Research on Digital Transformation Strategy of Multinational Company Sales Based on Big Data and AI

Yuxin Ling[1,a,*]

[1]*School of Economics and Management, Taiyuan University of Technology, Taiyuan, Shanxi, 030000, China*
a. 1801040410@stu.hrbust.edu.cn
corresponding author

Abstract: In the wake of the COVID-19 pandemic, the digital transformation of industries has become paramount, with multinational corporations (MNCs) recognizing the pivotal role of sales digitization in their development trajectory. This study delves into the multifaceted impact of sales digitization on MNCs, elucidating both its benefits and the formidable challenges it presents. Notably, the integration of big data and artificial intelligence (AI) has revolutionized the collection and analysis of sales data, offering MNCs unprecedented insights into consumer behavior and market dynamics. By leveraging big data and AI technologies, MNCs can optimize their operations and substantially reduce the costs associated with data collection, particularly in diverse and segmented markets. This transformative synergy plays a pivotal role across various domains, including market analysis, predictive modeling, customer relationship management, and the formulation of agile marketing strategies. Despite these advancements, research reveals that MNCs continue to grapple with significant barriers and complexities in the process of sales digitization. This article aims to bridge this research-practice gap by offering pragmatic solutions and actionable strategies tailored to address the identified challenges. By emphasizing the importance of organizational agility, talent acquisition, and strategic partnerships, MNCs can effectively navigate the complexities of sales digitization and unlock its full potential. Ultimately, this study seeks to provide a comprehensive understanding of the evolving landscape of digital sales in MNCs, culminating in a nuanced conclusion that underscores the imperative of adaptability and innovation in an increasingly digitized global economy.

Keywords: Digitalizaion, Multinational Company Sales, Big Data, Strategy, Data Security

1. Introduction

1.1. Research Background

In the past few years, COVID-19 has greatly changed the world pattern. The high mortality rate and high contagiousness caused by the virus have forced people around the world to reduce large-scale mobility, so multinational companies that need to operate have to change their working methods. Digital transformation is undoubtedly the key to solving various problems related to the epidemic. Since the onset of spring 2020, there has been a notable transformation in business methodologies, gravitating towards a digital realm. Meetings have evolved from traditional face-to-face gatherings

to conveniently organized sessions facilitated by platforms such as Zoom or Microsoft Teams [1]. Multinational companies are also accelerating their digital transformation, saving costs and creating profits through digital services. With the direction of digitalization, companies should rethink their organizational structure and revenue methods, maximize their business profits through digitalization, enhance their core competitiveness, and achieve the improvement of business quality and sustainable development of the company in various markets.

The internet has emerged as a dominant force in shaping globalization across the business landscape worldwide. In this era of digitalization, fundamental aspects such as production, sales, and marketing have undergone a profound transformation, ushering in a new paradigm of operation [2]. COVID-19 has accelerated the speed of digital transformation of multinational enterprises, changed the traditional working method, and promoted the rapid development of a new marketing method, namely, digital marketing mode. At present, some countries and enterprises have a high level of digital sales in their own countries, and they use digital platforms for B2C model sales. So, the digital transformation of multinational corporations in various segmented markets should become one of the current strategies enterprises use. Multinational sales companies that require a large amount of user data support need to conduct data-driven analyses of their user scale and marketing situation in foreign markets.

1.2. Literature Review

Tyrkba found that in recent years, the processes of digitalization have covered supply chains (including procurement, manufacturing, and coordination between operating unit networks) across all sectors of the global economy, and these processes have had a huge economic impact [3]. So far, the digital economy has also had a significant impact on the sales of multinational corporations. Multinational corporations have also significantly increased their investment in digitalization. Akter found that Approximately 30% of the global data will need real-time digital processing in 2025. 75% of the world's total population will be connected to digital data by 2025, where every 18 seconds, at least one data interaction will occur through each connected person [4]. Big data will be more widely popularized in various industries, markets, and countries in the future. Currently, establishing a sales strategy based on big data is one of the key focuses of multinational corporations' sales strategies.

