

# **Success factors of the subscription model for the sale of vegetables in the Netherlands**

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# Preface

The present thesis is part of the Bachelor's program in International Food chain management. The research concerns the success factors of the subscription model for the sale of vegetables in the Netherlands. It provides consumers and suppliers insights for making the subscription model a real success.

My motivation for this topic is inclined to my interest in the food sector. I have always been fascinated while solving issues in the industry and I see myself doing the same ahead. I would also like deep dive into the topic as I would also like to have my start-ups with a subscription model, therefore that could help me in my personal growth and understanding of the problems and challenges inclined to it. Moreover, this thesis represents an important part of the final assessment of my fourth year Bachelor's program and is a condition for graduating. I would like to appreciate the immense intellectual support provided by my supervisor Mrs Sintija Kuipers. The completion of the survey could not have been attained without her help and guidance. The insight provided during the research coaching sessions helped to define the course and the quality of the study outcomes. Moreover, I would like to acknowledge the support provided by all the faculty teachers and the precious information they willingly shared with me. I also would like to thank my internship coach Mr Bauke van der Veen for helping me get all the insights into the industry.

Also, some changes were made in the approved version of the research proposal. The sub-questions were rephrased to correlate and explain the main question and hypothesis testing was added to support answering the main question.

Finally, I would also like to mention that the successful completion of the research could not have been achieved without the emotional and material support from my family.

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# Table of contents

<b>Preface .....</b>	<b>3</b>
<b>Summary.....</b>	<b>5</b>
<b>1.Introduction.....</b>	<b>6</b>
<b>1.1 Consumers- What they eat and how they buy.....</b>	<b>6</b>
<b>1.2 Vegetable Sales and Consumption .....</b>	<b>9</b>
<b>1.3 Subscription model .....</b>	<b>10</b>
<b>2. Material and Methods .....</b>	<b>14</b>
<b>2.1 Subscription model is successful for selling vegetables.....</b>	<b>15</b>
<b>2.2 Attractiveness of subscription model for consumers .....</b>	<b>15</b>
<b>2.3 Attractiveness of subscription model for suppliers .....</b>	<b>16</b>
<b>3. Results.....</b>	<b>18</b>
<b>3.1 Results for the success of selling vegetables on a Subscription model.....</b>	<b>18</b>
<b>3.2 Results for the Attractiveness of subscription model for Consumers.....</b>	<b>21</b>
<b>3.3 Results for the Attractiveness of subscription model for suppliers .....</b>	<b>26</b>
<b>4. Discussion of results.....</b>	<b>31</b>
<b>4.1 Success factors of selling vegetables on a subscription model .....</b>	<b>31</b>
<b>4.2 Consumer preferences for buying vegetables with a subscription model.....</b>	<b>33</b>
<b>4.3 Seller preferences for selling vegetables with a subscription model .....</b>	<b>33</b>
<b>5. Conclusions and Recommendations .....</b>	<b>37</b>
<b>5.1 Conclusions .....</b>	<b>37</b>
<b>5.2 Recommendations .....</b>	<b>38</b>
<b>6. References .....</b>	<b>40</b>
<b>Appendix 1 .....</b>	<b>45</b>
<b>Appendix 2 .....</b>	<b>49</b>
<b>Appendix 3 .....</b>	<b>52</b>

## Summary

Challenges to the logistics and supply chain industry have been around for so long and there have been several policies developed by local governments and international agencies to ensure these systems work effectively and economically. Industries have seen major innovations within the industry in recent years, especially after covid-19 and one of those is using the subscription model to optimise the supply chain and lower the price of commodities as much as possible. The subscription model has been used in different industries for a long time but for the vegetable industry it's still knocking on the doors and there's no business model yet which have proved to be successful for the model. This research discusses the factors of using a subscription model which could help the vegetable industry (especially suppliers) to have an attractive business model for both consumers and suppliers.

This research covers and focuses on the preferences of both the consumers and the suppliers to study if they meet each other to satisfy the expectations. The objectives of this research are to study different success factors of the subscription model by figuring out the importance of each success factor to attract sales through this model, to ease the process of buying and selling vegetables for both consumers and suppliers with the subscription model and to understand the buying behaviour and preferences of people of the Netherlands for suppliers of vegetables.

The main question of this research was "what are the success factors of the subscription model for the sale of vegetables in the Netherlands?" This question was answered by important findings regarding the preference of consumers and suppliers from the questionnaire shared in the region. Data was collected using a questionnaire. The target group of this included people living in the Netherlands and involved in buying and selling vegetables. The responses to the questionnaire were collected by sharing the form on online platforms like Facebook, LinkedIn, and WhatsApp and in person from the visitors visiting the Floriade expo in June-July 2022.

