

Analysis of the Application of Statistics to Economic Management

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Abstract

Decision making is the core of management, and the basis of decision making is information. In information management, the method employed to analyze the information in addition to the general mathematical methods, there are many statistical analysis methods. Statistics are widely used in all walks of life, especially in economic management. This paper mainly discusses the role of statistics in economic management and analyzes its application effect, thus to show the importance of statistical application in economy and management.

Key words: Economy and management; Statistics application; Data analysis.

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INTRODUCTION

Statistics was a very old social science which has been more than 2300 years ago. It is the use of collecting, sorting, analysis of data and other means to speculate on the nature of the object, and even able to predict the future of a comprehensive science. Statistics contain a large number of mathematics and other disciplines of professional knowledge. Through the establishment of a mathematical model to collate, analyze, and forecast the

collected information, it is essential for the management to make decisions. How to carry on the information construction and make the market economy get a stable and healthy promotion, and how to make the company to gain a positive improvement, are the issues we are considering. To solve these problems, we must have a scientific management system, and statistics are the most important part of the management system. Cannot be denied, statistics as a prediction tool are very important in economic and corporate decision-making. Only to establish the correct statistical model can be more accurate to carry on analysis and provide an important basis for decision making.

1. THE ROLE OF STATISTICS IN ECONOMIC MANAGEMENT

Statistics are the means to extract useful information from complex information, which is fundamental to provide effective data for various economic plans. In short, the statistical analysis of the development of the economy is sorting, analyzing, and then providing statistical data, and forecasting its future development trend. Putting statistical theory into practice is an indispensable part of our economic development. All along, statistics play important roles in economic management, which can be summarized in the following aspects:

1.1 Statistics Can Be a Good Solution to the Problem of Salary Management in Economic Management

In modern economic management, everyone is a participant in the economy. Their own values in the process of labor and the amount of salary paid by everyone must attract everyone's attention. In this process, there must be a reasonable allocation of indicators to ensure that everyone's interests are not damaged. Mathematics has been widely used in all aspects of production and life, and

has achieved good results. Therefore, in the calculation of wages for workers, we can take a mathematical formula to calculate the salary of each person, so as to realize the reasonable distribution of the salary.

Mathematical formulas and models can be employed in statistics to analyze and describe the labor time, quality and labor difference among employees. Reasonable evaluation can be given to the current labor, and the future sustainable development and the labor potential can be forecasted. Thus try the greatest degree to accord with the employee's current actual labor ability, the future development expected, and the salary of the employee's psychological expectation. To create the most dynamic competitive environment, and to mobilize the enthusiasm of the staff, it is better to retain talent. To effectively solve the problem of income and pay is conducive to the further development of enterprise management.

1.2 Using Statistical Principles to Guide Economic Planning Is of Great Significance

Under the background of market economy, the more the amount of statistical information is, the faster information update speed is. So information collection and statistical tools have become more diversified. In this situation, it is necessary to make a reasonable plan with the economic development to ensure that the market economy can be effectively carried out. When the information is processed, more economic information can be collected by statistics. So it is advantageous to the managers to make the right decision and monitor the development process of social economy.

Statistical principles of economic data analysis can exactly reflect the situation of economic development, show the nature of economic and social development, reveal the law of economic development and general trends, and make a reasonable forecast of the future economic development trend. Through the statistical analysis of GDP, the government financial revenue and expenditure, the status of national assets, the use of resources and other economic indicators of the regional analysis and time axis analysis, we make a reasonable assessment of the level of government management and achievement in each region, and provide data support and theoretical basis for the government's further economic development and its own improvement. In addition, it is helpful to provide strong evidence for portfolio investment and saving of resident assets, promote the effective utilization of resources by the environmental protection department, avoid the waste of resources, and develop the sustainable utilization of resources.

1.3 Providing the Basis for Economic Management

Entering into an era of data, a variety of big data techniques are emerging. Whether it is micro management

or macro control, the importance of statistics is self-evident. Applied mathematics is a branch of statistics, and it can be used in different computing objects in the same formula, which is a general characteristic of statistics. Statistics in economic management can reflect the relationships and characteristics of the numbers. Mathematical measurement in the significant project needs more rigorous examination, so it is beneficial to provide the basis for the management of economic measurement and ensure the steady development of the economy.

2. APPLICATION OF STATISTICS IN ECONOMIC MANAGEMENT

Statistics have its own unique advantages, and also have the practical application in economic management, especially in the analysis of a number of tables or diagrams applied to the relevant knowledge of Statistics. After using the relevant theory and calculation method of statistics, the data can be clearly analyzed. In the same way, analyzed things in statistics are different, so the method of statistical analysis should be used flexibly. This paper will analyze the application of statistics in the modern economic management from the following four aspects: marketing management, human resources management, audit practice, and material management.

