

Transformation of the Accounting Information System for SMEs in the Post-epidemic Era

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Abstract

The COVID-19 at the beginning of 2020 (hereinafter referred to as "the epidemic") has almost brought Chinese society to a standstill and had a profound impact on China's economy. With the global outbreak of the epidemic, no country can be immune from the global crisis. Many countries have successively issued the policy of closing the country and closing the city. Our foreign trade enterprises have experienced the situation that orders could not be completed in February and no orders could be made in March, especially for our small and medium-sized enterprises. On the demand side, they have been hit by the reduction of foreign trade orders. On the supply side, they have also been hit by the increase in the import price of raw materials. Not only foreign trade enterprises, but also other small and medium-sized enterprises in China also have insufficient construction, The demand in some markets is not strong, and the risk of capital chain breakage is increased. According to the survey report of the China Association of Small and Medium Enterprises, 58.25% of enterprises expect their revenue to drop by more than 50% in the first quarter. In such a severe situation, our small and medium-sized enterprises need the strong support of national policies to survive this crisis, but more importantly, they need to actively face the difficulties themselves, strengthen their own management capabilities, use and learn from the application experience of big data, industrial Internet, mobile Internet of Things, 5G and other advanced information technologies during the epidemic prevention and control period, promote the development of enterprise management accounting information systems, and optimize the capital management, budget management Cost management and performance management enable SMEs to strengthen their comprehensive competitiveness from the inside out, truly overcome the difficulties brought about by the global epidemic and thus create new development opportunities.

Keywords

Accounting Information; Transformation; Small and Medium Enterprises.

1. The Development of Management Accounting in China

From 1966, In the A Statement of Basic Accounting Theory (ASOBAT for short), the American Accounting Association (AAA for short) defined the concept of Accounting as "the process of identifying, measuring and providing economic information so that information users can make judgments and decisions on a basis" (The process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information): Then Sidney Davidson also pointed out in the preface of the second edition of Modern Accounting Manual edited by him that "accounting is an information system, an information system used to convey meaningful economic information of an enterprise or other entities to relevant departments". This definition integrates the two concepts of accounting and information, that is, the proposition of "accounting information system theory". Since the concept was put forward, the research on the exploration of accounting concept has emerged in endlessly for decades. Numerous scholars have studied and explored the boundary of

accounting concept, but the concept of accounting information system theory is still recognized by the theoretical and practical circles.

China began its reform and opening up in the 1970s, and the western accounting theory was also recognized and recognized by Chinese scholars since the 1970s and 1980s. Professor Yu Xuying, the earliest Chinese scholar to accept the information system theory, put forward the view that accounting is an information system in the article "To see the scientific nature of accounting from the perspective of development" (1980), It clearly points out that "according to the current reality and its future development, accounting should be regarded as an information system, which provides consulting services for management mainly through objective and true information". In 1983, Professor Ge Jiapeng thought that accounting is an economic information system mainly based on financial information in his article Discussion on the Definition of Accounting published by him; Professor Qiu Zongshun (2001), Professor Meng Fanli (1996) and Professor Yang Zhounan (2000) all agree with the information system theory of accounting.

With the development of China's socialist market economy, the computerization of enterprise accounting and the gradual popularization of ERP information system, accounting as an information system theory has not only theoretical basis but also has been proved by practice, which has further simplified the accounting work of accountants, and has gradually divided China's accounting theory research into a new research field, namely, management accounting research, Therefore, China's accounting theory has gradually divided into two major systems: financial accounting and management accounting.

For example, Yu Xuying (2004) proposed that management accounting is a special field integrating management and accounting, and its characteristics are naturally transferred according to the characteristics of management and developed with the development of management characteristics. Wang Bin and Gu Huizhong (2014) believed that where there is management, there is management accounting. Therefore, it can be seen that the breadth of content involved in management accounting is difficult to have a measuring boundary, which is one of the reasons why the development of management accounting in business practice at the beginning of this century lagged far behind the development of financial accounting at the end of last century. Hu Yuming et al. (2010) combed the development of the theory and practice of management accounting in China during the 30 years from 1978 to 2008, pointing out that the application of management accounting in enterprises is increasingly common, but generally speaking, the application of management accounting in Chinese enterprises still has great limitations. The application of management accounting in Chinese enterprises mainly depends on external policy guidance and administrative promotion, and the enterprises themselves lack internal will and demand.

