The Influencing Factors of the Benefits of Operation Cost Management in Service Industry in Shandong

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Abstract: The business community in the service industry is generally unaware of operation cost management and lacks a technique for managing operation costs. The rising expenses of human resources, materials and equipment, rent, and real estate are among the most significant challenges in the service industry. This paper aimed to study the influencing factors of the benefits of operation cost management in the service industry in Shandong. The objectives of the study were: 1) To examine whether human resource costs affect the benefits of operation cost management in the service industry in Shandong; 2) To examine whether material and equipment costs affect the benefits of operation cost management in the service industry in Shandong; and 3) To examine whether rental costs affect the benefits of operation cost management in the service industry in Shandong. This study adopted the quantitative research method. In this study, a total of 378 questionnaires were distributed, with 325 valid questionnaires, and the validity rate was 85.97%. The population consisted of service industry companies in Shandong Province, including restaurants, retail, healthcare, education, and training businesses. Based on the target cost theory, this paper found that: 1) Human resource costs have a significant positive effect on the benefits of operation cost management in the service industry in Shandong; 2) Material and equipment costs have a significant positive effect on the benefits of operation cost management in the service industry in Shandong; and 3) Rental costs have a significant positive effect on the benefits of operation cost management in the service industry in Shandong. For recommendations, operation cost management in the service industry should focus on the following aspects: 1) Optimizing human resource costs; 2) Rationalizing material and equipment costs; 3) Improving rental costs.

***Keywords*:** influencing factors, operation cost management, service indust

1. Introduction

1.1 Research Background

The service industry, which is one of the important components of economic development, not only plays an important role in stimulating employment, accelerating economic growth, and promoting the transformation of traditional industries but also affects the quality and efficiency of economic operations and is an important indicator of modern economic development. The products produced by the service industry are mainly service-oriented products, and the service industry is an industry facing all kinds of consumer demands. To develop in the market for a longer period, service industry enterprises need to look for the driving force that can bring about growth in enterprise value and promote the development of the enterprise (Ma et al., 2019). In the case of the capital market, which is not yet sound, the service industry enterprises are raising funds for investment in the face of such factors as information asymmetry, the financial industry's size of the enterprise, or the nature of the property rights of discrimination, the size of internal capital limitations, coupled with the characteristics of the service industry and the special product attributes, so that their investment and financing activities have been restricted. If not resolved, this will likely affect the development of service industry enterprises.

The modern service industry is gradually becoming a great driving force for economic development. At different stages of economic development, the leading industries for economic growth are different. At present, the social demand for services is increasing day by day, and the service industry is becoming the leading industry for economic growth. Focusing on the needs of industrial transformation and upgrading and residents' consumption upgrading, this will expand the effective supply of the service industry, improve service efficiency and quality, and build a new system of the service industry with high quality and efficiency, optimized structure, and strong competitiveness. The modern service industry will play a more important supporting role in building a new development pattern, driving industrial transformation and upgrading, promoting high-quality economic development, improving people's livelihoods, and transforming production and living styles. The integration of the modern service industry with scientific and technological innovation will improve the industrial level,

consolidate industrial content, and boost economic development (Mehra & Inman, 2019)[1].

Nearly 80% of the sellers in China's service enterprises are small and medium-sized enterprises. Small and medium-sized enterprise groups generally lack cost management awareness and operating margins, which are cost management methods. On the one hand, this leads to many small and medium-sized business margins not being high, and it is even thought that the profit is good, but the actual accounting found that the profit is very low, or even a loss. On the other hand, the lack of operating cost management also leads to the low competitiveness of enterprises in the service industry. In a fierce market, competition has to win the price war, resulting in vicious competition in the industry as a whole. At the same time, under the impact of the policy, the cost of human resources, material and equipment costs, rent and real estate costs, and other costs of enterprises in the service industry are increasing day by day and have become one of the urgent problems in the service industry (Williamson, 2021).