This research found that consumers are aware of buying and selling vegetables through the subscription model. Preferences of both consumers and suppliers meet for the various variables of buying and selling vegetables like frequency of orders of vegetables, customisation of vegetables, the ideal time of delivery, and the preferred quality of vegetables. The major success factors that could help boost the reach of selling vegetables through a subscription model are, providing convenience and value to the consumers, an efficient online delivery system and hiring social media influencers for marketing.

The main recommendation of the research is that as the preferences of consumers and suppliers meet for the various factors related to buying and selling vegetables on the subscription model, providing customisation of vegetables could be a major differentiating factor for suppliers as consumers' preferences are heavily inclined towards it. Also by offering products which are distinguished and cannot be found somewhere else suppliers could help consumers with perceived value.

# 1. Introduction

The Netherlands have enriched soil good enough to grow all types of vegetables needed for its use. There is no need for imports, especially for vegetables and it also allows local growers to sell vegetables in their local neighbourhood earning more than exporting it to other countries and earning less. Vegetables are an essential part of a healthy diet; however, the majority of Dutch children and adults do not meet the recommended daily intake of vegetables ([van Stokkom et al., 2016](#)). The recommendation for children aged 4 to 8 is to eat 100 grams of vegetables a day. For 9- to 13-year-olds and people over 71 the recommended dose is 150 grams, while for 14- to 70-year-olds it is 200 grams. With a recommended daily dose of 200 grams of vegetables ([CBS, 2015](#)), Dutch population eats around 85% of vegetables in their diet during the evening meal and 9% during lunch and others would benefit by often choosing to eat vegetables at other times than the evening meal ([Voedingscentrum et al., 2018](#)). To encourage people to eat enough vegetables, the food on offer could be presented in a way that makes it easier for people to choose vegetables or by making consumers more aware of the health benefits of consuming vegetables as discussed in recent research ([Mazzoni et al., 2021](#)).

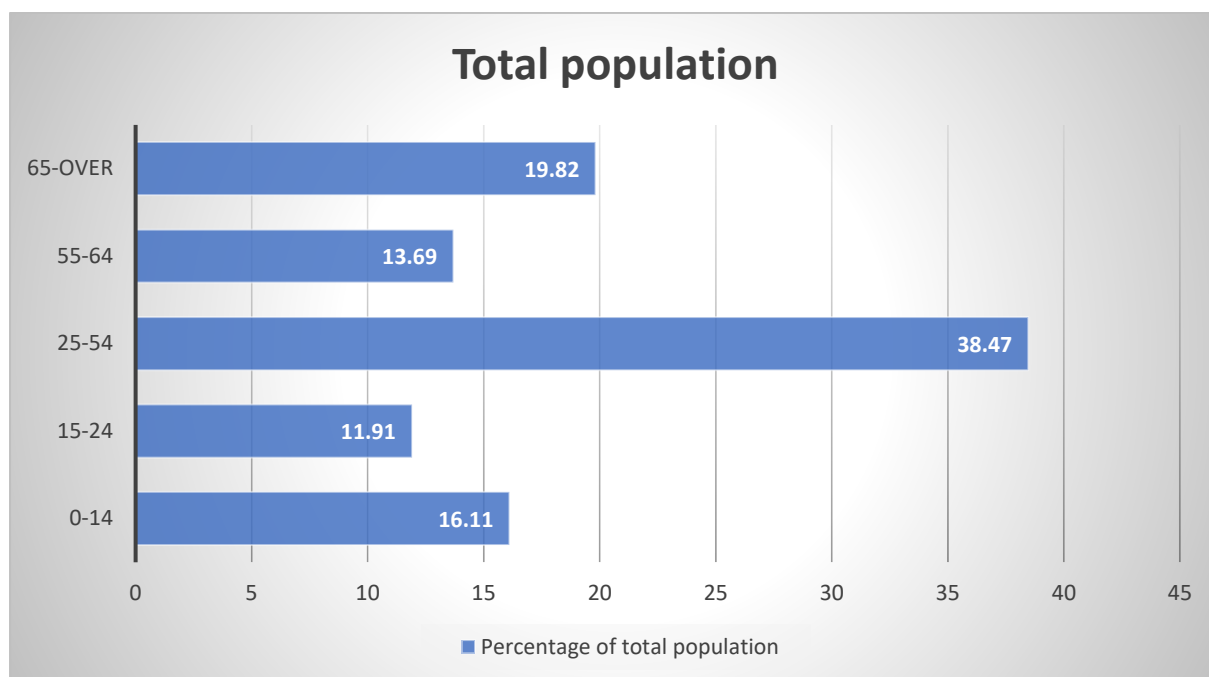
One of the ways for increasing the consumption of vegetables is by selling vegetables through a subscription model. This model has emerged as one of the most significant and famous business models for various retailers and companies in the global market. It is a business model that is bound to change depending upon the market and demand. It works by utilizing advanced technology and offering great services to the customers through it. Today, the subscription model has made a very successful image in the market. It is estimated that in the coming years subscribing to goods and services would be more common rather than being the exception ([Srivastava, 2022](#)). As discussed by [Pasirayi & Fennell \(2021\)](#), the subscription model has proved to be a success story for major companies and adds value to the company's value. On the contrary, consumers are also losing interest in this model due to some loopholes [Andonova et al. \(2021\)](#). To minimise the challenges of the subscription model and attract customers, it's important to figure out which factors could help make it successful. As both companies and industries are trying to shorten the supply chain to minimise the cost of transportation, it is also important to figure out the success factors for the sales through the subscription model ([Burgess & Sunmola, 2021](#)). It's also been found through the literature that critical success factors for the subscription model could help understand the demand and preferences of the consumers to customize the model accordingly ([Andonova et al., 2021](#)).

