

Literature Review of Asset-Light Operation

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Abstract: By combing the relevant literature of asset-light operation, this paper can roughly divide the research on asset-light operation into the following three categories: the first category is the research on relevant concepts and cases of asset-light operation; The second type of research focuses on the economic consequences of asset-light operation; The third category is the measurement of asset-light operation.

Keywords: Asset-light operation, Literature review, Resource allocation.

1. Introduction

With the deepening of "Internet plus" and the gradual refinement of vertical division of labor, traditional asset heavy operating enterprises are facing a series of problems such as overcapacity, rising costs, and insufficient competitive advantages. More and more enterprises choose to transform to asset light operating mode. Asset-light operation means that enterprises focus on building soft strength assets in product design, marketing channels, brand building, customer management and other aspects, transfer the operation of business links that they do not have advantages or are difficult to manage to partners, and reduce their own investment and management costs.

Under this business model, enterprises do not invest in fixed assets on a large scale. By outsourcing some or all of the manufacturing links in which fixed assets are invested, and concentrating resources on the R&D and sales links of the value chain (Sun Li and Zhu Wuxiang, 2003), the enterprise's cash reserves increase and the cash flow structure becomes more free. According to the smile curve theory, the global industrial chain can be divided into three links: product development, manufacturing and processing, and circulation. In the industrial chain, the added value is more reflected at both ends of R&D and marketing, and the added value of manufacturing and processing in the middle is very low. Due to the lack of core technology, enterprises in developing countries can only mainly engage in manufacturing and processing business and obtain lower value output with larger capital investment. Multinational companies have gained more value by virtue of their strong R&D and marketing capabilities. Nike, a well-known American listed company, first carried out asset-light operation, and accumulated brand influence through long-term brand building. Dell outsources parts production at the production end, strengthens supply chain management, merges and acquires startups with technological advantages at the research and development end, adopts direct sales mode at the sales end, and adheres to customer-centric (He Ying et al., 2016), which is a transformation of the computer business model, bringing huge profits to the company. With the help of asset-light operation, multinational companies represented by Apple have got rid of the dependence on external core resources and greatly improved their innovation level. Among the shares listed on NASDAQ and NYSE, the proportion of enterprises

adopting asset-light operation mode has reached nearly 60% (Liao Hanping, 2015). The asset-light operation has been widely used in real estate enterprises. For example, Vanke and Wanda Real Estate realized the transformation and sound development of enterprises through the implementation of the asset-light strategy. Some large Internet enterprises also prefer this operation mode.

At present, many enterprises are actively exploring the asset-light model, such as Gome, Wal-Mart, Alibaba and other enterprises known as "financial companies", such as Microsoft, Tongrentang, Merck Pharmaceutical, Coca-Cola and other companies with intellectual property rights as their trump cards; There are also brand companies such as Nike, Apple and Oak International; China Telecom, China Mobile, China Unicom and other basic network companies as well as Dell, Tencent, Google and other Internet companies have successfully applied the asset-light operation model.

This paper classifies the research on asset-light operation by combing the previous literature.

2. Literature References

In the first category of research, Werner Felt proposed in 1984 that asset-light is a resource of enterprises, which has rich value, and other enterprises are difficult to imitate. Enterprises can use this resource to create value. There is no agreement on the definition of light assets in academic circles. There are three main definitions in the literature: first, fixed assets are defined as heavy assets, while light assets refer to assets other than fixed assets; Second, asset-light refers to the intangible assets not listed in the accounting statements, including experience, system, brand, relationship resources, customer relationship, human resources, etc. The assets listed in the accounting statements are heavy assets; Third, not all non-entity assets not listed in the accounting statements are light assets. Only those non-entity assets that can generate excess profits are light assets. The asset-light operation is a kind of operation mode of enterprises, and also a part of the profit mode of enterprises. Generally speaking, there are two definitions of asset-light operation: first, according to the characteristics of the enterprise, if the proportion of fixed assets and inventories of the enterprise is relatively low, but there are more liquid assets (such as cash assets), the enterprise is considered to have adopted the asset-light operation mode; Second, enterprises focus on building soft power assets in product design, marketing channels, brand