1.2 Research Problems

In the service sector, human resource costs, material and equipment costs, and rental costs are all key operating cost management elements. First, the human resource cost aspect faces recruitment and retention challenges. Recruitment and retention of high-quality employees is a challenge in the service sector, as labor demand is usually high and competition is intense. These can lead to high employee turnover and increased frequent recruitment and training costs, which in turn negatively impact cost management effectiveness. Secondly, supply chain issues are a key challenge when it comes to material and equipment costs. The service industry faces problems of unstable material supply and price volatility, which may affect cost stability and management effectiveness (Zhao et al., 2021). In addition, equipment maintenance and renewal are also important issues. The service industry needs to keep updating equipment to meet market demand or improve efficiency, and the cost of equipment maintenance and renewal can be expensive, which may also affect the effectiveness of operating cost management. Finally, in terms of rental costs, rising rents and lease issues are challenges. Rising rents can put pressure on operating costs in the service sector, especially in busy locations or where supply is scarce. In addition, instability or unfavorable conditions of leases may affect the long-term cost management and stability of service industries (Ma et al., 2019). These issues need to be addressed through effective management and solutions to enhance the effectiveness of operating cost management.

1.3 Research Objectives

The study of the influences of human resource costs, material and equipment costs, and rental costs on the effectiveness of operational cost management in the service industry aims to gain an in-depth understanding of the impact of these key cost factors on the operations of the service industry and to provide effective management strategies and decision support for service industry enterprises. By analyzing these influencing factors, it can help enterprises better understand the cost structure, optimize resource allocation, improve operational efficiency, reduce costs, and ultimately enhance their competitiveness and profitability[2].

1.4 Research Significance

In the service industry of Shandong Province, human resource costs, material and equipment costs, and rental costs are important operating cost components that have a significant impact on business management and profitability. Therefore, it is important to study in depth the impact of these factors on the effectiveness of operating cost management. This study facilitates an in-depth understanding of the cost structure. Studying the contribution ratio and change trend of human resource cost, material and equipment cost, and rental cost to operating cost can help enterprises understand their cost structure in depth and optimize resource allocation and management in a targeted way. This study is conducive to improving the efficiency of cost management. Analyzing the influencing factors of these cost factors can help enterprises identify potential problems and room for improvement in cost management, thus improving the efficiency and accuracy of cost management (Krasnikov et al., 2009).

This study is conducive to optimizing business decisions. Understanding the impact of human resource costs, material and equipment costs, and rental costs on the profitability of an enterprise can help an enterprise make more effective business decisions, including decisions on investment, pricing, and production planning. This study is conducive to enhancing the competitiveness of the service industry (Guo et al., 2020). By effectively managing human resource costs, material and equipment costs, and rental costs, firms can reduce operating costs and improve productivity and service quality, thereby enhancing their competitiveness and occupying market share. The study of the impact of human resource costs, material and equipment costs, and rental costs on the effectiveness of operating cost management in the service industry of Shandong Province can provide enterprises with specific and effective management strategies and decision-making and promote the sustainable development of enterprises[3].

2. Literature Review

2.1 Introduction

2.1.1 Service Industry

The structure of the economy and industry is showing new trends with the rapid development of the economy, and the global economy is transforming into a modern "service economy.". The modern service industry is a knowledge-intensive service industry established in a new business model, relying on the development of modern technology and the more developed stage of industrialization (Kurbanov & Kurbanova, 2015). The modern service industry is a new type of service industry, along with modern technology, the industrial division of labor process phase, and the development of two parts: one is the new service industry, generated in the process of modernization; the second is the upgrading of the traditional service industry through the modernization of new technologies, new services, and other ways. Modern service industry development essentially comes from social and economic development, division of labor specialization, and other needs. The modern service industry is summarized as the service industry constructed with modern scientific information technology, especially information network technology as the key support, and a brand-new business system, management mechanism, and service mode as the fundamental principles (Shek et al., 2015).

The modern service industry is characterized by high technology, knowledge, productivity, and added value. High technology is the symbol of the modern service industry, and the rapid development of the modern service industry should be based on the development and utilization of high technology. The service industry's business model and management model use technology to achieve continuous transformation and change, so the modern service industry has a high content of science and technology. High knowledge is the result of the development of modern service industry requirements. The modern service industry provides knowledge production, dissemination, and use of services. Personnel engaged in the modern service industry have knowledge, academic level, management capabilities, and other aspects of high quality. The modern service industry has knowledge-intensive characteristics. High production efficiency: the modern service industry is in the process of economic development to form aggregation. This development model has a strong group competitive advantage, reduces the additional costs arising from a decentralized layout, produces a scale effect, and improves the production efficiency of the modern service industry. High value-added in the modern service industry is an important way to improve economic efficiency with low resource consumption and exponential value-added in the service matters generated, which is a sign of the level of comprehensive competitiveness (Barna, 2020)[4].

