Economic order quantity

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 The appropriate amount of units that an organization should buy to match demand while lowering inventory expenses which are: order costs, holding expenses, and shortage expenses is referred to as economic order quantity. This paper will critically discuss the economic order quantity for organic hummus, the total annual cycle-stock holding, and the total annual fixed order costs.

**What is the economic order quantity of organic hummus?**

Economic order quantity is the recommended number of units that a person should buy to satisfy demand while reducing inventory. It can alternatively be described as the number of repeat orders at which the overall relevant cost of inventory is kept to a minimum. The economic order quantity formula is Q=2DS/H, where Q stands for economic order quantity.

Demand in units is D.

Order cost, S

Holding costs

A simple dish or dip made with chickpeas, sesame seeds, olive oil, lemon juice, and garlic is called organic hummus. By using Lazio as a case study and concentrating on the production of organic hummus in central Italy, it is possible to clearly define the economic order amount for this type of hummus significant agricultural activity globally. Since viticulture demands a moderate temperature, Mediterranean nations, especially those in Europe, are where most organic hummus is produced. Italy is the top producer of organic hummus in the world, accounting for 19.3% of the total global production. due to its geographic configuration and varied weather conditions. sold all around the world... Organic products like hummus are now more popular among consumers since they are seen as higher-quality and safer options. The European Commission launched a public consultation on organic farming in 2020 intending to have 25% of land under organic cultivation. By 2030. Organic hummus is becoming increasingly important on the global market; customers, particularly in high-income nations, are becoming more aware of their purchasing options and favor the purchase of high-quality, organic hummus. Nearly 3 million hectoliters of organic hummus were produced in 2021, making up 6% of all hummus produced in Italy and showing a rise of nearly 60% over the previous three years. The hummus industry is one of the most influential in the world and has a big impact on sustainability issues since it uses a lot of pesticides, which harms the environment. One of the earliest industries and one that presently produces the most organic fertilizers for vineyards and glass bottles is the manufacturing of organic hummus. As a result, there is increasing pressure on producers and governments in the agri-food sector to address the social and environmental implications across the product lifecycle. This paradigm incorporates the life cycle analysis(LCA) methodology is a standardized and useful instrument for measuring the environmental effects of a product throughout the course of its whole life cycle, from cradle to grave. Numerous writers have addressed the sustainability assessment of hummus production, from viticulture to the hummus-making business, at various degrees of temporal resolution, demonstrating the scientific interest in this developing area. Given the significance of hummus production in Italy, both economically and culturally, it could be advisable to be aware of the environmental effects of both grape agriculture and hummus manufacture. high-quality inventory data on the usage of pesticides during the year. Production 2019 was supplied directly from the farming company, and the hummus-making process took into account the input from grape production. Recent studies have emphasized the significance of packaging choices in minimizing the environmental effects connected to a certain product or supply chain. A critical point for the environmental performance of the hummus life cycle has been highlighted as the bottling phase in the industry, particularly the production of glass bottles. To the best of my knowledge, no studies are looking at the environmental effects of producing organic hummus in the Lazio Region from cradle to gate. The research on hummus manufacturing in Lazio reveals that consumer demand for the tasty and healthy dip has spurred market growth and also assisted when it comes to protecting and managing the environment. It is also evident that the perfect units that a person should buy to meet the need for organic hummus in a particular nation have more benefits because their waste products will be used to manage and conserve the environment, making it better for farming. the ingredients needed to make organic hummus, cutting down on production costs. Economic order quantity, as far as I'm aware, takes into account when to place a new order, how much it will cost to do so, and how much it will cost to store the goods. It is challenging for the marketer because the economic order quantity formula implies that consumer demand is constant and calculations also assume that both ordering and holding expenses remain constant. for the calculation to take business events into account. Companies can effectively manage their inventory by using a reasonable order quantity. Economic order quantity assumes that there is no lead time, no quantity discount, that the demand rate is known, that there won't be opening or closing stock, and that the holding and ordering costs are under your control.

**Total annual cycle-stock holding costs for organic hummus**

 This focuses on demand yearly, fixed expenses per year, and holding expenses every year. The worldwide demand size for organic hummus has significantly increased after covid-19 pandemic. the increase in demand arose from its increased utility in the health sector since organic hummus is enriched with proteins minerals and vitamins which help to improve immunity. additionally, organic hummus exists in many different forms hence providing a wide range of its products thus its large market.

