



Exploring the Path of Strategic Management Accounting Reconstruction Under the Digital Transformation of Retail Industry

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Abstract. In recent years, the application of digital technologies such as big data and cloud computing has reduced the difficulty and cost of external information acquisition, bringing opportunities for strategic management accounting. This article first selects a case study of Yonghui Supermarket and adopts principal component analysis to study the impact of digitalization of retail enterprises on strategic management accounting and interpret the reconstruction path in order to improve the information support system of strategic decision making.

Keywords: Big Data · Cloud Computing · New Retail · Strategic Management Accounting · Digital Technology · Consumption

1 Introduction

In recent years, under the influence of factors such as consumer upgrading and technology, the performance of many traditional large supermarkets has been declining year by year, so it is important for retail enterprises to upgrade. The application of new technologies such as big data, Internet and Internet of Things have brought breakthroughs.

Retailers' development process is roughly divided into "multi-channel" to increase the number of sales paths, "omnichannel" to integrate the activities of different channels, "new retail" with online and offline integration and intelligence today. In this process, information access channels have increased and the scope of information has expanded. On the one hand, the problem of difficulty in capturing sufficient external information has been solved, and the abundant outward-looking information helps strategic management accounting to have more evidence in the process of interpreting information so that it can make better forecasts and improve the ability to respond in a timely manner. On the other hand, the use of digital tools has reduced the cost and increased the accuracy of information acquisition and improved the efficiency of management. The application of big data has replaced some unstructured and semi-structured information with structured information.

In this article, we analyze the digital transformation of Yonghui Supermarket and adopt the principal component analysis to study the reconstruction of strategic management accounting to improve the information support system of strategic decision making.

2 Research Design

2.1 Theoretical Foundation

2.1.1 New Retail and Digital Technology

The Ali Research Institute defines “new retail” as a data-driven, consumer experience-centered, pan-retail format. Pantano and Timmermans (2014) introduced the concept of “smart retail” [5], which refers to the use of technology in retail to improve the quality of the shopping experience. Liu He (2019) referred to the entire reengineering of online and offline integration, multi-format crossover, and small community businesses as the trend of the fourth retail revolution [1].

2.1.2 Characteristics, Development, and Limitations of Strategic Management Accounting

The concept of strategic management accounting was first proposed by Simmonds (1981) from the UK, which integrated strategic management and management accounting by analyzing information about companies and their competitors [2]. In the next four decades, the theoretical development path of strategic management accounting has evolved. Porter’s (1985) “competitive strategy framework” of cost leadership strategy [6] provided the basis for Bromwich’s (1990) analysis of strategic management accounting theory, which emphasized product-market strategy and financial information about competitor costs [4]. Kun Liu (2019), on the other hand, analyzed the network value stream decision support system built by strategic management accounting in the context of big data [3].

In the environment of Internet plus and big data, strategic management accounting of enterprises has become a new mode in the market economy. However, the current strategic management accounting is still underdeveloped. In this article, we try to explore the path of strategic management accounting reconstruction based on the digital transformation of retail industry.

2.2 Case Analysis

There are many companies that have been fruitful in digital innovation. One group of companies focuses on offline channel innovation, such as the unmanned retail business created by Amazon Go in 2016, which overturned the “field”, one of the three major elements of traditional retail. Another category of companies is those that focus on online channel innovation, as first marked by the launch of Suning Tesco in 2009, Wangfujing, Yintai and other companies have applied technologies to invest in online channels, responding to the challenges of the “people” factor brought about by consumer

upgrading. There is another category that focuses on the digital optimization of the internal management, such as the creation of a complete GS1 system for Boxma Fresh, which uses coding technology to form traceable information of fresh commodities, overturning the element of “goods”.

This article chooses Yonghui Supermarket as a single case study for the following reasons.

2.2.1 Representativeness of the Enterprise

According to the list of “Top 100 Chinese Chains in 2020” released by China Chain Store Association, Yonghui Supermarket ranks fourth on the list. Its development strategy path is worth learning from.

2.2.2 Materiality of the Matter

In 2015, Yonghui cooperated with Tencent and other enterprises to set up Yonghui Yunchuang to recreate online business. In 2020, the return of the “Yunchuang” indicated that the company is once again undergoing significant changes.

2.2.3 Accessibility of Data

As one of the famous listed companies, Yonghui Supermarket fully discloses its business management performance and other real information publicly every year.

3 Case Description and Analysis

3.1 Basic Information

In recent years, unlike Wal-Mart and Metro where the number of stores is shrinking, Yonghui Supermarket is growing rapidly. As of July 1, 2021, Yonghui Supermarket has opened 1,036 chain stores in 29 provinces and cities. Yonghui achieved a revenue of RMB 93.199 billion in 2020. It has created an online business segment “Yonghui Yunchuang” represented by the Yonghui Life app, built a “Yonghui in your cell phone” home delivery service based on omnichannel.

