



RESEARCH ARTICLE

DEMAND FORECASTING PROBLEM ANALYSIS AND OPTIMIZATION STRATEGY OF P CITY MIXUE

Chen Shihua¹, Tarekol Islam Maruf², Liu Qi³, Zou You⁴ and Atta Ur Rehman⁵

1. PhD in Management. Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.
2. Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.
3. PhD in Management. Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.
4. PhD in Management. Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.
5. PhD in Management. Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.

Manuscript Info

Manuscript History

Received: 16 April 2026
Final Accepted: 18 May 2026
Published: June 2026

Key words:-

MIXUE; Demand forecasting;
Optimization strategy

Abstract

The research object of this paper is P City MIXUE beverage chain Company. In the study of its demand forecasting, it is found that demand forecasting is subjective and the error of forecasting results is large, and the above problems play a key role in its operation. Among them, the error between the predicted value of demand and the actual sales volume will produce market volatility. The above problems need to be analyzed and solved in time, and relevant optimization strategies are proposed: Improve the comprehensive quality of relevant management personnel; Ensure the accuracy of raw data at all levels in the management process; Strengthen the demand forecast guarantee management system; Find suitable quantitative demand forecasting methods; Make qualitative and quantitative comprehensive decisions on demand forecasting results; Make priority levels of high, middle and low needs.

"© 2026 by the Author(s). Published by IJAR under CC BY 4.0. Unrestricted use allowed with credit to the author."

Introduction:-

As the old saying goes: "Food is the priority of the people", and catering has become one of the main lines to promote national economic development, among which the competition of P City MIXUE beverage chain enterprises in P City is particularly severe. Therefore, through analyzing the demand forecast of P City MIXUE, we can understand its current situation, find existing problems, analyze the reasons, and find out the corresponding optimization strategy. Thus, risks caused by demand forecasting can be avoided, data volatility and overall cost can be reduced, and benefits can be maximized, which has important reference value for the development of small and medium-sized franchise chain catering brand enterprises. Time series analysis is commonly used in demand forecasting, which uses the data of past time series for statistical analysis to find the relevant laws of its operation, so

Corresponding Author:-Tarekol Islam Maruf

Address:-Department of Business, Management and Technology , ALFA University College, 13, Persiaran Kewajipan, USJ 1, 47600 Subang Jaya, Selangor, Malaysia.

as to forecast the future. Scientific and effective demand forecasting can help and guide P City MIXUE to plan the market in advance and seize the market, which is the basis of revenue management. More accurate demand forecasting can make the demand plan more fit and match the relationship between supply and demand, guide the production of enterprises, improve the earnings of enterprises, so as to deal with the risks caused by uncertain factors, so as to achieve efficient operation and management of enterprises. Therefore, demand forecasting is very necessary.

Current situation analysis of demand forecasting:-

In order to better grasp the market situation, MIXUE will carry out demand forecast work from time to time, its forecast content includes the total amount of products, hot categories and monthly market demand of a single product. At present, P City MIXUE will require its franchised stores to forecast the sales volume and types of products sold, and then report to the front warehouse (FDC) in Fuzhou, the front warehouse in the comprehensive P city of all stores demand forecast results are summarized, and then report to the provincial storage center (RDC) and summarize. Finally, after the summary and analysis of the needs of the five central storage centers of the national franchise stores, the final report is to MIXUE Co., LTD., and it makes the corresponding demand plan. This demand forecasting sequence is bottom-up, combined with the historical demand data and the experience judgment of relevant managers at all levels, the use of unary linear regression equation to forecast, and finally comprehensive reference to various factors. If the logistics peak period such as holidays or summer holidays is encountered, managers at all levels will expand the demand forecast results to meet the current market demand.