At the same time, the wave of artificial intelligence is sweeping across the world, and artificial intelligence technology has greatly changed people's lives and work. Artificial intelligence technology is closely integrated with the Internet of Things and big data technology. Artificial intelligence can centrally process and automatically analyze data, greatly improving the efficiency of data processing. It has strong learning and adaptability, greatly improving work efficiency in all aspects. Applying artificial intelligence combined with big data to the sales field of multinational corporations is a significant enhancement of their competitiveness, which will greatly improve sales efficiency and increase sales profits. Vladimirovich proposed that the era of digital marketing in the B2B segment will be completed by the incorporation of artificial intelligence into sales management, marking the start of the era of 'human' marketing. With a regulated digital private B2B data market, marketing will focus on human needs and have a accurate, predictable understanding of customer needs [5].

Most scholars mainly studied the digital transformation of multinational companies in human resources and corporate management, as well as the internationalization of digital Internet companies. Few scholars have studied the data-driven transformation of multinational company sales and the application of AI, so it is necessary to develop a digital strategy for multinational company sales.

1.3. Research Framework

Firstly, this article will analyze the current situation of multinational corporations promoting the digital transformation of sales management based on big data and AI. Secondly, research and discussion will be conducted on the digital transformation of multinational corporations' sales management, discussing the current impact and problems of multinational corporations in the digital transformation of sales. Once again, this article will provide some suggestions for these issues, clarify the limitations of this article, and finally draw conclusions.

2. Case Description

In the 1980s and 1990s, computer technology led the third industrial revolution, that is, the scientific and technological revolution, during which a large number of Internet enterprises and hardware manufacturing enterprises emerged. Today, with the development of technology, it is widely believed that humanity has entered the stage of the fourth industrial revolution, known as the information technology revolution. Digital transformation has provided opportunities for development in various fields, and the emergence of AI has also strengthened the ability to digitize. The emergence of the COVID-19 epidemic has also accelerated this great change.

Multinational corporations are the drivers of globalization. Faced with the impact of the epidemic and geopolitical factors, multinational corporations have been hindered in their global sales, resulting in reduced profits and increased risks. Multinational enterprises need to find new ways to solve these problems, and digitization has become the only way to understand and solve the current difficulties. Digital transformation in sales management has been attempted by many multinational corporations, but the results have been minimal and there are many obstacles and problems in different aspects. Social costs can arise from the growth of market concentrations, mark-ups, and profits in sectors that extensively utilize digital technology, as evidenced by recent empirical studies [6]. Amazon has created an online sales platform for B2B enterprises to contact customers and suppliers directly through the Internet. Apple has also launched its data analysis centers in various markets, establishing a complete ecosystem and providing a more comprehensive user experience.

However, the level of digitalization in sales by multinational corporations is still limited by various reasons, such as different policies in different countries, geopolitical factors, and varying levels of market digitalization in different regions. The digitalization of sales in various regions by multinational corporations and the formation of their own ecosystems will greatly reduce their costs, enabling them to accurately position the needs of different markets and make faster and more efficient decisions and deployments.

3. Analysis on the Problem

3.1. Influence Identified of Digital Transformation Strategy of Multinational Company Sales

3.1.1. Tailoring Marketing Strategies to Diverse Market Needs

The most basic step for multinational corporations to achieve digital transformation in sales is to establish a database of their own sales data and user information. By integrating and analyzing this data from markets around the world, sales situations in different markets can be obtained, and sales strategies can be further adjusted to meet the specific needs of different customer groups. Big data can also target potential customer groups with precise advertising and expand the user base. Big data may enhance firms' market-directed capabilities through two distinct mechanisms, namely, by improving either the efficiency or the effectiveness of activities, it is important to understand how the

business impact of big data varies between firms pursuing either a cost leadership or a differentiation strategy as a means of achieving competitive advantage [7].

3.1.2. Implementing Personalized Marketing for Different Cultural Backgrounds and Regions

Multinational corporations face user groups with different cultural backgrounds, countries, and regions, and preferences and characteristics in sales. So, in sales in different countries, the personalized needs of customer groups are an important part of the process, and this cannot be ignored. The use of big data and AI technology can collect and analyze personalized needs of different customer groups, thereby adjusting sales strategies in real-time. At the same time, when exploring new markets, conducting big data analysis can help identify market positioning more quickly. For example, when Procter&Gamble entered the Japanese market, it did not take into account that Japanese users generally prefer small packaged daily necessities and still promoted large packaged products, which hindered sales in the Japanese market. By conducting big data surveys and leveraging AI data, it is possible to grasp different product demand data and develop appropriate sales strategies in a timely manner to avoid sales risks.