2.1 In the Application of Marketing Management

The role of statistics in marketing is deepened with the emphasis on the role of marketing. For example, the customer satisfaction index model which is widely popular in the world today, uses factor analysis and cluster analysis to make market segmentation in marketing, and uses the statistical characteristics of the principal components to find the approximate linear relationship between the product price and the price of the similar products. Owing to its application in marketing management, these enterprises have a knowledge of statistics. Statistics, collecting and processing information scientifically, can play a key role in scientific decision-making and in all aspects of marketing planning stages.

In the market competition, the enterprise wants to gain the profit and make the product occupy the biggest market share, besides carrying on the product quality management, the product marketing link cannot be ignored. Statistics on price, quality, sales area, consumer groups and other data of the product and product market, reflect clearly the core competitiveness of products, which can help the enterprise determine one of the most competitive price ranges in the range of consumer acceptance and in line with the general level of product market price. Researching the main consumer groups, focusing on consumer areas and the golden period of the product into the market, it can be easily to make reasonable marketing plan and target,

and accurate positioning of the product market to create effective brand building and product culture construction. Reduce the minimum loss in marketing decisions caused by mistakes and obtains the maximum profit.

In order to ensure that marketing activities can be carried out more smoothly, the first step is to collect and analyze a variety of related information, and then improve the accuracy of the economic data. In the process of collecting data, it is necessary to have a general understanding of the contents and samples of the market survey, and improve the ability to distinguish between data and information. Marketing activities in the data processing include two aspects. On the one hand, it is statistical analysis; on the one hand, it is statistical management. Statistical management is to collate all the data and to classify according to certain preface and contents. Statistical analysis is to use some kind of method to analyze the connotation and essence of things, and then to observe the intrinsic relationship between things, so as to achieve statistical purposes.

2.2 In the Application of Human Resource Management

Enterprise staff management is an important part of enterprise management. In order to make the enterprise production carry out smoothly, we must do a good job in personnel management and pay more attention to the value of personnel in the enterprise. Employees to the company's recommendations are conducive to the enterprise, they constantly adjust their own development model and management method, to make enterprises more suitable to market economy. It also can fully reflect the employee's satisfaction to the enterprise. Employee satisfaction plays an important role in the enterprise statistics. It is an important means to cultivate talents, improve the management mechanism, and promote the sustainable development of enterprises. Therefore, it is necessary to make full use of statistics in the management of enterprise employees, continuously collect and organize employee data, statistical analysis related enterprise staff, make enterprise human resources management more standardized, and enable enterprises to achieve further development and progress.

In the enterprise construction, an effective bottom-up information feedback mechanism is an important channel for enterprises to improve. Employee satisfaction and suggestions for managers, proposal for the improvement of the work flow of the position, measures for strengthening cooperation among employees, improvement in conference mode, enterprise culture construction, all can be regarded as the focus of enterprise statistics. It is also an important application of statistics in enterprise management. Through the scientific statistics, the collection of relevant information on human resources eliminates the negative factors restricting the development of enterprises, improve the

internal structure of enterprises and the actual operation efficiency, and increase employees' happiness index in work.

2.3 Application in Financial Markets

With the increasing prosperity of the financial market, the research and development of statistics have been greatly promoted. As early as the last century, western experts have proposed a quantitative statistical analysis and fuzzy evaluation methods. It can be learned that, if there is not a scientific prediction method, the world's financial markets will face a lot of volatility. Only by constantly strengthening the research and analysis of financial information, can we grasp the law of financial operation. Investment experts can provide more accurate guidance through statistical analysis of data. With the stock market information and the average number of comparison, the experts can make an assessment of the stock price and judgment.

For example, in a year, the Shanghai stock index average of 20 stock market price earnings ratio is 19.23, a company's market price earnings rate is 16.2. Through the analysis of the statistical results of the market price earnings ratio, and the average income of Shanghai stock index, the company's stock price is relatively low. So investment experts make the following conclusion: The company's current price assessment is too low. So the enterprise and other related businesses can use this information to determine whether to buy or sell the holdings.

2.4 Application in Auditing Practice

The application of statistics has promoted the development of modern economic management, and it has a great influence on it. All sectors of the social economy to achieve good development are not separated from the statistics. In the use of statistical analysis of the audit process, the sample must be obtained by sampling. In the statistics of the sample, the role of each sample is not the same. The sampling time should take reasonable measures to ensure the participation of samples in each probability, so as to ensure the integrity and accuracy of the analysis.