Through the above analysis, it can be found that management accounting has a wide range of contents, and its boundary is difficult to determine and measure. The difficulty in calculating and analyzing its data makes many enterprises flinch from management accounting, which leads to the phenomenon that enterprise management accounting is pushed forward by policies. Therefore, the development of management accounting in China is mainly limited by two aspects, one is the promotion and support of policies, the other is the development of big data information technology. The development of these two aspects will play a qualitative role in promoting the development of China's management accounting information system.

First, at the policy level, The Ministry of Finance of China issued in 2014 according to the guidance of the Scientific Outlook on Development The Ministry of Finance's Guiding Opinions on Comprehensively Promoting the Construction of the Management Accounting System and the issuance of a series of application guidelines in the following years have provided necessary policy support for the development of management accounting in small and medium-sized enterprises from the policy level, promoted the training of management accounting talents in

various technical secondary schools, made full preparations for the development of management accounting talents in China's enterprises, and greatly promoted the development of management accounting theory and practice in China Exhibition.

On the other hand, the development of information technology, "Internet plus" and big data has brought new opportunities for the practical operation of management accounting in China, such as economic value added (EVA) and balanced scorecard (BSC) (Feng Qiaogen, 2018), activity-based costing (ABC)/ABM (Ou Peiyu et al., 2000; Zhu Yun et al., 2000; Lin Bin et al., 2001), elastic marginal cost (GPK) Management accounting methods such as resource consumption cost accounting (RCA) and effective environmental cost management (EoCM) have been applied in some large and medium-sized enterprises in China (Feng Yuan, 2016). But these applications are mainly concentrated in a large enterprise, while the development in small and medium-sized enterprises is still very limited.

To sum up, with the development of economy and technology, Chinese enterprises have already met the basic conditions for establishing management accounting information systems. Management accounting is also facing the need for scientific development in China's large enterprises, small and medium-sized enterprises. In particular, the impact of the epidemic this year has been relatively weak compared with large enterprises. Many small and medium-sized enterprises will face a fatal impact in this global epidemic, How to make use of the new technologies highlighted in the epidemic to enable SMEs to survive smoothly and renew their vitality.

2. The Current Situation of Management Accounting in China's Small and Medium sized Enterprises

2.1. SMEs Need the Social Environment of Digital Management

In July 2018, in order to implement the deployment requirements of the Opinions of the State Council on Promoting the Innovative Development of Cloud Computing and Cultivating New Business Formats of the Information Industry, the Guiding Opinions of the State Council on Deepening the "Internet plus Advanced Manufacturing Industry" and the Three Year Action Plan for Cloud Computing Development (2017-2019), the Ministry of Industry and Information Technology issued the Notice on the Implementation Guidelines for Promoting Enterprise Cloud (2018-2020), It aims to promote enterprises to use cloud computing to accelerate the digital, networked and intelligent transformation, promote the deep integration of the Internet, big data, artificial intelligence and the real economy, and promote 1 million new enterprises to go to the cloud. It can be said that in terms of policy, the country plans to promote the digital management of all types of enterprises across the country. However, the digital management of small enterprises needs not only the policy promotion of several departments, but also the digital environment of the whole society.

2.2. Financial Personnel Lack the Awareness and Ability of Management Accounting

Most of the financial personnel of small enterprises in our country take mastering the ability of enterprise accounting and issuing three accounting statements as their ultimate goal, but they rarely participate in the work of management accounting.

For example, in the performance appraisal of the enterprise, except for the work of salary calculation and payment, the financial personnel's work that really involves performance management is rarely involved, and even the entire enterprise has not managed this part of the work, which is all based on the employees' consciousness or the owner's personal charm; The capital management in the process of enterprise management is more left to the boss of the enterprise; Cost management is valued by various enterprises, but it is only rooted in the view

of standard cost, so the concepts of sunk cost and opportunity cost are seldom applied; The ability of financial personnel in budget preparation is unlimited, and only a few of them can carry out comprehensive budget management.

2.3. SMEs Urgently Need Management Accounting Information System to Promote Enterprise Development

With the digital information construction of enterprises, the accounting system of most small enterprises has realized the information operation. Part of them use the form of leased servers to complete the automation of accounting, and some enterprises may use the form of outsourcing to the office to complete the accounting work. Of course, some enterprises also have two accounts, but with the stronger recognition function of tax big data, The gradual reform of the corporate social environment, the promotion and use of more and more government and public clouds, and the gradual disappearance of cash transactions have made the future survival period of the two accounts of enterprises shorter and shorter. A few years later, this illegal operation of small enterprises, which has existed for decades since China's reform and opening up, will disappear with the progress of technology.