There Are Problems In Demand Forecasting

An effective and applicable demand forecasting system should include a large amount of historical data, external market information and internal market dynamics. For P City MIXUE, effective and applicable demand forecasting analysis can not only improve the production efficiency of enterprises, but also reduce inventory overhang and inventory costs. Combined with the existing demand forecasting model and operating status of P City MIXUE, the following demand forecasting problems are identified:

The accuracy of demand forecasting is not high:-

At this stage, the demand prediction of the franchisees under the P City of MIXUE is mainly based on the historical record of the consumption of each material. At the same time, the demand prediction results are adjusted accordingly in combination with the material demand order information submitted by each franchisee and the subjective consciousness of their respective managers. The accuracy of this kind of demand forecasting is affected by the deviation of material classification and the selection of demand forecasting model to some extent. Comparatively speaking, the selection and optimization results of the demand forecasting model are more harmful. The material classification error will only affect one or two materials, which is not serious for the overall inventory and capital demand. However, the selection error of the demand forecasting model will directly affect the prediction of a large number of materials, which also leads to the low accuracy of the prediction of raw material demand. Eventually, it will cause the warehouse of the franchised stores under the P City of MIXUE to have inventory overstock and out of stock phenomenon, in addition, it will also indirectly cause the untimely logistics distribution and the gap period, and increase the inventory cost, out-of-stock cost, logistics cost and working capital pressure of the P City of MIXUE to a certain extent.

It does not fully consider the dynamics and trends of the overall market:-

Combined with the changes in the overall market, the analysis of factors that have a certain impact on the demand forecast needs to pay attention to historical data, major events, competition in the same industry, consumer behavior and other factors:

First, historical data:-

Historical data mainly includes ordering data and sales data, and sub-categories can be subdivided into sales quantity, sales unit price, gross profit, profit rate, inventory quantity and other information. Collect and master the historical data of each store, and carry out horizontal analysis of the previous product sales varieties and series specifications, and then carry out vertical analysis from categories to single product series. Until understanding and mastering the sales law of each series of drinks, in addition, the relevant management personnel of the enterprise can predict the behavior habits of consumers and future sales through the above historical data. The historical data of P City MIXUE comes from the business data of first-line stores, which are related to the wrong orders, missing orders and the entry of the business conditions of the day after closing. Observation of P City MIXUE franchise stores, sometimes there is a phenomenon of data disorder, which may be related to the store staff's filling in the data is

irregular, less or missing. Inaccurate historical data will affect the demand forecast in the next stage, and the order quantity and actual demand will not be connected, resulting in the overstocking of inventory and the problem of supply and demand ^[1].

Second, major events:-

According to the analysis of the existing sales data of the beverage industry, the products of P City MIXUE can be generally divided into two major sales trends in summer and other seasons. For example, the demand for ice cream and sundae series in the summer will be significantly higher than in other seasons, while the sales of other hot and cold drinks are more stable throughout the year, with no obvious seasonal characteristics, which is related to the environment in different seasons. In addition, special times during the year, such as holidays and major events, can boost store sales figures. At the same time, political, economic, natural disasters and other factors that cannot be predicted in advance are also closely linked to demand forecasts, so these special data should be paid attention to when forecasting demand.

P City MIXUE did not take all possible factors into account when forecasting product demand, and uniformly adopted the same forecasting method. In summer and holidays, we only increase the forecast amount of demand without carefully doing market research and analysis of historical data, which will lead to overstocking of inventory and pressure on capital turnover. When a large number of funds are occupied, it will affect the promotion of the market and the research and development of new products, which will slow down the development process of the enterprise. When the product is not sold out within the warranty period, it will also cause waste; When the supply is less than the demand, in the long run, some customers will be lost.

Third, the same industry competition:-

Under the increasingly fierce competition in the same industry and region, order response speed, service quality, logistics and distribution timeliness, follow-up tracking service and coping mechanism under special circumstances will affect the sales demand prediction of the enterprise. Therefore, increasing the understanding of competitors in the same industry will help improve the management and operation mechanism of the enterprise. Nowadays, the sales methods of competitors and related new services will affect the sales of P City MIXUE. In addition, P City MIXUE still has shortcomings in market research, and its sensitivity to environmental changes is not high. When rivals adopt certain marketing methods, the company fails to take certain countermeasures, resulting in missing opportunities and errors.