3.1.3. Collecting Global Sales Data for Cost Efficiency

Due to differences in cultural backgrounds, markets, and users, multinational companies find it more difficult to collect sales data and maintain customer relationships compared to local companies. So, collecting market data through big data platforms will reduce the personnel and capital investment of multinational companies in data collection in various regions, as well as reduce operating costs.

3.1.4. AI Provides Sales Services and Basic Data Analysis Services to Improve Sales Efficiency

AI technology provides technical support for big data model analysis, allowing for simple data processing and ultimately presenting basic summary and trend analysis. At present, AI can also generate simple responses to customer questions, meet basic user needs, and reduce investment in maintaining customer relationships. AI not only increases the efficiency of sales data processing but also better maintains customer relationships, playing an important role in improving sales efficiency and reducing marketing costs. At the same time, AI can also provide strategic guidance for sales strategies in different markets and reference for marketing strategies in different markets.

3.2. Problems Identified of Digital Transformation Strategy of Multinational Company Sales

3.2.1. Lack of Strategic Positioning and Appropriate Sales Digital Transformation Plans

Multinational companies lack clear strategic planning in the deployment of sales data-driven strategies, making it difficult to adapt to the rapidly changing world market. The digital planning of some markets is unclear, making it difficult to form a competitive advantage. The digital advantage in sales has not been established, and the future development direction is not clear. Enterprises often blindly deploy digitalization, making it difficult to extract useful value from data.

The development strategy of enterprises has poor guidance for the digital transformation of sales and even contradicts some market conditions. This kind of undirected and scattered digital transformation makes it difficult to grasp market demand accurately, and it is even more difficult to leverage the cost reduction and empowerment effects of big data and AI on sales business.

3.2.2. Unable to Achieve Data Interconnection between Different Markets and Systems

Multinational company sales face different markets around the world, and each market has its own unique situation, so the pace of digital transformation cannot be consistent. This indirectly leads to little connection between digital transformation in different markets, making it difficult to achieve effective sharing of big data. At the same time, the different policies of each country regarding enterprise digitization and AI development also pose difficulties in linking sales data of multinational corporations. Establishing a global sales big data center and forming a big data ecosystem for enterprises is crucial in breaking down digital barriers in different markets and achieving economies of scale for data.

3.2.3. Difficulty in Ensuring the Security of Business Data

Hacker attacks put many business data and enterprise development secrets at risk of being leaked. Privacy and security issues are important aspects that must be given more attention at present [8]. Data security is the primary issue of data-driven transformation, and the degree of danger to data varies in different countries. In areas with low levels of data digitization or inadequate data protection policies and regulations, there is a risk of sales data leakage. Security is crucial in every aspect of achieving digitalization on a global scale. Competitors are highly likely to take advantage of weak data protection links to steal sales data in order to achieve their goals. Therefore, data security is crucial for multinational corporations to achieve digital transformation in sales.

3.2.4. Heightening Geopolitical Risks and Tech Access Barriers Worldwide

The conflict between Russia-Ukraine conflict and the conflict between Palestine and Israel has had a huge impact on the world market, which has caused great risks to the sales of multinational companies in the international market and also hindered digital transformation. Nowadays, data has become an important resource in the game of great powers, and the competition for data control among companies in various countries is becoming increasingly fierce. Strict control of data in their own countries, especially sales data, which is basic economic data, makes it increasingly difficult for multinational companies to collect sales data in foreign markets. Due to the easier access to local sales data by local companies, multinational corporations find it difficult to gain competitiveness in highly data-driven national markets, thus losing the opportunity to develop digitalization in these markets. Different countries have different views on AI technology, and there are application barriers to AI technology. For example, in China, foreign multinational enterprises are unable to legally use AI technology from other countries for sales data collection and analysis. Therefore, the changes in the world landscape have made competition among countries increasingly fierce, and foreign multinational corporations are severely hindered in their local digital development.

4. Suggestions

4.1. Forming High-Level Consensus and Developing a Globally Feasible Strategy

Before establishing a digital sales transformation strategy in each market, a consensus should be reached between enterprise management, especially submarket management, and the headquarters management of multinational corporations. Clearly define the direction and focus of digital transformation for enterprises in different markets. By conducting research and analysis on sales situations, customer groups, and policy environments in different markets, local consulting consultants can be hired to fully grasp market information and determine the core business, key development directions, and strategic layout of the company's digital transformation in specific

markets. For example, the strategy of promoting digital transformation in countries with mature digital technology is completely different from that of developing digitalization in countries with underdeveloped digital technology. In countries with good digital development, local enterprises have an advantage in digital development, while multinational corporations are at a competitive disadvantage. Therefore, more attention should be paid to the differentiated development of digital sales. In countries with immature digital technology, emphasis should be placed on establishing a digital ecosystem and promoting digital platforms to seize market share.