In addition, small and medium-sized enterprises can no longer meet the needs of enterprise management and development in the form of accounting and reporting only on enterprise economic business. Especially in the face of such a big epidemic, small and medium-sized enterprises should also have their own budget management system. Considering certain market needs, how to arrange the production capacity of enterprises to enable enterprises to survive longer, An enterprise needs to make a prediction in advance about the limit of its capital flow, which requires that the enterprise can achieve accurate budget management, adjust the budget in time with changes in the market, and provide timely help for subsequent decisions. This is what SMEs are in urgent need of at present.

2.4. Promotion of Epidemic Prevention and Control on Smes' Digital Social Environment

In order to ease the difficulties of SMEs facing the epidemic, the relevant national departments have implemented a series of fiscal, financial, social security and other policies, such as reducing the VAT collection rate of small-scale taxpayers, reducing and exempting corporate social security fees, and delaying the payment of housing provident fund by enterprises. However, even if the country has more preferential policies, SMEs cannot survive the crisis by waiting for the support of the policy, Instead, it is necessary to seek their own development opportunities in the current social environment, strengthen the internal scientific management ability of enterprises, improve the management ability of enterprises through the management accounting information system, and find new development opportunities, which will certainly be an important means for China's small and medium-sized enterprises to overcome this crisis. In the process of epidemic prevention and control, the role of digital information is reflected everywhere, including the screening of closely contacted personnel, the inspection of unmanned aerial vehicles, the deployment of epidemic prevention materials, the real-time broadcast of epidemic information, the remote diagnosis and treatment of medical personnel, and the convenience of data transmission brought by 5G network. It is not only the first line of epidemic prevention and control that reflects the role of the digital economy, but also the role of digital information in all aspects of social management. The State Administration of Taxation put forward the concept of "non-contact" tax management at the first time in the development of the epidemic, and released a list of 185 online tax payment items to facilitate taxpayers and payers to handle taxes and pay fees while reducing crowd aggregation. All of these ways need to rely on the development of digital economy and information technology. Han Guorong, the State Administration of Taxation, said that the "non-contact" tax payment service is not limited

to the period of epidemic prevention and control. After the elimination of epidemic prevention and control measures, the tax authorities will continue to consolidate, improve and upgrade, and introduce more practical and hard skills. In recent years, the government affairs services of local governments have promoted the "run once at most" with the help of information network integration. During this epidemic, it has further promoted the "don't run once" and the smart city governance model embodied by Hangzhou's "urban brain".

All the big data strategies launched by various ministries and commissions of the country for epidemic prevention and control reflect the promotion of the application of big data information technology. The accelerated construction of the government and various public clouds and their promotion and use in the whole society are accelerating the digital transformation of the external environment of enterprises. This macro level promotion has solved various external obstacles to the construction of cloud platforms for SMEs in China, and paved the way for the digitalization of SMEs in China.

3. Promotion of Epidemic Prevention and Control on Digital Management of Small and Medium-Sized Enterprises

As mentioned earlier, the COVID-19 epidemic has not only brought risks to Chinese enterprises, but also opportunities. For example, in January and February this year, Zhejiang's information transmission software and information technology services industry achieved triple growth. The reason is that industrial chain clusters and digital economy modules have reduced the risk of the epidemic. Therefore, the crisis brought about by the epidemic objectively prompted Chinese enterprises to strengthen the digital transformation to a greater extent. By breaking through the data barriers in all aspects, we built resource integration between different industries and enterprises, and realized the cross domain integrated supply chain network operation.

First of all, for digital information management, enterprises should strengthen digital transformation, use big data and other technologies, and create a more convenient digital management model. For example, equipment such as unmanned delivery robots can avoid the risk of cross infection in the process of hospital drug delivery and meal delivery; The role of driverless automatic disinfection vehicles in the epidemic situation; The implementation of the "epidemic information collection system" and the "national health code" supported by Alibaba Cloud technology has accelerated the return to work and production nationwide, making important contributions to epidemic prevention and control.

Secondly, collaborative management between digital upstream and downstream suppliers and customers. For example, in the critical period of "epidemic", Sinopec sent customers through its industrial e-commerce platform to look for out of stock equipment masks and machines, and also transferred rich raw materials melt blown fabrics. Only by continuously improving the enterprise's supply chain collaboration and management capabilities, can it run through the whole product life cycle, involving the whole scenario of the enterprise's upstream and downstream supply chain collaboration. Change the traditional mode and achieve close integration through the network platform.

