Executive DBA, Université Paris-Dauphine, PSL

PSL · 巴黎九大高级工商管理博士学位项目

# Research on Business Model of Data-Operated Enterprise

（Thesis submitted for the degree of Executive Doctorate in Business Administration）

Cohort: 2017

Candidate: LIU Ruimin

Supervisor: ZHANG Shixian

August 25, 2022

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# ABSTRACT

Due to a large number of scientific and technological applications and high-tech technologies, the growth rate of the world's data volume is comparable to the speed of rockets, which indicates that the world has entered the "big data" era. In the new era of data-driven development, big data is regarded as "the new oil for future development". Each country has also upgraded the development of big data strategy to a national strategy, which stems from the tremendous ability of humans to collect, store and process data. Upgrade, allowing data applications to penetrate into all walks of life. Big data is becoming a new strategic resource, which will represent and give birth to a new form of civilization. The new stage of digital intelligence is driving the continuous transformation and innovation of business ecology and business models. At the same time, under the background of the new era, opportunities and challenges coexist. How companies can fully tap the commercial value of big data to shape their core competitiveness has become a key issue that companies urgently solve. The explosive growth of data poses new challenges to the original data storage, processing, and application capabilities of enterprises, and has triggered a re-examination of their original IT equipment, staffing, and even organizational processes. Data has officially become the fourth major strategic resource besides human, material and financial resources. The commercial value hidden behind the huge data will bring lower cost thresholds for enterprises and nurture more innovation opportunities. The original business model no longer adapts to changes in the environment. To meet the opportunities and challenges, how companies need to obtain more commercial value to establish their own unique competitive advantages has become one of the major issues that all companies must deal with. As a result, a question of important theoretical and practical significance has also arisen: how does big data drive business model innovation. Based on existing researches, it is widely recognized that big data will play a huge role in promoting enterprise transformation, but there are few studies on big data and business model innovation. In view of this, this article draws on existing research at home and abroad, combined with resource-based theory, dynamic capability theory, and manager's cognitive theory to discuss the following questions: How does big data drive business model innovation?

What is the data operation capability and what are its dimensions? What role does decision rationality play in the process of big data driving business model innovation?

To answer the above questions, the author investigated 143 Pearl River Delta enterprises, obtained relevant data through questionnaire surveys, and employed structural equation modeling (SEM) method to empirically test the theoretical model and related hypotheses. The thesis consists of seven parts. The first part is the introduction, which mainly introduces the background and significance of the paper research, expounds the method and content of the paper research, draws the technical roadmap of the paper research, describes the innovation points of the paper research, summarizes the current research status at home and abroad, and sheds lights on the following research direction. The second part is related concepts and theoretical basis. It mainly defines related concepts involved in the thesis, introduces the related theoretical content covered by the thesis, and provides a theoretical basis for the research of this article. The third part is model construction and research hypotheses. It mainly depicts the characteristics of data-operated companies and the impact of data operation capabilities on business model innovation. It discusses the relationship between data operation capabilities, business model innovation and decision rationality, and puts forward relevant hypotheses, and preliminary papers are presented. The theoretical research framework and the basic model framework provide a basis for the research of this article. The fourth part is the questionnaire design and variable measurement. First, it introduces the basic situation and design process of the questionnaire design, expounds the detailed process of data collection, and proposes the method of variable measurement. The fifth part is data analysis and result discussion. According to the fourth part of the research content and the harvest-related data, various analysis of the data content is carried out to confirm the correctness of the hypothesis proposed, the research results are discussed, and finally the management enlightenment is put forward. The sixth part is an empirical analysis of data operating companies. On the basis of the theory and analysis in the above chapters, using State Grid, Huawei, and Alibaba as case objects, the successful experience of business model innovation in the big data era is studied, and the connotation, pathway and strategy of Huawei's business model innovation are extracted, to provide practical reference and guidance for data operating companies to find the

key stages of innovation and innovation models that are suitable for corporate development in the era of the rise and rapid development of big data. The seventh part is the conclusion and outlook.

The final conclusions are as follows: (1) Improving the ability of resource integration can promote enterprises to obtain more profits; (2) The level of real-time insight and prediction capabilities directly affects the pros and cons of business model; (3) Real-time insight and prediction capabilities are important to decision makers The degree of decision-making rationality has a significant positive effect; (4) Decision-making rationality plays a part of the intermediary role in the relationship between real-time insight and prediction capabilities and business model innovation. From the results, it can be seen that companies should focus on the cultivation of their own data operation capabilities, which will drive the innovation of business models, so that the commercial value of big data can be fully utilized. In this process, the manager's decision-making rationality has a partial impact on it.

The innovative points and significance of the research are: (1) Based on the existing big data research, this research conducts exploratory research on data operation capabilities from the perspective of dynamic capabilities, and expands data operation skills into real-time monitoring and judgment skills. In-depth analysis skills and resource integration skills have enriched and expanded big data research to a certain extent; (2) Through empirical research, this research reveals the influence relationship and internal mechanism of data operation ability on business model innovation, and uncovers the unknown relationship between big data and business model innovation; (3) Based on the perspective of management cognition, this research introduces decision rationality as an intermediary variable of data operation capability and business model innovation, providing a new perspective for the research of big data and business model innovation. Based on the research results, this research puts forward some management suggestions in order to provide some reference and reference for the management practice of enterprises in the Pearl River Delta.

In summary, this research supplements previous studies on how data operation capabilities drive data-operated companies with the development of big data and platform economy, extends the research on business models in designated industries, and will hopefully provide

useful guidance for data-operated companies to foster data operation capabilities, innovate business models, gain competitive advantages and work out new development strategies.

**Keywords:** Big data; Data operation; Manager cognition; Business model

# ACKNOWLEDGEMENT

This thesis is completed under the guidance of my respected supervisor, XX. The supervisor's rigorous academic attitude and excellent work style have a far-reaching impact on me, particularly whenever I wanted to give up the research in facing difficulties. From the beginning of the subject to the completion of the thesis, I have been inseparable from his strong support with patience. Over the past few years of doctoral studying, Professor XX not only makes me harvest the wealth of knowledge, but also guides me in my way of thinking with considerate care. I would like to express my heartfelt thanks to Professor XX and best wishes for your academic achievement.

I'm also grateful to all the classmates and family who stay with me. You support me to overcome difficulties in the work of thesis. You make my life over the past few years delightful and meaningful. Your rigorous study attitude and selfless help encourage me to move forward.

At this moment, a blend of emotions come to me. I have experienced twists and turns since I set the research topic. This experience also teaches me a lot. I would like to express my heartfelt thanks to all the teachers, classmates, and friends. Your selfless support helps me to accomplish this doctoral thesis.

Finally, I would like to say thanks to my parents, who provide support and courage for the completion of my thesis. Thank you!

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