Fourth, consumer behavior:-

Personal preferences and consumption power of consumers can be used as the reference direction of P City MIXUE, and are closely related to the sales of stores ^[2]. Therefore, if you do not figure out the needs of intended customers in advance and adjust the sales plan accordingly, it will eventually cause the loss of customers and lack of market competitive advantage.

The orientation needs of target customers are not fully considered:-

The relevant management personnel need to focus on one point is the demand management analysis, efficient demand management needs to study the targeted needs of the target customers, to ensure that they can quickly find, record, organize and track, while dealing with customer demand changes. In order to fully understand and grasp the needs of customers, there must be a certain number of target customers and potential customers, therefore, P City MIXUE needs to work hard to develop target customers and potential customers.

First, establish customer information files. Only by fully understanding customers and standing in the perspective of customers, can we know which series of products meet customer needs and which series of products do not meet customer needs, and at the same time, we can often interact with customers to improve customer loyalty and stickiness. In addition, master and analyze the needs of the overall market and specific customer needs, improve the sensitivity of the market, in order to grasp the development trend of the entire industry. At present, the relevant departments of P City MIXUE collect demand methods by means of customer interviews, questionnaires, seminars and franchisee ordering behavior analysis. Second, enhance communication with customers. In order to timely and accurately understand the needs of customers, communication is the key. Secondly, it is necessary to sort out the relevant needs of customers and classify customers with the same needs to improve the accuracy of customer needs. At the same time, it can also find out the commonality of customers with similar needs, so as to have a clearer understanding of the specific product needs of customers.

Third, improve the research of specific target customers. Through the analysis of the order information, historical transaction information and personal information of specific target customers, the order quantity trend can be mastered, and the demand forecast quantity can be summarized, and then the demand forecast quantity of target customers in each region of P City can be summarized and summarized, and a comprehensive and accurate overall demand forecast value can be obtained. Of course, the relevant personnel should carefully study the needs of specific target customers, do not only one-sided summary, such as the distribution of customer age structure in various regions of the P city, the product types required are different.

The seasonal cycle of the product is not considered:-

There is a certain seasonality in the beverage industry. The needs of the market for the beverage industry are generally closely related to different seasons, holidays, climate temperatures, local attributes and different times of the day.

First of all, in the spring of each year, due to the end of the Chinese New Year, personnel migration and mobility and market changes, generally speaking, the off-season occurs from February to April every year, and the beverage industry as a whole is relatively depressed, and its sales volume is not optimistic and continues to decline. After that, due to the warm weather, the beverage industry market collective recovery, sales volume continued to rise, especially in the summer July-October peak, this quarter's sales can account for 40% of the annual sales, can become the peak season of the beverage industry, at this time, its sales will fluctuate greatly; After November, due to the weak seasonality, the number of sales and orders is irregular, and there are large unstable factors. Secondly, due to the impact of the Chinese Spring Festival, May Day, summer holiday, National Day, Christmas and other holidays abroad, each store will stock up in advance to deal with these special days, at this time, its product sales quantity will fluctuate greatly; Thirdly, weather conditions and different time periods of the day will also affect the number of products sold, such as: the sun is shining, the temperature continues to rise, and the phenomenon of selling drinks will occur at noon every day, while there are bad weather conditions such as wind and rain and during work and school, the product demand during this period is relatively low; Finally, the local attributes and geographical location of the store also directly affect the sales of products, taking P City MIXUE 918092 store as an example, the franchise store is located in the national 5A tourism resort of Putian city, Fujian Province, Meizhou Island, the golden location of the town center, convenient transportation, due to the impact of tourism, therefore, The average daily turnover of the store from July to October was about 15,000 yuan.

For P City MIXUE, the production plan and sales plan of products in different periods are different in response to seasonal demand fluctuations. For products in mature areas, due to the obvious fluctuations in market demand in off-peak seasons, enterprises need to ensure that there is no shortage of stocks or can respond quickly to special situations in management and decision-making. At the same time, reasonable inventory capacity should be reduced as far as possible in inventory control to reduce the backlog of working capital. For newly developed products, in the peak season, P City MIXUE will ensure safety inventory, if in the case of serious shortages, due to the uncertainty and unpredictability of such new products, will cause inventory overhang and other problems.