In addition, digital logistics management, on the one hand, is the digitalization of logistics information. For example, China Huaneng found that urgently needed materials were available in Daqiu Village, Tianjin, through the big data system of the supply chain during the epidemic, and the materials were transported to the construction site of Caidian, Wuhan, within 12 hours through the two logistics platforms of "Nengyun" and "True Luck"; On the other hand, we should strengthen the digital application of logistics, gradually promote unmanned logistics, actively promote the linkage between manufacturing enterprises and relevant departments in the production process of enterprises and the unmanned logistics management when goods

leave the warehouse, and strengthen the automatic transfer management of terminals, automobile shipping transit stations and other places to promote the production capacity recovery sequence. In the foreseeable future, the application of unmanned driving technology in the logistics industry will also greatly reduce the transportation cost of logistics.

Under the circumstances that the epidemic situation has caused enterprises to delay their resumption of work and the market environment has been seriously affected, SMEs urgently need to build management accounting information systems, strengthen enterprise capital chain, supply chain, cost, budget and performance management, so as to realize the digital transformation of SMEs, SMEs can find their own opportunities in the current form and survive in this global crisis, And develop rapidly in a more efficient manner.

With the development of digital economy brought about by artificial intelligence, blockchain and 5G technology, the content of financial accounting in traditional accounting is increasingly replaced by financial robots and artificial intelligence software. More and more large enterprises have formed financial sharing centers. For small and medium-sized enterprises without their own financial sharing centers, financial accounting outsourcing has gradually been accepted by small and medium-sized enterprises. In recent years, there have been many accounting agency centers, such as "100 yuan agency" and "cloud agency". Many accounting firms have shifted their main business from audit to agency and financial consulting. Some small and medium-sized enterprises began to rent intelligent financial software for accounting treatment, which gradually liberated their financial personnel from the heavy accounting work. For small and medium-sized enterprises, financial accounting is gradually removed from the enterprise, which does not mean that accounting disappears in small and medium-sized enterprises, but it is more likely to appear in the management process of small and medium-sized enterprises. The accounting function of financial accounting is gradually weakened, but the management function of management accounting is gradually strengthened with the progress of technology, providing more comprehensive management information for enterprise management. As Professor Yu Xuying (2004) proposed to include financial accounting in management accounting, the author believes that enterprise management accounting information system, especially the financial accounting information system of small and medium-sized enterprises, will become a subsystem of management accounting information system, and the management accounting information system of small and medium-sized enterprises will inevitably change with the progress of technology.

It can be understood that the financial accounting information system needs more humanistic management and management accounting integrated with it, as well as the "system view" it embodies.

4. Enterprise Digital Informatization Promotes the Rapid Development of Enterprise Management Accounting

The results of enterprise digitalization make the relevant business information of the enterprise available for investigation and analysis, accelerate the business process of the enterprise, process tabulation, form digitalization, digital access to financial sharing, and financial management, so that the analysis of management accounting is based on actual data, enhance the reliability and usefulness of management accounting data, fundamentally promote the reference value of the analysis results of management accounting data, and promote the accuracy of enterprise plans and decisions, Enhance the comprehensive strength of enterprises in the market competition.

As an information system, management accounting is composed of financial data, business data, human data of enterprise content, and environmental information outside the enterprise. It is a complete ecosystem. Data information and artificial intelligence gradually informatize the

original human based management information that cannot be fed back into data information, so as to improve management efficiency.

The development of China's accounting information system has also experienced more than 40 years of history, but the development of management accounting information system is relatively lagging behind, mainly because the management accounting information system involves too much content, including too many uncertain factors, and it is difficult to obtain the data of many related factors. However, with the application of big data technology, China's management accounting is increasingly popular in large and medium-sized enterprises. Many software development companies have also loaded management accounting modules into their corresponding information software. For example, the new products of large domestic software companies such as UFIDA Kingdee in recent years have related functions involving budget management, activity-based cost, capital management and performance management. However, the corresponding software for small enterprises is almost blank. The management software for small enterprises is mainly based on enterprise content management and control or financial accounting software. There are few software that incorporate accounting into the management information system.

Therefore, it is urgent to design a management accounting information system that is more convenient and easy to operate, has prominent key functions, and is cheaper and more efficient in view of the limited knowledge ability of financial personnel in small enterprises, the small amount of data information, and the tight capital chain; So as to improve the accuracy of budget management of small and medium-sized enterprises in our country; Improvement of cost management methods; The implementation of performance management will enable China's small and medium-sized enterprises to flourish and promote the high-quality development of China's socialist economy.

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