building, customer management and other aspects, transfer the operation of business links that they do not have advantages or are difficult to manage to partners, and reduce their own investment and management costs (Wei Yi and Zhu Wuxiang, 2010). The second definition is relatively more comprehensive. Outsourcing non-core businesses reduces the burden of enterprises themselves, while focusing on core businesses helps improve competitiveness. Surdu (2011) concluded that the asset-light model is characterized by sufficient cash flow, continuous growth of capital inflows and low investment in fixed assets[1]. Dai Tianjing et al. (2012) obtained the basic characteristics of asset-light operation by analyzing the American APPLE company: simplified parts production, standardization, rapid supply chain, extremely low inventory turnover, high cash reserves and working capital. The asset-light operating company pays attention to the joint improvement of R&D and marketing capabilities, and can obtain considerable profits without resorting to a huge fixed asset system, such as Coca-Cola. Liao Hanping (2015) believes that asset-light enterprises have higher profitability, growth and operation level than other enterprises, but there are also certain risks. Tang Guliang and Plateau (2016) summarized the strategic risks faced by asset-light operating enterprises by combining examples, and believed that enterprises adopting asset-light operation need to match a more systematic and comprehensive strategic financial management system. Pei Zhengbing (2017), taking Huatian Hotel as an example, combined with historical operation and financial data, conducted a financial performance evaluation of its asset-light practice, and believed that the asset-light operation model has the characteristics of small investment, large output, high brand value, high added value, and can achieve great value appreciation and profit through efficient use of assets and liabilities. Yin Xiaoxia and Zhang Yingwei (2018) analyzed the financial data of Vanke Group and found that after implementing the asset-light operation model, its solvency, operating capacity and profitability have improved.

In the second type of research, the academic community has not reached a consistent conclusion on the economic consequences of asset-light operation. The impact of asset-light operation on various industries has been widely discussed in the literature. Specifically, asset-light operation has been proved to create value for international hotel enterprises (Gannon et al., 2010), generate competitive advantages in the telecommunications industry (Liou, 2011), improve the enterprise performance of the semiconductor industry (Wen et al., 2012), increase the dynamic efficiency of the aviation industry (Wang et al., 2017), and reduce the real estate risk of the accommodation industry (Kim et al., 2019). And improve the capital efficiency of manufacturing industry (Sun Ying, 2020) and total factor productivity (Sheng Mingquan et al., 2020) [2, 3, 4, 5, 6]. Tang Yingzhang et al. (2007) concluded that asset light operation can improve profitability by studying Taiwan, China enterprises. Further, Han Peng (2018) studied the sample data from 2014 to 2016 with China's high-tech listed companies as a sample. The empirical results show that asset-light operation can significantly improve the profitability of intellectual property. Zhou Zejiang and Li Ding (2019) empirically found that asset-light operation is significantly positively correlated with enterprise R&D investment, and this relationship is stronger in monopoly industries and high-tech industries. Shao Zhigao and Wu Liyuan (2019), based on the data of listed manufacturing companies in China's A-share market from

1990 to 2016, found that asset-light operation in the manufacturing industry would reduce performance volatility and thus enhance enterprise value from the perspective of performance volatility. Zhou Zejiang (2020) took A-share listed companies in China's capital market from 2009 to 2017 as the research sample to empirically test the role of asset-light operation on enterprise value and its impact path. The research found that asset-light operation is significantly positively correlated with enterprise value, indicating that asset-light operation promotes value improvement. However, some scholars have reached different conclusions. For example, Wang Zhibo et al. (2015), using the data of Chinese industrial enterprises from 1999 to 2007, found that asset-light operation did not improve the profit margin of enterprises, and pointed out that enterprises should pay attention to the accumulation of exclusive resources to form their own core competitiveness. Low et al. Yu (2018)'s research on listed companies in China also failed to obtain empirical evidence that asset-light operation can improve the profitability of enterprises [7]. Xie Lijuan and Wang Shixuan (2018) found that state-owned enterprises weakened the negative impact of asset-heavy operation on enterprise efficiency, so they believed that state-owned enterprises should not blindly carry out asset-light operation.