Reason analysis of demand forecast:-

Based on the actual operation and demand forecasting analysis of P City MIXUE, the problems in demand forecasting of P City MIXUE can be summarized as the above problems, and the reasons for these problems are analyzed in detail:

The forecasting method is relatively simple:-

P City MIXUE only uses a simple moving average method in demand forecasting and the relevant management personnel of logistics department, sales department and Marketing Department rely on their own experience to make subjective judgments to forecast, that is, a simple experience weight method, so as to purchase raw materials of franchise stores. This simple demand forecasting method lacks the comprehensive consideration of consumers' demand for drinks and internal factors of the beverage market, and only takes the sales volume of one week, one month or more ago as the data basis. The predicted results often cannot match the real demand of the beverage industry, and the future time predicted by the above means is not long. It relies heavily on the historical data of recent stores. However, the amount of beverage demand in franchise stores is directly or indirectly affected by many factors. If you only consider the number of product sales in the recent week or month to forecast, then the prediction accuracy is certainly not too high, and the weight is determined according to the store manager or regional manager who has entered the store according to their own few experiences. There is no scientific and rational basis for it. The demand forecasting conditions listed in the demand forecasting of P City MIXUE are not reasonable, and the

influencing factors considered are not comprehensive, so that the fluctuation trend and error between the future demand quantity predicted by the demand and the actual demand quantity generated are obvious, resulting in the demand forecasting results are not accurate and reliable. Due to the phenomenon of shortage caused by inaccurate demand prediction, there will be a "bullwhip effect", and the bullwhip effect will be further expanded, and the demand will be further amplified, which will lead to the consequences of joining stores on the orders of Fuzhou warehousing center and Fuzhou warehousing center on the raw material suppliers of MIXUEicheng headquarters will have a greater impact. Finally, when the franchise stores need to place urgent orders, the demand for raw materials is too high, so that it is impossible to develop an effective and reasonable production plan. Therefore, the above demand forecasting method is not advisable.

Lack of quantitative analysis of demand forecast:-

The demand prediction method of P City MIXUE is mainly based on the subjective prediction of the market trend by the relevant management and the person in charge of the franchise store, which can also be called the empirical prediction method. It lacks scientific and reasonable inventory management strategy and does not set reasonable inventory quota. This forecasting method belongs to qualitative analysis method. The material purchase requirement plan is based on the demand forecast results^[3]. This is a forecasting method that fully relies on the experience of relevant personnel, and it has the advantages of simple method, easy operation and rapid prediction. However, if only qualitative analysis is used, the result is too one-sided, so it lacks quantitative analysis.

In the actual operation of P City MIXUE, it often appears that after each franchised store places an order at the weekly weekend order time point in accordance with the store's previous order plan, Fuzhou Warehouse Center will prepare goods in advance according to the orders submitted by each store, but because the franchised stores temporarily give up the order or miss the time point of payment transfer, some stores have failed to order. Finally, the inventory turnover rate of Fuzhou warehouse center decreased, occupying a certain amount of inventory resources. With the liberalization of the investment policy of MIXUE in the past two years, the number of franchised stores under the MIXUE has also increased to more than 30,000, and the probability of delayed delivery or order failure has also increased. Under this premise, if quantitative analysis and qualitative analysis are added to the demand forecast, the fit between the order plan of each franchised store and the actual demand for goods of the store can be improved to a certain extent, thus optimizing the inventory management of each store and further improving the service level of logistics distribution indirectly.

