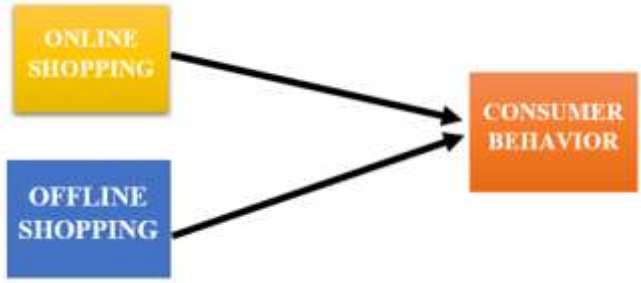
Sampling: A pilot study was conducted with the questionnaire using a group of 20 customers from China and final study was conducted with the questionnaire on sample of 385 customers . A total of questionnaires were distributed among customers selected in a systematic random sampling. All the completed questionnaires were considered for the study and any incomplete questionnaire will be rejected by the researcher.

Data and Measurement: Primary data for the research study was collected through questionnaire survey. The questionnaire was divided into two parts – (A) Demographic information (B) Factor responses in 5-point Likert Scale for both the online and non-online channels. Secondary data was collected from multiple sources, primarily internet resources.

Statistical Software: MS-Excel and SPSS 24 will be used for Statistical analysis.

Statistical tools: Descriptive analysis was applied to understand the basic nature of the data. Validity will be tested through factor analysis.

6. CONCEPTUAL FRAMEWORK



7. RESEARCH OBJECTIVE

i. To evaluate the relationship between transformative innovation strategies and networks.
ii. To understand the development strategy of Chinese manufacturing sectors.
iii. To determine the favors flexible and innovative strategy in the Chinese manufacturing sectors.
iv. To obtain the small and medium sized enterprise in China.
v. To identify the competitive and healthier economy in innovation strategy.

8. RESULTS

Factor Analysis:

Factor Analysis (FA) is often used to confirm a measurement set's latent component structure. Latent factors may affect observable variables' scores model-based accuracy analysis. It models causal connections between observable occurrences, undiscovered causes, and measurement error. Kaiser-Meyer-Olkin (KMO) may test data for factor analysis. The model and its variables are assessed for proper sampling. Statistics estimate shared variance among

numerous variables. Factor analysis works best with lower percentages. KMO returns 0–1. Sampling is adequate if KMO is between 0.8 and 1. If KMO is less than 0.6, sampling is inadequate and remedial action is needed. Between 0.5 and 0.6, use your best judgment. Some authors choose 0.5. • KMO Near 0 suggests modest overall correlations compared to partial correlations. Extensive correlations make component analysis difficult. Kaiser's acceptance thresholds: Kaiser's acceptance thresholds: 0.050–0.059. 0.60–0.69 below-average Middle grade: 0.70–0.79. Quality point value: 0.80–0.89. 0.90–1.00 will be spectacular.

Table 1. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.944
Bartlett's Test of Sphericity	Approx. Chi-Square	5730.206
	df	190
	Sig.	.000

The KMO value of the data used for this study will be .944. Furthermore, Bartlett's test of Sphericity derived the significance level as 0.00. Hence, the sample was proven suitable for running factor analysis. After performing EFA, four factors were extracted and the eigenvalues of these factors were 18.37, 1.701, 1.565 and 1.006, respectively.

Test for Hypothesis:

DEPENDENT VARIABLE

Chinese Manufacturing Sectors Develop Strategic

The Big Leap Forward had a significant role in China's overall development strategy (GLF). This plan's objective was to achieve a complete and thorough industrialization of the economy. The go-ahead for farmers in the nation to participate in agricultural cooperatives was granted to them.

Creates a more competitive and healthier economy

Any economy is built on the foundation of small and medium-sized businesses, or SMEs as they are also known in different settings. Their role as a catalyst for innovation, which promotes economic development and job creation, has garnered renewed attention in recent years. These days, in high-income nations, small and medium-sized enterprises account for over 65 percent of employment and 55 percent of GDP. Meanwhile, in countries with a middle income, small and medium-sized enterprises account for 70% of GDP and over 90% of employment. Globally, small and medium-sized businesses are under growing pressure to compete, which is made more challenging by uneven access to state-of-the-art resources and scientific expertise. The increasing interconnectedness of the world economy exacerbates this

issue. Unfortunately, very few small and medium-sized enterprises (SMEs) worldwide are positioned to take advantage of the possibilities presented by globalization. It is anticipated that the proportion of small and medium-sized enterprises (SMEs) in developing nations leading the way in technical innovation would be less than that of industrialized Europe. Whenever someone discusses European best practices for small and medium-sized enterprises (SMEs), they almost always use the Irish experience as an example. This is due to the fact that there are a lot of SME's in Ireland. This lends credence to the hypothesis that a nation's overall performance, particularly in challenging economic times, is correlated with the level of competitiveness of its small and medium-sized enterprises (SMEs). The bulk of firms in the US are small and medium-sized enterprises (SMEs). Ireland was one of the nations that suffered greatly during the most recent global economic crisis, but it managed to survive and has been making steady progress ever since. It has also garnered a lot of attention for itself since it has created an environment that is conducive to entrepreneurship and benefits small and medium-sized enterprises. This has made it possible for it to establish an atmosphere that supports the expansion of SMEs. Ireland ranks well in the European Union for ease of doing business, freedom from corruption, economic freedom index, fiscal freedom, labour flexibility, trade freedom, and investment freedom. These indexes reflect this. Furthermore, Ireland ranks well among nations worldwide in terms of investment and trade openness. Furthermore, Ireland has been rated as one of the easiest nations in the world to do business in. It had one of the fastest rates of GDP growth since the financial crisis at the same time that it had one of the lowest rates of corporate income taxes. The inevitable question that arises is, "What can a nation do in terms of its own performance—as assessed by the relevant statistics, metrics, and indices—in order to build and promote the competitiveness of the SMEs that are domiciled in it?" Naturally, this is the question that comes up. This subject is very important, especially when there are protracted periods of economic turbulence that provide difficulties for businesses. In order to clarify the relationship between the performance of the nations and the competitiveness of SMEs, we link the macroeconomic data of the countries with the indicators of SMEs' competitiveness in this study. The purpose of this research was to shed light on the connection between SMEs' competitiveness and national performance. Nevertheless, let's first define a small and medium-sized enterprise (SME) in order to go further. The number of employees that an organisation employs is one of the primary considerations the European Commission examines when classifying a firm as large or small.