2.5 Application in Material Management

Material management will also involve the relevant statistical knowledge, can not only provide a necessary information guarantee for the leader's decision, but also provide the data support for the procurement of materials, storage, sales and so on, in order to obtain more economic benefits for enterprises. The use of statistics can also be used to monitor the whole process of material consumption, making a scientific judgment to the enterprise's existing material situation through the statements of the drawing, and enable enterprises to timely find the problem and solve the problem. The completion of the report will be completed in a timely manner to

a higher leadership, causing the leader to have a clear understanding of the inventory, to develop an accurate production plan.

3. PROBLEMS EXISTING IN THE ENTERPRISE STATISTICS WORK

3.1 Backward Statistical Management System

Statistics have the characteristics of the outward, so it affects the construction and development of statistical work. Statistical data required by the state of the macro statements and internal management of the enterprise are not matched. Therefore, the statistical department of the enterprise doing the work is only to complete the task of the Department of Statistics. At this stage, enterprises spend a lot of manpower and material resources to complete many reports of the competent department, the object of the service is also the government department. The guiding role of their own production and operation is not dominant, statistical work is not for their own decision making and management services.

3.2 Inadequate Investment, Serious Loss of Personnel, Weak Foundation

Statistical work of enterprises has been difficult to adapt to the requirements of the development of information technology. Many enterprises statistics department is revoked or merged with other departments, a large number of statistical staff shunt, this will not be able to complete the collection, reorganization and processing of the basic data.

In addition, access to information of the channel is blocked and not standard, distortion of the data information makes no use of statistical results. Leaders of the units are not willing to spend time in the absence of short-term use of the value of the work, because of under appreciation and less investment.

3.3 The Depth of the Data Analysis Is Not Enough, Cannot Dig Valuable Information

Although the market economy system has been developing, many statistical work has not made great progress, it only refers to a simple list of figures and lack of a deep analysis of the summary. Most statisticians have been accustomed to the results of certainty analysis lacking in uncertainty analysis. Much of the work of statisticians is still in the face of a wide variety of statistical reports, statistical analysis cannot be done in depth mining, or cannot meet the needs of modern enterprise management. Because of a small amount of information, low precision, low predictive power, this paper lacks of dynamic evaluation of things, which can't meet the needs of the competitive environment.

4. HOW TO STRENGTHEN THE APPLICATION OF STATISTICS IN ECONOMIC MANAGEMENT

4.1 Reform of Statistical Work Operation System

The enterprise's statistical task is executed by the planning department, which changes the original information transmission mode, and makes the transformation of statistical work in the enterprise internal. Firstly, enterprises should from the management point of view of statistical data to determine the data, with the purpose of enterprise management to collect and collate statistical raw data. Secondly, we should strengthen the analysis and process the collected data. To enhance the availability of statistical data, it is necessary to make the classification and comparison. And using modern analysis tools to analyze the data, it can effectively improve the utilization of statistical data report. At the same time, changing the past one-way information transfer mode, speeding up the efficiency of information transmission among the various departments within the enterprise can be helpful to make the data information be processed faster in the enterprise internal flow, so as to effectively improve the use of information and broaden the scope of the use of information.

4.2 Strengthen the Training and Education of Statistical Personnel

Enterprises should pay great attention to the quality of the statistical personnel construction, and realize the importance of the quality of statistical personnel to carry out statistical work. Statistical work must be completed by the professional statistical personnel. Enterprises should strengthen the training of the staff of statistics, including the training of professional knowledge and the training of computer skills. Only by this way can statistical personnel constantly update their knowledge structure and keep up with the development of the era of Technology, in which they can not only have professional knowledge of statistical theory, but also master the operation of statistical work and statistical system. Enterprises should pay attention to create a certain opportunity for the statistics, including the exchange of learning, statistical examination, etc.. Enterprises should give a certain reward for the statisticians who performance is relatively good, so as to continuously encourage statistical staff to do their own statistical work, and constantly improve their own quality.

4.3 Make Full Use of the Internet for Data Collection

Twenty-first century is an era of information, especially after the popularity of the Internet, the speed of information collection and transmission are hundreds of times than before. Enterprises in this round will reshuffle,

and the company that cannot keep up with the times is doomed to fail. Only knowing how to use the advantages of the Internet to the development of the company, establish the Internet database combined with the needs of the company, do all aspects and multi-channel data collection, speed up the collection, processing, and delivery of data, and improve data quality can the accurate data support be provided for the enterprise management to make decision with high efficiency and accuracy.

CONCLUSION

Statistics play a more and more important role in the economic and social development. The bond yield curve, analysis of human capital investment, enterprise performance evaluation, technical risk assessment of financial assets, and other common economic phenomena in life, all cannot be separated from the application of statistics. Making full use of statistics to guide the economic life is the inevitable requirement of the development of contemporary managers and enterprises, and it is also an important guarantee to improve work efficiency and promote economic development.

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