4.2. Establishing a Global Sales Data Network and Digital Ecosystem

Firms can now operate a simple technical backbone from a central operating unit hosted on the cloud, with customization at the nodes (e.g., country) as the cloud's connectivity becomes more ubiquitous [9]. In fact, multinational companies such as Amazon, Apple, and Uber all use this method to connect central and different nodes through cloud technology.

Through reliable digital technology, connections between different markets can be achieved. For example, it is possible to exit the company's internal platform, allowing subsidiaries in various markets to share sales data and experience. This way, different markets can learn from each other's experiences, and is also beneficial for predicting sales in their own markets.

4.3. Establish an Independent Digital System and Digital Risk Management Team

Multinational companies establishing their own databases and applying their digital technologies can effectively avoid the risk of sales data leakage and ensure a certain degree of data security. This also requires multinational corporations to increase investment in data security and control technologies, encrypt sensitive data, and set up data supervision mechanisms to investigate and repair vulnerabilities constantly. A company that develops its own digital intelligence among its worldwide units can better respond to digitization-enabled opportunities and threats [10].

Establishing a data risk control department is equally crucial for the security of sales data. Professional risk assessors can quickly respond to behaviors that endanger data security, analyze the causes of data security risks, and accurately locate and provide technical support for crisis resolution. Meanwhile, the establishment of this department also has a significant impact on future risk prediction. In the face of today's complex international environment, making formal predictions and judgments about data security is beneficial for reducing the risk of sales data leakage in specific markets, and it also provides important references for the operational security of companies.

4.4. Conduct Reliable Risk Assessments and Collaboration in High-Risk Countries

At present, geopolitical risks and investment risks in some regions are inevitable. Therefore, in some high-risk areas and national markets, it is necessary to evaluate the risks and benefits of digital transformation. Reliable risk assessment and strategic planning are essential before conducting sales data-driven transformation, and digital transformation strategies can be flexibly changed.

At the same time, through joint ventures with local governments and deep cooperation with local enterprises, risks can be effectively reduced. It is possible to highly integrate one's digital technology and strategy with local development requirements. Establish risk prevention and control strategies while investing in digital transformation and purchase overseas investment insurance and other guarantees. Reducing investment risks in overseas digital transformation also requires a high sensitivity to political situations at the company's decision-making level and the ability to make the most favorable decisions for different situations.

5. Conclusion

5.1. Key Findings

At present, most Internet enterprises have formed a certain scale in the construction of digital sales and big data AI assisted sales. Multinational companies are just starting to invest in sales digitization, and there is still a lot of room for development. The development of digital sales has a huge impact on market forecasting, customer relationship maintenance, sales strategy formulation, and other aspects of multinational corporations, which can reduce enterprise costs and increase enterprise benefits. However, in the process of developing digital sales, compared with Internet enterprises or local enterprises, multinational companies will face greater barriers and difficulties.

The issues of data security, correlation of data from different markets, and geopolitical risks still need to be addressed. This article proposes systematic suggestions to address these issues and mitigate some risks through effective promotion by decision-makers, construction of data ecosystems, data sharing, data security monitoring, and risk assessment and prediction strategies. At the same time, it also indirectly proves the feasibility of multinational corporations using big data and AI to empower different markets, providing strategic direction for multinational corporations to digitize sales.

5.2. Research Significance

Due to the continuous development of globalization and the rapid advancement of the fourth information revolution, multinational enterprises must formulate sales digital transformation strategies. However, the digitalization of sales for multinational corporations is still in the early stages of development. This article provides an analysis of the role and strategic reference in promoting the digitalization of sales for multinational corporations, especially the impact of big data and AI on the sales of different markets of the company, as well as strategies for solving data security and market correlation issues in digital development.

5.3. Limitations

There is relatively little research on the digitalization of sales for multinational corporations. This article only conducts a systematic study of the current forms faced by multinational corporations without conducting a more detailed empirical analysis of the data. In the future, there will be an increase in the acquisition of digital transformation data for multinational company sales and appropriate research methods will be used to conduct a more detailed empirical analysis of their development status in order to draw further conclusions.

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