2.1.2 Target Cost Theory

2.1.2.1 Definition of Target Cost Theory

Target cost theory is an important analysis theory in enterprise cost management. Target cost theory uses the interests of demand, enterprise value, and core benefits as the basis for the development of the enterprise's target cost and the target cost throughout the formation process of enterprise products, through the close connection with the enterprise's internal value chain and supply chain, as well as the enterprise's various departments and phases, as well as the upstream and downstream of the full force and cooperation, to jointly complete the effective management of enterprise target cost (Canepa et al., 2017).

The target cost method is suitable for situations where the market changes quickly and the supply chain has a certain flexibility. In this case, the supply chain enterprises need to quickly launch products that meet market demand according to market changes, which requires the core competence of each enterprise in the supply chain to match market demand and have strong adaptability. Each enterprise in the supply chain is responsible for different links, and the cost consumed and value created in different links, such as design, production, and sales, are different. The main task of the target cost method is to be oriented by the value created by each enterprise in the supply chain, to allocate the target cost, to eliminate conflicts among the enterprises in the supply chain, to realize the integration of the supply chain, and to respond to market changes quickly (Shek et al., 2015).

2.1.2.2 Human Resource Costs

Effective management of human resource costs can have a positive impact on operating cost management benefits. Controlling the growth of human resource costs through rational allocation of human resources can help control the overall operating costs and improve the competitiveness of the enterprise (Fortner et al., 2005). Reasonable human resource management can improve the efficiency and productivity of employees, thus reducing the production cost per unit of product or service and improving operational efficiency. Target cost theory emphasizes the comparison between performance evaluation and target cost. Effective human resource management can improve the performance level of employees, thus making it easier for enterprises to achieve the set target cost. Appropriate incentives can stimulate the innovation and motivation of employees, thus improving the quality of products or services, reducing quality costs, and creating more

added value for the enterprise. Excellent human resource management can improve employees' job satisfaction and loyalty, reduce employee turnover, lower employment costs, and improve the stability and sustainability of the enterprise. Effective human resource cost management has an important impact on the operational cost management benefits under the target cost theory, which can help enterprises realize more efficient operations and better financial performance (Rubery et al., 2016)[5].

2.1.2.3 Material and Equipment Costs

Material costs occupy a considerable proportion of the production process, so effective management of material costs is crucial to controlling overall production costs. By establishing an effective supply chain management system, an enterprise can achieve a balance between timeliness and cost-effectiveness in material procurement, thus reducing material procurement costs, avoiding inventory backlogs, and making more effective use of capital. Equipment cost involves the cost of acquisition, operation, and maintenance of equipment (Conde, 2004). Proper management of equipment costs can reduce production costs per unit of product by improving equipment utilization and productivity. This includes aspects such as regular maintenance and servicing of equipment to ensure its proper operation, reducing downtime and wear and tear in production, and extending the useful life of equipment. In addition, the adoption of advanced technology and equipment can improve production efficiency, thereby further reducing production costs and improving operational efficiency. Through fine management of material and equipment costs, enterprises can reduce production costs, improve production efficiency, and realize better operational cost management benefits[6].

2.1.2.4 Rental Costs

Rental costs are an important expense in the business operation process, which has a direct impact on the operation cost management and profitability of the enterprise. The level of rental costs directly affects the fixed cost of the enterprise (Fleckenstein & Longstaff, 2020). Under the theory of target cost, enterprises need to realize the setting and achievement of target cost through reasonable control of fixed costs. The high rental cost will increase the fixed cost burden of the enterprise, reduce the profit margin, and have an impact on the profitability of the enterprise. Rental costs are also closely related to an enterprise's productivity and competitiveness. High rental costs may lead to the enterprise's insufficiency of resources in other aspects, such as capital and manpower, which in turn affect productivity and competitiveness. Therefore, by reasonably controlling rental costs, an enterprise can release more resources for improving productivity, optimizing product quality, and upgrading service levels, thereby enhancing its competitiveness and operational efficiency (Zeng et al., 2019). Changes in rental costs will also affect the liquidity and financial stability of enterprises. Through reasonable rent management, the enterprise can effectively avoid financial risks and ensure the liquidity and financial stability of the enterprise, which is conducive to the realization of the target cost setting and achievement. Rental costs have an important impact on operating cost management efficiency under the target cost theory. Reasonable control of rental costs is conducive to reducing fixed costs, improving production efficiency, enhancing the competitiveness of the enterprise, and ensuring the financial stability of the enterprise to realize better operating cost management benefits (Zeng et al., 2019).