3.2 Case Description

3.2.1 Driving Factors for the Development of New Retail Formats by Digital Technology in Yonghui Supermarket

According to the 2019 McKinsey Guide to Success in China’s Retail Market: Innovating Forward, Chinese consumers continue to move in the direction of consumption upgrading at a rate of over 20%. The “new retail” companies usually focus on consumers, who gradually take the lead in the market and supply chain. The innovative business models can better serve consumers and digital technology becomes an important driving force in the process.

3.2.2 Important Measures of Yonghui to Promote the Development of New Retail Business

Driven by consumption upgrades, Yonghui Supermarket is facing the demand and pressure of digital transformation. In recent years, Yonghui Supermarket has continuously explored the development path of new retail business with consumers as the core and digital technology as the grip.

The first is to focus on cost control based on supply chain management. The form of “agriculture to a supermarket” and “front warehouse” of Yonghui has eliminated the intermediate wholesalers and distributors’ turnover channels, and directly connected to farmers and producers to purchase fresh products. In 2020, Yonghui will continue to establish long-term strategic partnerships with fresh food source merchants directly, develop fresh food supply chain with its own characteristics. The proportion of direct procurement is expected to be above 70%, higher than the 33% of Box Horse. This reduces the cost of distributors and increases the markup capacity for the downstream retail, which improve gross margins. Yonghui Supermarket has built a efficient logistics center, with a distribution scope covering 29 provinces and cities nationwide and a total operating area of 630,000 square feet. The application of the intelligent picking system has improved the efficiency while increasing the inventory turnover rate and reducing the loss of fresh products.

The second is to adopt a differentiation strategy that insists on fresh food characteristics. It can be seen that Yonghui Supermarket adopts a profit model mainly based on self-management, and each store consists of more than 40% of fresh food business area, with about half of the business income coming from fresh food. Although fresh varieties have low unit price and a short storage period, they have the advantages of immediate demand. With the help of digital technology, Yonghui has been able to attract customers online, at the same time, indirectly improve the pricing of other daily necessities and thus increase the sales per unit area.

Furthermore, it builds the internal and external digital ecosystem of the enterprise (Fig. 1). The development history of Yonghui Supermarket has been marked by several major internal changes, including the opening of omnichannel, several digital transformations to strengthen the digital construction and the construction of the middle desk.

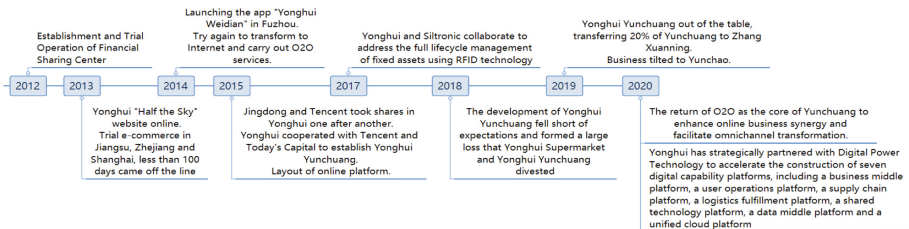


Fig. 1. Yonghui’s path to online and digitalization

3.2.3 Development Trend of Yonghui Supermarket Under the Development of New Retail Business

In recent years, the number of new offline stores of Yonghui Supermarket has expanded in a spurt, and its net profit is far ahead of its competitors in the same industry. In 2020, the net profit attributable to Yonghui Supermarket was 1.794 billion yuan. The company's technical personnel almost doubled, indicating the company's determination to introduce digital operation talents comprehensively. Yonghui Supermarket's new business layout has been effective, activating the demand side of its online business and further deepening its omnichannel.

3.3 Empirical Analysis

3.3.1 Impact of the New Retail Business on Strategic Management Accounting Information Consideration

In this paper, based on industry development information and interview findings, seven retail digital impact indicators are selected to score the level of impact of strategic management accounting on the five external and five internal information under consideration (Table 1), with scores gradually increasing from 1 to 10 impact levels, and a comprehensive evaluation is conducted for the 10 information elements through principal component analysis to provide reference for the reconstructed information decision support system of strategic management accounting.

The results of the analysis of variance contribution and principal component analysis are shown below (Table 2). The eigenvalues of both variable 1 and variable 2 are greater than 1. Therefore, a total of 2 common factors are selected in this study to interpret the main factors affecting the reconstruction of strategic management accounting information decision system. It can be seen that the variance contribution of the two common factors amounted to 59.669% and 18.274%, respectively, and the cumulative contribution was 77.943%.