If the person in charge of the franchise store is completely in accordance with his personal experience to develop the purchase plan of raw materials in the next cycle, the order quantity and the actual demand quantity will have a large fluctuation, which will cause a series of major problems, such as: The increase in storage costs, the decrease in inventory working capital, the inventory backlog, the unsalable products, the unbalanced distribution of resources, the market share of the headquarters, the inability of the Fuzhou warehouse center to supply in time and the income generation have caused obstacles. The above impact mainly consists of two aspects: On the one hand, the person in charge of the franchise store, when the head of the store promotes the new product in the market, due to the lack of certain experience and the lack of understanding of the new product, when ordering, it can only rely on the product characteristics and market positioning provided by the superior market department and product research and development department to roughly estimate the demand for the new raw materials in the store. Based on the above subjective and one-sided market demand forecast, the demand forecast for this new product is inaccurate. On the other hand, the relevant managers of the Marketing Department mainly target the first-tier cities and Zhengzhou City, where the headquarters of MIXUE is located, when making demand forecast, they fail to comprehensively consider the national market situation, and also focus on individual performance indicators. It is believed that as long as the predicted quantity and the data provided to the superiors and their suppliers meet the annual performance indicators, this demand forecast precisely affects the inventory management and logistics distribution directly or indirectly, so that the inventory availability rate and cost cannot be optimized.

There are too many kinds of products, and the forecast cannot be comprehensive:-

There are 6 categories of existing products in P City MIXUE, a total of more than 40 products, of which the raw materials used are hundreds of kinds, and the shelf life of these raw materials, original use value, use cost, consumption and other various characteristics are not the same, combined with external related factors, such as: Market changes, weather conditions, consumer groups, tastes and hobbies will also have a certain impact on the demand forecast. At the same time, in the process of specific demand forecasting, it is also affected by the work experience and working ability of the store manager or store manager, and the corresponding demand forecasting methods of each raw material are also different, making the applied demand forecasting models also differ to a

certain extent. Therefore, even if a relatively suitable forecasting model is selected, the demand prediction for hundreds of raw materials cannot be done in all aspects, which ultimately results in low accuracy of demand prediction.

No scientific demand forecasting system has been established:-

Demand forecasting is the basis of supply chain management planning, an important part of supply chain management, whether it is a push mode or a pull mode, you have to forecast the relevant needs of customers, if necessary, you may also have to plan for production, transportation, enterprise capacity, inventory or any other activities that need to be planned to achieve the purpose of maximizing benefits.

The beverage sales method of P City MIXUE is the combination of sales in franchised stores and sales in direct stores. In the process of demand forecasting, each store usually only makes empirical product demand forecasting for its own store, and then makes corresponding decisions on the ordering plan of the next cycle according to the synthesis of individual demand forecasting and actual remaining inventory. However, in this process, there is often a lack of capture of market structure, market demand and social and economic capabilities, resulting in the lack of market analysis support for newly developed products. If there is a lack of reasonable and effective demand forecast, there will be two consequences: first, the planned order quantity is far less than the actual demand quantity, because the raw materials of MIXUE come from all over the country, the distribution is relatively scattered, but the headquarters in order to ensure timeliness and service level, often take supplementary or urgent delivery and other ways to make up for the lack of raw materials, which will greatly increase the transportation cost; The other is that the planned order quantity is much larger than the actual demand quantity. On the surface, this behavior will reduce the transportation cost to a certain extent, but from a deep level, it will affect the inventory cost and further increase the risk of inventory overhang. To sum up, the results of the demand forecast for the product are certainly not accurate.

At present, P City MIXUE has not established a scientific system of demand forecasting system, but simply uses qualitative forecasting methods to estimate:-

First, customer survey method:-

The headquarters of MIXUE statistics the sales records of each franchise store every year, and the corresponding sales forecast for the next year, and the data is summarized and submitted to the relevant departments. However, due to the consideration of various factors of franchised stores, such as: in order to meet the standard of sales quantity, false brushing orders will be carried out, which makes the sales quantity exaggerated, resulting in high predicted data, which is not the real sales data; In addition, the data is only simple statistics and submission, and will not affect the performance assessment of the sales department. Therefore, some management are not much concerned about the sales data of each franchised store, and will not pay too much attention to and conduct comprehensive investigation and research. In summary, the above sales data of each franchise store is not of high reference significance.