3. Research Methodology

3.1 Research Design

This study adopted the quantitative research. The influencing factors of the benefits of operation cost management in the service industry are taken as the subject of the study. According to target cost theory, it is determined that the important factors affecting counselor studio construction strategies include three aspects which are human resource costs, material and equipment costs, and rental costs. The questionnaire scale design was conducted based on relevant research and theories. Design the measurement question items for each variable. A five-point Likert scale was used to measure each item.

Human resource costs have six measurement items, including effectiveness, achieving their target costs, etc. Material and equipment costs has six measurement items, including long-term operating cost savings, operational efficiency, etc. Rental costs have six measurement items, including competitiveness, financial stability, etc. Benefits of operation cost management have four measurement items, including higher profits, financial stability, etc.

3.2 Population and Sampling

The scope of this study is service industry companies in Shandong Province, including restaurants, retail, healthcare, education, and training. The study period is from November 2023 to February 2024, with a total length of four months. Other places are not included in the scope of the study. The research subjects are the employees of service industry companies. The surveyed employees need to have worked in service industry companies for at least one year, have some understanding of the benefits of operation cost management, and be able to give some comments.

The sample ensured is fully representative of the entire service industry so that more representative and reliable findings

can be obtained. Therefore, this time, the random sampling method was used for sample selection, in which the sample size was calculated. The calculation gives the sample size for this sample survey as 377.89, so the number of people to be sampled is 378.

3.3 Data Analysis

3.3.1 Reliability

Based on the data collected, the data was organized and filtered. The missing data were eliminated, while the variables assigned to the research were loaded into the SPSS software for analysis. By applying Cronbach's alpha coefficient to analyze the reliability and validity of the data of this research, and then determine whether the intention and purpose of the survey can be carried out through the questions in the questionnaire to reflect the validity of this dissertation research, as well as whether the information and content are reliable. The questionnaire reliability analysis is used to test whether the questionnaire questions used in this research are stable, reliable, and not related to whether the data is correct or not. The size of Cronbach's alpha coefficient can reflect the reliability of the reliability or not. When the obtained coefficient is greater than 0.8, it indicates that the reliability of the questionnaire is better; if the obtained coefficient is in the range of 0.6-0.8, it indicates that the reliability of the questionnaire is generally acceptable; if the obtained coefficient is less than 0.6, it indicates that the reliability of the questionnaire is not able to meet the standard. Cronbach's alpha was used in the study to test the reliability of each topic in the questionnaire.

The Cronbach's alpha coefficient of human resource costs is 0.899, the Cronbach's alpha coefficient of material and equipment costs is 0.902, the Cronbach's alpha coefficient of rental costs is 0.889, and the Cronbach's alpha coefficient of benefits of operation cost management is 0.840. All of them are in the range of 0.8~0.9, which indicates that the reliability of this paper's questionnaire is better, and then the validity can be further analyzed. This indicates that the reliability of the questionnaire of this survey study is very good, as shown in Table 1.

Table 1. Variate Reliability Test

Variate	Cronbach's Alpha	N of Items
Human Resource Costs	0.899	6
Material and Equipment Costs	0.902	6
Rental Costs	0.889	6
Benefits of Operation Cost Management	0.840	4

3.3.2 Validity

The reliability analysis is an investigation performed to determine the stability of a scale. The validity study is necessary to ensure that the scale accurately reflects the factor being measured. Methods used in validity analysis include questioning factor analysis and validated factor analysis. The reliability was performed with SPSS software. The reliability study is performed to determine the durability that the scale. In general, two indicators are employed to assess the questionnaire's validity: KMO and Barlrtt's spherical test. KMO ranges from 0 to 1. The higher the KMO value, the better the relationship between the parameters, making the original variables more suitable for factor analysis, and the other way around. The KMO criterion requires a value above 0.7 for factor analysis to work.

The question's validity was assessed, and the findings of the data quantity analysis indicated that the questionnaire had good validity. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is used to assess validity; the KMO value is 0.926, which is greater than 0.7, and the Sig. of Bartlett's Test of Sphericity is less than 0.000, indicating significance.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.926
Bartlett's Test of Sphericity	Approx. Chi-Square	3351.966
	df	153
	Sig.	0.000

4. Conclusion and Recommendation

4.1 Conclusion

This study is based on target cost theory, a study on the influencing factors of the benefits of operation cost management in the service industry. The study collected data by distributing questionnaires; 378 electronic questionnaires were distributed,

and 325 valid questionnaires were recovered, with a recovery rate of 85.97%. and the relationships and hypotheses between the variables were analyzed by SPSS.