The digital transformation of retail industry, on the one hand, requires enterprises to make more timely, intelligent and accurate decisions; on the other hand, it provides more data interfaces and more complex information for decision information support systems.

The new retail shows a trend of integration with different industries, and the construction of omnichannel is closely related to Internet companies. While focusing on internal information, strategic management accounting needs to focus on consumer needs and include customers and suppliers into the whole sales system, strengthen the consideration of external information, so as to improve the competitiveness of enterprises in the fierce market environment.

3.3.2 Reconstruction of Strategic Management Accounting to Support Retailer Business Transformation

The process of Yonghui Supermarket's comprehensive implementation of new retail development measures is driven by digital technology and evolves around consumers'

Table 1. Scoring Sheet

Scoring Sheet		Degree of supply chain decentralization	Consumer's core index	The level of application of technologies such as big data and cloud computing	Internet + integration degree	Richness of information	The degree of diversification of participating subjects	Model Innovation Degree
External Information	Upstream Supply Chain Costs	9.89	5.39	7.90	7.00	7.00	9.00	6.60
	Full Contact	6.00	9.00	9.90	9.00	8.00	7.00	9.00
	Omnichannel	8.00	9.50	9.90	9.00	8.50	8.00	8.50
	Smart Store	6.00	9.60	9.10	8.00	7.00	7.00	9.88
	Smart consumption process	6.00	9.70	9.10	9.90	9.00	7.90	9.60
Internal Information	Digital Central Platform	7.00	6.00	9.90	8.00	9.50	9.10	8.50
	Logistics Center	7.40	8.00	8.00	7.00	8.70	8.60	8.30
	Storage	7.40	7.80	7.70	7.00	8.60	8.40	8.30
	Asset Management	6.80	6.80	8.10	6.00	8.80	9.30	8.40
	Risk Management	7.20	6.00	7.30	7.40	6.80	8.80	7.00

Table 2. Explanation of total variance

Explanation of total variance						
Components	Initial Eigenvalue			Extraction of the sum of squares of loads		
	Total	Percentage of variance	Cumulative %	Total	Percentage of variance	Cumulative %
1	4.177	59.669	59.669	4.177	59.669	59.669
2	1.279	18.274	77.943	1.279	18.274	77.943
3	0.839	11.988	89.931			
4	0.34	4.852	94.782			
5	0.265	3.789	98.571			
6	0.063	0.893	99.464			
7	0.038	0.536	100			

needs. For the digital operation of the enterprise's middle and back office, strategic management accounting should strengthen risk control, incorporate platform and technology risk into the information consideration system. For the smart stores and processes, intelligence and technology make strategic management accounting reduce customer

acquisition costs, strategic management accounting needs to take into account the digital assets of users, digital information of goods, etc., to effectively break the “information silos”.

In order to provide more intelligent and comprehensive services for consumers and gain competitive advantages, strategic management accounting needs to embrace new technologies to effectively extract, analyze and manage the massive information from inside and outside the enterprise. First, based on the deep cooperation between the retail industry and the Internet, enterprises have accumulated user-centered data assets, realized personalized recommendations through algorithm optimization. At the same time, new retail business innovations such as membership rights and community group buying are born. Strategic management accounting needs to assist in building a refined marketing strategy framework, interpreting the newly generated data and realizing consumer value co-creation. While increasing the number of online and offline touchpoints, the innovation connects discrete touchpoints to form an omni-chain consumer “front desk”. For example, the online “smart retail” app, the offline “floor map”, the sweep code purchase, etc., build the “full-touch retail” to promote consumption growth. Strategic management accounting is based on the value creation of the new business model, capturing information to help connect the consumer front office with the enterprise middle and back office, promoting the construction of digital ecosystem.

4 Conclusion

This article analyzes the development situation and digital change of Yonghui Supermarket and explains three change measures of cost control, differentiation strategy, and ecosystem construction. It also adopts principal component analysis to study the impact of digitalization of retailer on strategic management accounting. Strategic management accounting requires comprehensive consideration of multiple internal and external information, such as smart store, smart consumption process, digital central platform and so on. They also need to deepen the application of big data and cloud computing, with consumers as the core, in order to improve the information support system of strategic decisions, and promote the development of the enterprise innovation model.

First, retailers should clarify the strategic layout, based on which the strategic management accounting should expand the breadth and depth of its functions. While expanding the scope, it is also important to increase enterprise value, reduce costs and increase efficiency. In the future, as digitalization continues to deepen, strategic management accounting is expected to merge with data analysis, thus promoting the traditional analysis methods such as balanced scorecard and strategy map. Strategic management accounting plays a central role in the digital ecosystem, guiding the transformation of the new retail ecosystem from the strategic management level.

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