H0: There is no significant relationship between Creates a more competitive and healthier economy and Chinese Manufacturing Sectors Develop Strategic

H1: There is a significant relationship between Creates a more competitive and healthier economy And Chinese Manufacturing Sectors Develop Strategic

In our study (H1 There is a significant relationship between Creates a more competitive and healthier economy And Chinese Manufacturing Sectors Develop Strategic) and (H01 There is no significant relationship between Creates a more competitive and healthier economy And Chinese Manufacturing Sectors Develop Strategic) was rejected as per the analysis.

Table 2. H ANOVA Description

Sum	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	9	21.4444	2.12786	.70929	19.8088	23.0801	20.00	26.00
1.33	1	31.0000	.	.	.	.	31.00	31.00
1.67	2	34.0000	5.65685	4.00000	-16.8248	84.8248	30.00	38.00
2.00	3	40.3333	.57735	.33333	38.8991	41.7676	40.00	41.00
2.33	1	42.0000	.	.	.	.	42.00	42.00
2.67	5	54.2000	10.05982	4.49889	41.7091	66.6909	42.00	69.00
3.33	3	60.0000	3.46410	2.00000	51.3947	68.6053	58.00	64.00
3.67	1	76.0000	.	.	.	.	76.00	76.00
4.00	15	79.5333	3.48193	.89903	77.6051	81.4616	71.00	84.00
4.33	9	87.0000	5.24404	1.74801	82.9691	91.0309	81.00	94.00
4.67	4	92.0000	4.16333	2.08167	85.3752	98.6248	87.00	97.00
5.00	47	99.7021	.93052	.13573	99.4289	99.9753	95.00	100.00
Total	100	80.1200	26.29333	2.62933	74.9028	85.3372	20.00	100.00

For dependent variable (Brand equity), the descriptive output gives the sample size, mean, standard deviation, minimum, maximum, standard error, and confidence interval for each level of the (quasi) independent variable. In this study, respondents who responded for prediction of brand establishment, and their mean was 80.1200, with a standard deviation of 26.29333.

Table 3. H ANOVA

Sum	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	67463.308	11	6133.028	551.142	.000
Within Groups	979.252	88	11.128		
Total	68442.560	99			

In this study, the result is significant. The value of F is 551.142, which reaches significance with a p-value of .000 (which is less than the .05 alpha levels). This means the "H1: There is significant relationship between Chinese manufacturing sectors develops strategic and creates a more competitive and healthier economy" is accepted and the null hypothesis is rejected.

9. CONCLUSION

A lot of new information has been found as a result of the qualitative synthesis of documents using the SLR approach. One important finding is the need of having an organisational culture that is adept at managing data and open to new technologies. Strategic innovation facilitates

the execution of digital sustainability projects. This is why doing a sustainability assessment is essential for defining pertinent criteria and supporting managers and leaders who are trying to help small and medium-sized enterprises migrate in an efficient way. Adopting new digital technologies effectively requires automated organisational structure and procedures. Furthermore, the technology that is used will depend on the choice of digital orientation. Because innovation and good performance are so important, management expectations will take precedence over the intricacy of the underlying technology. This is as a result of how crucial excellent performance is. It seems that when compared, state-of-the-art technology like robots performs on par with conventional ICT infrastructure, proving that technological complexity is not the only factor that counts. A list of recommendations for more study was created when the SLR was finished. Additionally, this SLR has to be expanded upon in future research by obtaining concrete data on how small and medium-sized businesses (SMEs) may participate in a digital transformation strategy in a sustainable manner (via surveys and interviews). Based on the economic, environmental, and social performance of these enterprises, research of this kind should specifically identify which technologies should be targeted and the best method to help the digital transformation of SMEs (Veiga MG, 2019).

10. LIMITATION OF THE STUDY

We concentrated particularly on research about the elements that promote entrepreneurship in medium- and new-sized businesses as we thought that this kind of study was the most relevant. Due to time and budget constraints, we were only able to concentrate on businesses in the KZN department of the City of China. It is not possible to extrapolate these results to the circumstances faced by medium-sized enterprises (SMEs) in other countries. Variations in locales might result from contextual circumstances. Although we would have liked to include all China SMEs in our sample, time constraints and the continuous development of Covid-19 prevented us from focusing on anything other than the 248 companies that were headquartered in China. Due to the project's financial and timing constraints, the experts will need to find other funding sources or come up with creative solutions. Because so few experiments of this kind have been conducted, particularly in academic settings, there is a dearth of experimental literature on the topic. The impact of social media on individuals' actions, specifically focusing on Kenya. Children may respond to queries with misleading answers if they feel that someone is violating their privacy. The researcher will reassure them that there are no ulterior intentions or covert goals for the study (Cenamor, J., 2019).

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