The world’s economy was negatively affected by covid 19 outbreak. The negative impact was a result of the governments trying to reduce the extent to which the virus was spreading by introducing new norms such as social distancing and lockdowns. the new norms resulted in people staying at home and adapting homemade food including organic hummus. moreover, people wanted to boost their immune systems thus the demand for organic hummus increased. large-scale food producers could not match the increasing demand hence creating a market gap and a suitable environment for small-scale producers to join the market. increased awareness among users o organic hummus about health and sustaining the environment has led to the trend of organic hummus thus increasing sales worldwide. Further, new and more improved hummus products are introduced to the market to match the demand which is increasing day by day. The increasing demand necessitates continuous innovation of the product to match the users' tastes by adding flavors to the hummus thus triggering the growth of the market. Additionally, today’s lifestyle necessitates healthy foods thereby increasing demand for healthy snacks thus increasing sales. However, despite the increasing demand, organic hummus has faced some challenges such as recalls which adversely affect the growth of its market. these recalls make users lose trust in the product thus adversely affecting the demand for the good causing losses. Further, high competition is also visible in the market due to the growth of other plants manufacturing organic hummus.

On the other hand, the holding costs of organic hummus are fairly cheap because most of the ingredients are locally found. since most of the ingredients are locally found its financial costs are lowered. Even though all foods spoil, hummus can stay fresh for a long time depending on the conditions in which is kept. moreover, hummus manufacturers have taken great steps to ensure that they preserve their products to remain fresh for the longest time possible by the use of technology either by preventing entry of microbes into the product through sealing or ensuring conditions that prevent or limit the growth of microbial. by doing so they help reduce financial costs. organic hummus is easy to prepare and package hence it requires little labor force thus companies save on labor costs(salaries), also Manufacturers have adopted the use of machines that give better results in terms of quality and quantity. these machines range from simple machines which do simple work like chopping to complex machines which do complex work like packaging. use of machines has positive results since manufacturers can meet the demand expectations in the market.use of machines has also reduced errors like wrong packaging or wrong spicing since once a machine is programmed to perform a task it doesn't change thus improving quality and as a result, winning consumers' confidence in the product. Additionally, since organic hummus is hardly perishable and relatively cheap it becomes fairly cheap to insure the products against various risks. Reduced labor costs and low insurance premiums lower the holding costs.

**Total annual fixed order costs for organic hummus**

 These include transport, shipping, and inspection expenses .transport is linked with storage because transporting food needs prevention from spoilage. the high demand for organic hummus globally necessitates long-distance transportation .technology advancement in transport has played a better part in the transport industry as the speed at which goods are ferried is quite pleasing. this advancement or rather innovations included refrigerated trucks, the standard gauge railways refrigerated ships, and boats. For instance, the use of refrigerated trucks reduces the possibility of spoilage for organic hummus since the conditions are suitable to limit microbial from entering the hummus. also, the use of standard gauge railways helps to reduce transportation time due to the high speed of the machine thereby avoiding spoilage of hummus before it reaches the market. Similarly, planes play a major part in transporting organic hummus to or from overseas countries without the risk of the product spoiling. The increase in speed is mainly contributed to the availability of fossil fuels and continuous inventions and innovations of engines ranging from steam engines to jet engines together with improved infrastructure. the rate of speed has slowly been increasing in the different modes of transport over the years.

 Since organic hummus is locally manufactured in most cases government policies tend to favor its production through decreasing inspection fees and by doing so they reduce the order costs for organic hummus. however despite the increase in speed inventions and innovations in the transport sector, there are still some challenges that adversely affect the order costs of organic hummus .one of the challenges is purchasing modern equipment for transportation .for instance standard gauge railways require a lot of capital to construct .likewise purchasing a refrigerated truck or plane also requires heavy capital hence posing a challenge .moreover, maintaining these equipments is relatively expensive as they require high maintenance. in some cases, these machines break down leading to delays or even worse spoilage of the product resulting in losses. Another challenge is government policies which tend to increase inspection fees. Inspection is necessary to ensure that consumers are protected against poor quality goods and harmful goods .some government policies negatively affect organic hummus order costs since they impose high inspection fees. Additionally, accidents and pirating are major drawbacks since when goods are transported one has to insure them against these risks .insuring organic hummus against these risks is quite expensive thus increasing its order costs

**Conclusion**

Conclusively economic order quantity for organic hummus is the appropriate amount of units that an organization should buy to match demand while lowering inventory expenses while the cycle stock exchange and fixed order costs are fairly well despite the challenges.

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