To increase the sale of vegetables in the Netherlands, the subscription model could be a great fit as it provides the power of customisation for both buyers and suppliers. A report by [Wagner et al. \(2021\)](#) comments on how selling vegetables on a subscription model is going to add value to the chain of logistics especially when the aim is to sell the vegetables locally.

## 1.1 Consumers- What they eat and how they buy

Dutch consumers are thriving with a healthy economy, good public services, and great life expectancy ([Index Mundi, 2021](#)). The current population of the Netherlands is more than 17 million of which 92.5% of the population is urban. Some of the major cities with the most population are Amsterdam, Rotterdam, The Hague etc. In 2021 population growth rate was

recorded at 0.37% where most of the population fell between the range of age 24 and 54 which is 38.47% followed by the age group of 65 and over with 19.82% of the whole population ([Index Mundi, 2021](#)) as shown in figure 1 below.



**Figure 1: Percentage of the total population**

The average Dutch consumer prioritizes price and quality while making any purchase as stated by [Rami \(2021\)](#). Keeping aside the crisis due to Covid-19, consumers in the Netherlands have long enjoyed the benefit of a strong economy, modern infrastructure and public services ([McKinsey & Co, 2021](#)). As a consumer, people from the Netherlands follow some values, see below.

- **Clear message** – Dutch people appreciate it when you get straight to the point like other low-context cultures. Humour and creativity are great, as long as the message is clear. Authenticity matters, for a consumer a brand's value should come across clear.
- **Time management** – Dutch people prefer to schedule in advance, for them to see a friend unannounced is unusual and only 0.3% of people work for long hours. In the Netherlands, full-time workers devote 64% of their day on average, or 15.4 hours, to personal care (eating, sleeping, etc.) and leisure (socialising with friends and family, hobbies, games, computer and television use, etc.) ([OECD Better Life Index, 2022](#)). 43% of consumers want to see the delivery date at the point of order. A choice of delivery location (at-home, in-store, etc.) and the time window are also important ([PricewaterhouseCoopers, 2019](#)).
- **Honesty and Modesty** – Dutch people are comfortable with being direct. Over half of the Dutch population is non-religious. Also, they follow modesty, in the sense of not showing off wealth. If there are taboos in the Netherlands, they're probably around money. This is particularly relevant for luxury brands. Luxury as a signal for enhanced social status may backfire. But the Dutch are loyal customers of branded goods

concentrating on lifestyle and appeal to self-expression ([PricewaterhouseCoopers, 2019](#))

- **Sustainability** - The Netherlands is the second largest exporter of agricultural products in the world. The number-one spot is held by the US – which is about 237 times bigger ([PricewaterhouseCoopers, 2019](#)). That's also a reason behind the importance of sustainability for Dutch consumers but the majority of consumers don't want to pay extra for sustainable products which are less than the global average of payers compared to other countries ([PricewaterhouseCoopers, 2019](#)). One-third of Dutch consumers prioritize packaging and environmental concerns ([PricewaterhouseCoopers, 2019](#)).

