Research on Business Model Innovation of Enterprise Based on PuShi Technology Company

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Abstract. In this paper, the PuShi Technology Company is chosen as a case study object, and the nine-element model in the commercial canvas theory is used as the basis of the case study. Firstly the theoretical foundations are obtained through literature research and then three recommendations for business model innovation of the entrepreneurial enterprises are obtained through case study and investigation methods: (1) Focus on subdivisional fields and vertically deep cultivation; (2) Pay attention to the accumulation of advantages and timely transformation and upgrading; (3) Focus on broadening the source of income and economizing on expenditure. Finally, we will extend the research conclusion to provide a practical business model improvement for most start-up enterprises.

Literature Review

Literature Review on Foreign Related Business Model Innovation

Due to the early origins and rapid development of the foreign market economy, there are earlier theoretical researches on business model innovation, and the domestic market economy has a lot to offer. The most cutting-edge theories of business models are mainly enlightened by the research theories of many foreign scholars. Among them, the mainstream research theories on business model innovation in China include: Alexander Osterwalder and Yves Pigneur (2011) put forward The Business Model Canvas model theory in "Business Model Generation", which identifies the nine most important elements of business model innovation. Enterprise business model innovation can start from the following nine aspects: value proposition, core resources, key business, important cooperation, customer segmentation, channel access, customer relationship, cost structure and income source [4], and their theories are more widely cited. Spieth and Schneider (2016) define business model innovation as the enterprise change, identifying the value chain elements such as purchasing, production and sales and the interaction mode, which are the most important for business model innovation [5]. Clauss (2017) believes that business model innovation is an innovation in value creation, value proposition and value acquisition [6].

Literature Review on Domestic Business Model Innovation

Since the beginning of the twenty-first century, China's international comprehensive strength has been increasing day by day, the economic development has been rapid and the commercial development speed has been accelerating. Under such a background, many researches on business model innovation are gradually emerging in the domestic research field. Compared with the foreign research, domestic researches on business model innovation are more in line with the actual situation of China's market economy and more in line with the development reality of domestic enterprises. Ludong and Yunlexin (2015)and others believe that the current business model innovation mainly includes three aspects: changing the transaction content, changing the trading structure and changing the trading mode[7] Luo Xingwu (2018) conducted a systematic analysis on the connotation of business model innovation during the transformation period of Chinese
enterprises. He pointed out that the business model innovation is a paradigm shift in the business activity created by enterprises seeking competitive advantages and value acquisition[8].

Case Analysis

Analysis of Business Model Elements of "Pushi Technology"

Product and Service Interface—Value Proposition."Pushi Technology" Company has always advocated the value proposition of pioneering and innovation. One of its most important value propositions is universal science and technology's space-space integrated ecological monitoring network, wetland big data planning scheme based on machine learning, and multi-service integrated application management platform. The "Trinity" of geographic information intelligence solutions enables clients to seamlessly connect, integrate and manage their geographic information through their unique platform systems and software, which makes the solution of Pushi Company different from other companies in the market. They do not have an integrated ecosystem for data monitoring, solution planning and business management. A series of software systems integrated by Pushi Company such as the Jiangxi Wisdom Wetland Integrated Information Platform, "Wisdom Wetland" in East Poyang Lake and National Wetland Park in Meijiang, Ningdu, has developed a large number of services to link their systems together, such as Smart Wetlands Portal, WeChat Public account and the Science and Education Publicity System. Therefore, once customers start to use Pushi Technology Company's products or services, their good ecosystem can improve users' goodwill and stickiness.

Asset Management Interface

Core Resource. The core resources of the company can be divided into intellectual, material and human resources. The resources are its software development and the material resources are its creation of a spatial and temporal information cloud platform and a big geographic information data system. In terms of human resources, it is a scientific research team with high comprehensive quality and management talents. Most of the company's employees have bachelor's degrees and doctoral degrees and have extensive experience in scientific research and practice.

Key Businesses. Jiangxi Pushi Technology Company has always adhered to its core development strategy of "basing itself on Jiangxi, focusing on Poyang Lake and facing the whole country ", providing the solution of consulting, developing and applying "one-stop service of space information technology. In terms of commercial activities, we have leveraged the opportunity of the national government departments to vigorously carry out the ecological and environmental protection strategy, and have cooperated with many government and enterprise organizations to develop several new models of intelligent ecological system construction.