Second, empirical method:-

In the meeting at the headquarters of MIXUE, the relevant executives of the company will make general inferences according to the data collected from each of its franchised stores, combined with previous experience, and then refer to three important indicators. These three important indicators include: first, the expectation of the future market. The leadership of the company through the communication of suppliers and franchisees, combined with the current market changes, the trend of the overall situation of trade and the interpretation of relevant national policies, so as to judge the future trend of the beverage market. Second, drink life cycle. The research and development of the drinks of MIXUE is relatively simple, reproducible, easy to be imitated by peers, while it will launch one to two new products every month, the replacement speed is very rapid, once the product is listed, there will be more competitive products in a short time, therefore, its life cycle is very short. Third, sales records of similar products. Sales records of similar products are the best reference basis for demand prediction. Whether it is the same type of drinks in MIXUE or similar drinks of peers and competitors, the approximate range of sales quantity can be summarized by comparing the sales quantity, sale price, taste, customer feedback and quality of existing drinks in the market. This method is very important for forecasting the demand for new products.

Combined with the weighted moving average method, multiple regression linear method and empirical forecasting method, the empirical forecasting method has a high forecasting degree, but lacks scientific and effective interpretation of the results. From the analysis of demand forecasting methods, the three methods have certain defects. Therefore, the demand forecasting method of P City MIXUE is too simple, lack of scientific, advanced and

practical, and can not give a good feedback on the changing trend of market demand of P City MIXUE, resulting in the lack of necessary overall planning in the actual production operation and rapid expansion, resulting in the lack of production planning, and always in a passive state in response to fluctuations in demand. When the summer peak season came, the storage center of the MIXUE did not have enough measures, such as materials and manpower, which ultimately affected the production and sales of products.

Demand Forecasting Optimization Strategy:-

Improving the comprehensive quality of relevant management personnel:-

First, under the premise of the existing enterprise management system constraints on employees, P City should combine the company's management system on product demand forecasting to improve employees' recognition of the product management system, so as to improve the product demand forecasting management personnel can effectively implement the product demand forecasting management system in their daily work. Let employees understand the company's intentions and goals in product management, so that employees to the company as a home, in the company with a sense of ownership, so as to ensure the smooth implementation of the relevant management system. In order to increase the effectiveness of relevant managers, enterprises need to involve more employees in the management of products, so as to obtain feasible suggestions from grassroots personnel.

Second, improve the skills of management personnel related to product demand prediction of P City MIXUE restaurant chain franchise enterprises, and carry out special management of various categories of material distribution special management personnel. In the daily work of product demand forecasting managers, on the one hand, it is necessary to record the relevant data of products in order to understand the inventory situation; on the other hand, it is necessary to count the production date, deadline, manufacturer, product brand and other relevant information of products, so as to provide data support for the subsequent procurement of products and materials by enterprises.

Third, increase the technical training of P City MIXUE restaurant chain franchise enterprise demand forecast management personnel, so as to combine the effect of theory and practice. Enterprise demand forecasting management personnel need to apply the theoretical knowledge acquired through training to the actual daily operation and management, so as to ensure that each franchised store under the enterprise can give certain countermeasures when encountering unexpected situations, so as to achieve the ultimate goal of reducing risks.

Ensure the accuracy of raw data at all levels in the management process:-

Although the data of material products in the P City restaurant chain franchise enterprise is not worth mentioning at the strategic level of the enterprise, the relevant data directly or indirectly affects every link in the production and operation of the enterprise, which not only requires the cooperation of various relevant departments, but also requires a separate department to be responsible for this statistical work. Only in this way can enterprises have a long-term and real data trend analysis chart of product demand prediction, and on this basis, achieve the effect of improving the overall benefit of enterprises. Although MIXUE was founded in 1997, it was relatively welcomed in the domestic market in 2021, and Fuzhou storage Center was also founded in 2022, its management mode is simply a copy of Guangzhou storage center, its product data management is still in its infancy, and there is no mature and efficient product data management department. Each department has different data management modes and management standards, which makes the management of product data within the enterprise more dispersed, and ultimately leads to unsatisfactory results in the data management of the enterprise warehouse. If this is allowed to continue for a long time, all departments may cause unnecessary disputes due to their own interests, and ultimately seriously affect the overall profits of the enterprise. Therefore, P City MIXUE restaurant chain franchise enterprises need to set up a special data management department.