4.1.1 Human Resource Costs Have a Significant Positive Effect on the Benefits of Operation Cost Management in the Service Industry in Shandong

The Pearson correlation coefficient between human resource costs and the benefits of operation cost management is 0.244 and P<0.01, indicating that there is a correlation between human resource costs and the benefits of operation cost management, and it is a general correlation. This Pearson correlation coefficient value of 0.244 indicates that there is some degree of positive correlation between human resource costs and operating cost management benefits. The p-value of less than 0.01 indicates that this correlation is significant, i.e., with a fair degree of confidence that this correlation is not due to random factors. This means that in operational cost management, as the cost of human resources increases, it is usually accompanied by an increase in the benefits of operational cost management. Therefore, this finding emphasizes the need to consider the relationship between human resource inputs and operating returns in a comprehensive manner when formulating operating cost management strategies and to further examine the specific factors that contribute to this relationship.

4.1.2 Material and Equipment Costs Have a Significant Positive Effect on the Benefits of Operation Cost Management in the Service Industry in Shandong

The Pearson correlation coefficient between material and equipment costs and the benefits of operation cost management is 0.497 and P<0.01, indicating that there is a correlation between material and equipment costs and the benefits of operation cost management, and it is a general correlation. This Pearson correlation coefficient value of 0.497 indicates that there is a moderately positive correlation between material and equipment costs and operating cost management revenues. A p-value of less than 0.01 indicates that this correlation is highly significant, i.e., with a high degree of confidence that this correlation is not due to random factors. This means that in operational cost management, as the cost of materials and equipment increases, it is usually accompanied by an increase in operational cost management revenue. This correlation may exist because higher investment leads to higher efficiency or better equipment quality, which in turn produces higher operating cost management benefits. Therefore, this finding emphasizes the need to consider the relationship between material and equipment inputs and operating gains in a comprehensive manner when developing operating cost management strategies and to further investigate the specific factors that contribute to this relationship.

4.2 Recommendation

4.2.1 Optimizing Human Resource Costs Management

According to the results of the study, human resource costs have a significant positive impact on the effectiveness of operating cost management in the service industry. To maximize this positive impact, service industries can take several measures. Firstly, firms can invest in staff training and development to improve the professional skills and service quality of their staff, thereby increasing customer satisfaction and loyalty and, hence, operation cost management benefits. Secondly, optimize recruitment and human resource management processes to ensure an efficient hiring process and selection of employees in line with the company's culture and values, as well as building good employee relations to improve employee job satisfaction and performance. It is also key to implement an incentive and reward system. Establishing an effective incentive and reward system can motivate employees to actively participate in business operations and improve their performance, which in turn improves the effectiveness of operating cost management. In addition, providing a good working environment and welfare benefits are also necessary. Focusing on the working environment and welfare benefits of employees improves job satisfaction and loyalty, reduces employee turnover, and lowers human resource costs. Finally, the adoption of technology and automation tools is also important. The introduction of advanced technology and automation tools can improve efficiency, reduce human resource costs, and optimize the benefits of operating cost management. By taking these steps, the service industry can maximize the positive impact of HR costs on operational cost management benefits, leading to higher business performance and profitability.

4.2.2 Rationalizing Material and Equipment Costs

In the service industry, research has shown that material and equipment costs have a significant positive impact on the effectiveness of operating cost management. To take full advantage of this impact, the service industry can take several measures to optimize material and equipment cost management. First, refined procurement management is key. By seeking suitable suppliers, negotiating preferential terms, and implementing supply chain management, the procurement process can be optimized and procurement costs can be reduced. Second, improving equipment utilization is critical. Regular maintenance and upkeep of equipment ensures that it is in optimal operating condition, reduces repair and replacement costs, and extends its useful life. In addition, investing in technological upgrades and innovations can improve productivity and quality, reduce production costs, and further increase operational cost management benefits. Optimizing inventory

management, controlling cost fluctuations, and improving supply chain efficiency are also necessary steps. By accurately assessing demand, formulating flexible sourcing strategies, and establishing close partnerships with suppliers, inventory costs can be reduced, cost controllability and stability can be ensured, and the competitiveness and profitability of enterprises can be enhanced. By implementing these comprehensive measures, the service industry can maximize the positive impact of material and equipment costs on the effectiveness of operational cost management and ensure sustainable business development.

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