Before describing the food consumption characteristics of the Dutch population, it's better to describe the various determinants of food choices. People engage in multiple eating and drinking episodes per day. Each eating episode requires many types of decisions. These include whether, what, where, when, with whom, how long, how, and how much to eat and or drink.

The Dutch population eats and drinks, on average, 21 different types of food per day. This adds up to an average daily intake of a little over 3 kilos. Beverages (alcoholic and non-alcoholic beverages) and milk products contributed to about 68% or over 2 kilos of the total daily food intake. Other food groups that contribute greatly to the daily food intake in grams are dairy products (e.g., cheese, yoghurt), bread, vegetables and fruit. The average weight of each of these food groups is between 355 grams and 122 grams per day. On average, 28% of the food and 10% of the beverages are from animal-based products. This adds up to 16% of the total food consumption and provides 60% of the daily intake of protein. The average daily consumption of meat is 101 grams ([Rossum et al., 2016](#)). On average, households spent about 11% of their total income on food; this proportion does not vary between households with different income levels ([CBS, 2015](#)). Compared to other food groups, most money is spent on alcoholic beverages, fruit, vegetables and animal products (fish, pork, beef and poultry). Bread and cereals (including rice and pasta), sugars and fats contribute least to total household spending. This concludes that relatively little money is spent on non-alcoholic drinks and coffee & tea, but these products are consumed in large quantities. Similarly, relatively little money is spent on bread, cereals (including rice and pasta), potatoes and fats, but these foods are important sources of energy. A relatively large amount of money is spent on fruit and vegetables ([Geurts et al., 2017](#)).

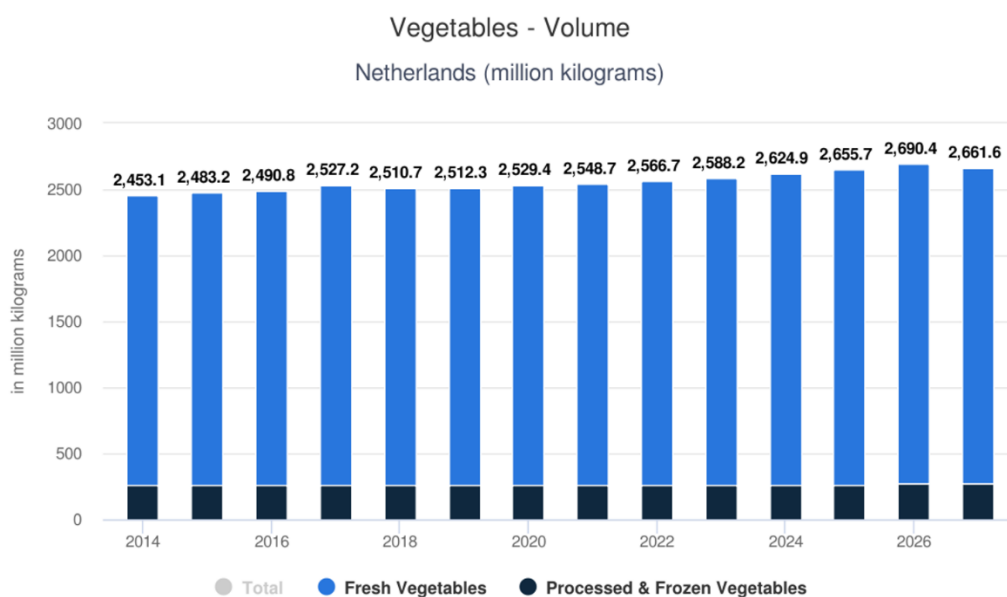
The Netherlands is a relatively small country with a large consumer market with ethical shopping considerations influencing purchasing decisions on shoppers' habits. Consumerism in the Netherlands has seen a fair amount of change in the past few decades. In the last decade, the number of Dutch customers paying attention to the sustainability of products had risen by over 20 per cent, climbing to a total of about 56 per cent in 2021. This is especially the case for specific product categories, as some 70 per cent of shoppers in the Netherlands kept eco-friendliness in mind when browsing for items in the supermarket that year. As such, it comes as no surprise that many sustainable food products, such as eggs and fish, accounted for a large portion of their respective markets ([Tighe, 2022](#)).

From a European and a global perspective, the e-commerce market in the Netherlands is highly developed and the Dutch are very used to purchasing their essential and non-essential

items on the internet. In fact, over a third of consumers in the Netherlands shopped for goods online every week in 2021. (Tighe, 2022). Overall, consumers of all age groups shopped online: 90 per cent, of Dutch people between the ages of 25 and 54 were the country's leading online buyers, while those older than 64 years were less involved with online shopping channels (Tighe, 2022).