Important Cooperation. Jiangxi PuShi Technology Company has reached strategic cooperation with well-known enterprises in the space information technology industry, forming the integration and complementation of advantageous resources and continuously expanding its business layout. And the cooperative enterprises such as HuiShi Technology Ltd. and Zhongguo Zhihui Technology Co., Ltd. In addition, in addition to its core technology of system development, the company outsources a lot of data acquisition, hardware assembly and other business to other companies, which not only reduces costs but also saves time and energy and ensures the investment in product research and development.

Customer Interface

Customer Segmentation. The target customers of pervasive technology are mainly five categories: government, science, research, application and business: national government management departments, universities, scientific research institutions, ordinary users and enterprises in the market economy, such as the Provincial Bureau of Surveying and Mapping Geographic Information, the Provincial Meteorological Bureau, the Provincial Communications
Department, the Provincial Water Conservancy Department and other government-level, enterprise-level and consumer-level customers.

**Channel Access.** The company relies on the scientific research center of Jiangxi Normal University to integrate all kinds of government and enterprise resources, marketing through the internet and offline channels and to develops new customers and maintains old customers through online publicity and self-media operation and to reach cooperation with customers offline through its own channels.

**Customer Relationship.** The company has established a deep relationship with customers through pre-sale and after-sale process management, and it has communicated and cooperated with the government, universities, scientific research institutions, users and enterprises to attract them to become users; Then we will retain users by creating fine and personalized services and finally to maintain users through humanized after-sales service.

**Financial Interface**

**Cost Structure.** The cost structure of Jiangxi Pushi Technology Company mainly includes: scientific research expenses, staff salaries, office rent and utilities, office equipment expenses, depreciation of equipment, staff travel expenses, software and hardware integration expenses and other costs and expenses. Due to its high-tech enterprise nature, the cost structure currently accounts for a large proportion of the research funds, salaries, performance bonuses and software and hardware integration costs of research and development personnel.

**Source of Income.** There are three main sources of revenue for the company: software system integration, monitoring system deployment and after-sales service support. That is to provide customers with system integration services, such as special data production, intelligent wetland display system, etc.: Secondly, it provides hardware equipment integration operation service. Finally, it provides project acceptance and other after-sales services, such as system deployment and WeChat public account building and so on. For the products and services provided by the company, different pricing is implemented for different functional points to obtain corresponding income. The profit of pure software projects can reach more than 50%, and the profit of projects including hardware can reach 30%-40%.

**Conclusions**

There is still room for improvement in key business, customer segmentation, channel access and cost structure. In terms of key business, its business layout is more decentralized and it is doing more types of business, which can increase its revenue in the short term, but it is not enough to increase its cost. The cost of increasing revenue is always increasing, and it is not easy to form a brand focus advantage, and it may even miss the opportunity to create explosive products in areas of expertise. In terms of customer segmentation, its main target customer groups include five types of customers: government, academic, research, application and business, which is equivalent to all customer types belonging to its target customers, thus consuming a lot of energy. In terms of channel access, although it has a university background and has great advantages in integrating government and enterprise resources, its lack of marketing team and external agents has slowed down its business expansion in recent years. In terms of cost structure, due to its lack of focus on customer segmentation, its marketing strategy cannot be effectively implemented, and at the same time its human research and development costs are also increasing, which has kept its human resource costs high and shrunk its operating profits.

**References**

[1] Wang Hui. Research on the Innovation and Evolution of Business Model of CY Enterprises with Science and Technology [D].] Beijing: Beijing Jiaotong University, 2019.1-4.
[2] Fang Zhiyuan. Business Model Innovation Strategy [M]. Beijing: Tsinghua University Press, 2014.26-27.

[3] Alexander Ostewad, Yves Pinheiro, Wang Shuai, Mao Xinyu, Yan Wei. A New Generation of Business Models [M]. Beijing: Machinery Industry Press, 2016.4-32.

[4] Osterwalder A, Pigneur Y, Tucci C L. Clarifying Business Models: Origins, Present, and Future of the Concept [J]. Communications of the Association for Information Systems, 2005, 16(1):1.

[5] Cheng Wei. A Review of Business Model Innovation [J] Value Engineering, 2019(23): 295-297.

[6] Clauss T. Measuring Business Model Innovation: Conceptualization, Scale Development, and Proof of Performance [J]. R&D Management, 2017, 47(3): 385-403.

[7] Lv Dong, Yun Lexin, Fan Yanan. Research on Business Model Innovation and Adaptive Growth of Technological Venture Enterprises [J]. Science and Technology Management, 2015, 36(11): 134-135.

[8] Luo Xingwu, Liu Yang, Xiang Guopeng. Business Model Innovation in the Context of China’s Transitional Economy: Theme Design and Scale Development [J]. Foreign Economy and Management, 2018, 1: 34-36.