Subsequently, in order to enable the data management department to achieve refined management, a certain number of relevant personnel from various departments should be deployed to set up a product data management team, collect and sort out the relevant needs, opinions and suggestions of each department and its franchisees, and study and discuss various matters of product materials from time to time. At the same time, it is necessary to do a good job of horizontal communication between various departments and vertical communication with franchisees, forming a good feedback cycle mechanism, not only to achieve scientific data management measures, but also to promote the interaction between employees in each department of the enterprise, to maximize the purpose of corporate interests.

Strengthen the demand forecast guarantee management system:-

The existing demand forecasting management rules and regulations of the restaurant chain franchise enterprises in P City still have a certain room for improvement, therefore, it is necessary to upgrade the existing rules and regulations, so as to ensure the full implementation of the demand forecasting management rules and regulations.

On the one hand, strengthen the demand forecasting management system. The existing rules and regulations of the restaurant chain franchise enterprises in P City are still not standardized enough, but only identify product code, product name, unit, quantity and amount on the sales order (store purchase order), without rigorous classification of raw materials. In order to realize the classification of materials more efficiently and reasonably, each department of P City should develop a purchase order that meets the needs of the department, and the management personnel should further combine the relevant data such as the storage method of materials and the expiration date of products to make it more detailed and standardized. After improving its management standard system, it not only greatly improves the efficiency of management, but also increases the controllable scope of inventory of material procurement. In this case, it can meet the purchase quantity of franchisees in P city, and also make appropriate adjustments to the supply quantity of suppliers, effectively solving the cost occupation of materials. In addition, the person in charge of the franchise store needs to pay attention to the inventory quantity of various materials at any time, so as to estimate the corresponding product demand quantity, in order to reduce the repetition rate of the purchase of the same product and the inventory backlog. Therefore, the relevant management personnel need to better grasp the sales data of the products, and can forecast the corresponding demand amount of the materials according to the P City MIXUE franchise stores, and carry out the corresponding dynamic regulation, making the allocation of enterprise funds more reasonable and scientific.

On the other hand, improve the inventory management system. According to the survey of the inventory quantity of each franchised store in P City, the inventory quantity of each franchised store is mostly prepared according to the demand quantity of 1.5 times -2 times, and some stores are even more, which causes the occupation of enterprise funds and cannot flow, which affects the basic operation of enterprises to a certain extent. Therefore, the fundamental problem of P City MIXUE is to strengthen the inventory management system, rationally and efficiently control the inventory, timely solve the monitoring loopholes under the existing management mechanism, and ultimately reduce the inventory estimation deviation. Relevant front-line managers need to master the sales of various products in each franchised store, and combine the recent external factors to control the quantity of overstocked inventory. In addition, they can coordinate the inventory and sales of each franchised store in P City's MIXUE, exchange or sell the easily overstocked materials with other stores, and turn them into working capital. This behavior is good for business operations. From another point of view, the establishment of a reward mechanism in the case of more abundant funds, the relevant personnel put forward "golden ideas" or solve the inventory backlog and other behaviors to reward, improve enthusiasm.

Make quantitative and qualitative comprehensive decisions on the demand forecast results:-

In the current operation of the restaurant chain franchise enterprise, simply forecasting the demand based on the experience of the relevant personnel will make the predicted result of the product higher than the actual demand quantity, and eventually lead to the increase of inventory cost ^[4]. Therefore, it is necessary to adjust and revise the qualitative demand forecasting result. The results of quantitative demand forecasting can provide some reference value for the adjustment and revision of the results of qualitative demand forecasting. If the quantitative and qualitative demand forecasting methods are comprehensively applied, it can not only reduce the impact of errors caused by a single forecasting method, but also reduce the backlog of inventory costs while retaining the market trend, which is conducive to the stable and sustainable development of the enterprise.