In the third category of research, Shao Zhigao and Wu Liyuan (2019) directly used the proportion of fixed assets to measure asset-light operations. Tang Yingzhang et al. (2007) calculated the economic added value of enterprises plus the value of goodwill and intangible assets to measure the asset-light value model. Wang Zhibo and Li Changhong (2015) adopted the method of constructing dummy variables. If an enterprise meets the requirements that the proportion of fixed assets ranks the top 5% in the industry and the proportion of sales expenses ranks the bottom 5%, it is defined as implementing asset-light operation, and the value is 1, otherwise it is 0. Wang Yuanzhuo et al. Zhou Ze and Li Ding (2019) will use the principal component analysis method to select three indicators: fixed asset ratio, sales expense ratio and current ratio, and use the first principal component to measure the degree of light capitalization. On this basis, Zhou Ze et al. (2020) added two indicators of operating cost ratio and cash asset ratio for principal component analysis.

3. Summary

To study the finance and accounting of asset-light enterprises, first of all, we need to clarify the meaning of the terms "asset-light" and "asset-heavy", and clearly define the connotation and extension of these concepts. What are the specific criteria for dividing the weight of assets? What kind of asset structure is the "asset-light enterprise"? Do you need to give different classification criteria based on industry and scale? Should asset-light be a concept of financial accounting or a term of financial management or management accounting? If it is included in financial accounting for research, how to measure and confirm the asset-light content given by scholars in the early stage, such as brand, customer relationship, intellectual capital, governance system, etc? The determination of these basic issues will lay a solid research foundation for asset-light finance.

In the existing asset-light operation literature, there are many studies on internationally famous large companies, which seems to give people the impression that the asset-light model is applicable to large enterprises, especially multinational companies. In fact, China's emerging and

thriving technology-based small and micro enterprises also have the main characteristics of asset-light operation mode, such as "low" financial investment, "small" asset scale, "light" asset form, and "heavy" knowledge application. What are the types of asset-light operating enterprises? What are the characteristics of different types? What kind of financial management mode should be adopted for management? These are also the research topics we are facing.

To sum up, the research on asset-light operation mainly focuses on enterprise performance, value and risk, and few literatures have studied the impact of asset-light operation on enterprise innovation. As for the calculation method of asset-light operation indicators, some scholars use the method of constructing a single indicator, dummy variable, weighted average, and principal component analysis to measure it. However, the single indicator method is not comprehensive enough, the threshold standard determined by dummy variable method is too subjective, and it cannot well represent the difference between enterprises in the degree of asset-light operation. The weighting method is too subjective, and the weight is slightly changed, may produce completely different results.

References

- [1] Surdu G. The Internationalization Process and the Asset-light Approach[J]. *Romanian Economic and Business Review*, 2011, 6(1): 184.
- [2] Gannon J, Roper A, Doherty L. The Impact of Hotel Management Contracting on IHRM Practices Understanding the Bricks and Brains Split[J]. *International Journal of Contemporary Hospitality Management*, 2010, 22(4-5) :P.638-658.
- [3] Liou F M. The effects of Asset-light Strategy on Competitive Advantage in the Telephone Communications Industry[J]. *Technology Analysis & Strategic Management*, 2011, 23 (9): 951-967.
- [4] Wen H C, Huang J H, Cheng Y L. What Japanese Semiconductor Enterprises Can Learn from the Asset-light Business Model for Sustainable Competitive Advantage[J]. *Asian Business & Management*, 2012, 11(5): 615-649.
- [5] Wang W K, Lin F, Ting I W K, et al. Does Asset-light Strategy Contribute to the Dynamic Efficiency of Global Airlines? [J]. *Journal of Air Transport Management*, 2017, 62: 99-108.
- [6] Kim S H, Noh S, Lee S K. Asset-light Strategy and Real Estate Risk of Lodging C- corps and REITs[J]. *International Journal of Hospitality Management*, 2019, 78: 214-222.
- [7] Yu X. The Impact of Asset-Light Strategy on Companies' Profitability[J]. *Journal of Advances in Economics and Finance*, 2018, 3(2).