How to combine qualitative and quantitative forecasting methods can be started from the following aspects: First, the person in charge of the franchised stores of MIXUE needs to check the inventory of the warehouse from time to time, and combined with the business data of the relevant time period, so as to make a quantitative forecast of the product demand; Secondly, in the monthly relevant meeting at the store manager level, relevant personnel can announce the quantitative demand forecast quantity of various products, based on the above quantitative forecast quantity, the person in charge of each franchise store can give qualitative forecast feedback, so that the relevant forecast data can be shared. Finally, the relevant opinions and suggestions are recorded, and the weights of qualitative and quantitative forecasting methods are allocated to make a comprehensive decision.

Formulate three demand priorities: high, medium and low:-

P City MIXUE restaurant franchise enterprises should be based on the market demand forecast, so as to develop high, medium and low three demand priorities, and need to monitor the priority of product demand and its fluctuation in real time, in order to adjust the logistics distribution route and inventory management order quantity and safety inventory at any time.

When the product is rated as the priority of high demand, it means that the demand for the product is particularly large and stable and the duration is long, indicating that customers and market groups have a high degree of recognition of such products, therefore, the order quantity and the order cycle of the next order, which is the top priority of the management of MIXUE, otherwise, it will also affect the distribution of logistics and the generation of problems such as timeliness.

When the product is rated as the medium demand priority, it means that the demand for the product is relatively average, and the demand for the product is lower than the high demand priority. If the product is out of stock, the customer is more likely to continue to wait for the product, and it is also possible to order the same series of products to meet the customer's own demand for the product^[5]. Therefore, when managing products with medium demand priority, MIXUE franchise stores can choose the appropriate level of service under the relevant premise such as the order quantity and the order cycle of the next order.

When the product is rated as a low demand priority, it means that the demand for the product is low, and the demand for the product is discontinuous, the demand frequency and the ordering frequency are low for the customers in P City and the franchisees in MIXUE City. Before preparing to order raw materials for low-demand priority products, we need to pay attention to and consider the forecast of market demand and its analysis, because the raw materials of such products may cause slow sales, and the cost caused by warehouse storage and waste may be greater than the cost caused by shortage, ultimately affecting the profits of P City MIXUE franchisees.

Through the comprehensive analysis of the high, medium and low demand priority products in P City MIXUE restaurant franchise enterprises, for franchisees, it is necessary to pay attention to the ordering strategy of related products. Demand forecasting plays a decisive role in inventory management, and also affects the logistics distribution and timeliness. On the basis of demand prediction, combined with product characteristics, market demand and related constraints, the product inventory management control model of P City MIXUE restaurant chain franchise is constructed, and the corresponding order quantity, safety inventory standard and order cycle are set.

Conclusion:-

P City MIXUE beverage chain franchise enterprise, the enterprise demand forecast analysis and summary, the issue of its faced with high subjectivity, forecast error of the challenge, which is very important to its operation. The discrepancy between the predicted demand and the actual sales volume can lead to market fluctuations. In order to reduce market volatility and increase profits, these defects must be quickly identified and remedied, and appropriate optimization measures must be taken through time series analysis and statistical analysis of previous data, such as ensuring the accuracy of raw data at all levels of the management process; In order to realize the operation of enterprise colleges and universities and achieve the purpose of maximum profit, we make qualitative and quantitative decision on the result of demand forecast.

Reference:-

- [1] Zhang Rui. Research on improvement of FMCG product demand forecasting method of M Maternal and Child Company [D]. Shanghai University of Finance and Economics,2020.
- [2] Deng Qiong. Research on Supply chain Demand Forecast of L Company [D]. University of International Business and Economics,2021.
- [3] Xie Xiaoting. Research on Finished product inventory Management of Y Clothing Company [D]. Xiamen University,2017.
- [4] Li Jiao. Status Quo and optimization research of SDWB Company's performance appraisal system [D]. Xi 'an Polytechnic University,2018.
- [5] Zhao Zhixiang. Research on Demand forecast and inventory Control of Protective goods of B Company [D]. University of Chinese Academy of Sciences (School of Engineering Science, University of Chinese Academy of Sciences),2020.