## 1.2 Vegetable Sales and Consumption

While the Dutch population is spending almost one-third of their major spending on food expenses on vegetables as discussed above, it is important to study the vegetable market of the Netherlands in detail to figure out the buying preferences of the population for this study. In the Netherlands, the vegetable segment contains fresh, frozen, and processed vegetables. The fresh vegetable segment includes tomatoes, potatoes, leafy vegetables, cabbage vegetables, onions, root vegetables & mushrooms, and other fresh vegetables such as pumpkins, eggplants, zucchinis, cucumbers, paprikas, bamboo shoots, legumes, and other vegetables. The processed vegetable segment covers dried and canned as well as frozen vegetables. Whereas, vegetable-based ready-to-eat meals are out of scope from the Netherlands vegetable market (Statista, 2022). Some major highlights of the vegetable market in the Netherlands are revenue in the vegetable segment amounts to €5.56bn in 2022. The market is expected to grow annually by 1.87% (CAGR 2022-2027). Revenues of €322.90 were generated per person from the total population. Volume per person in the Vegetable segment is expected to amount to 149.1kg in 2022. Also, the vegetable segment is expected to show a volume growth of 0.8% in 2023.



**Figure 1.2: Vegetable sales in the Netherlands**

Figure 1.2 shows the increase in the sale of vegetables in recent years and also predicts the same for the upcoming years. The vegetable industry is showing an inclined trend for growth for companies leading to new start-ups and innovations in the industry. The diversity of Dutch buyers of vegetables is large. In the Dutch market supermarkets are the most dominant segment. The market shares of the fresh produce retail trade are not systematically recorded. Supermarkets are without doubt the most dominant channel for fresh vegetables in the

Netherlands. The number of specialised vegetable shops and ambulant merchants has been decreasing over the past years ([CBI, 2022](#)). But both the sales in supermarkets and specialised stores increased during the COVID-19 lockdowns. Vegetables are the most important category for supermarkets. Their sales make up about 9.5% of the total turnover of a supermarket. Supermarkets had a market share of 78% in the sales of vegetables ([CBI, 2022](#)). Competition among supermarkets is high leading to a price war among competitors eventually forcing the market to come up with innovations for selling vegetables and to attract customers. Online buying is one of the latest trends attracting customers because of its convenience of delivery to the doorstep. Online buying is rapidly becoming the norm for consumers in the Netherlands. More than 30% of Dutch respondents prefer to make online purchases weekly or more frequently ([PricewaterhouseCoopers, 2019](#)). Technology has changed the relationship between customers and companies so significantly that consumers are now in the driver's seat, and good shopping experiences are therefore more important than ever ([PricewaterhouseCoopers, 2019](#)). To enhance the customer experience companies came up with a subscription model where customers become so reliant that they start dismissing other (omnichannel) options for buying vegetables, such as buying online and picking up in-store ([Wagner et al., 2021](#)).

Vegetable consumers are not consuming the recommended amount of vegetables. Only about a quarter of the population meets the daily consumption recommended by the Dutch Health council. People with foreign backgrounds meet the standards more often than people with a Dutch background. Older people tend to eat more vegetables than young people. Roughly 38 per cent of respondents from the Netherlands ate less than one portion of vegetables per day. There is no difference between men and women in this regard ([CBS, 2015](#)). The recommendation for children aged 4 to 8 is to eat 100 grams of vegetables a day. For 9- to 13-year-olds and people over 71 the recommended dose is 150 grams, while for 14- to 70-year-olds it is 200 grams. With a recommended daily dose of 200 grams of vegetables, 36 per cent of the western, over 3 per cent of the non-western and over a quarter of the native Dutch population meet the standard ([CBS, 2015](#)). The reasons for Dutch people for eating too few vegetables vary. A large proportion of respondents indicated that they felt healthy enough and therefore did not need more vegetables (21.8%) or simply did not want to eat more vegetables (23%). Money also plays a role. A small percentage of respondents (10%) indicate that they want to eat more vegetables but cannot afford to do so ([Wallbrink Crossmedia, 2020](#)).

### 1.3 Subscription model

A familiar business model is currently disrupting the retail industry: subscriptions are experiencing a renaissance in e-commerce. In the subscription model customers have to pay a recurring fee at a continuous interval to receive access to a product and/or service and its focus is on retaining its customers while steadily adding new ones. A special emphasis is thereby put on maximizing the amount of time the customer stays subscribed ([Viktor, 2022](#)). Subscription business models had already been adopted by European map publishers in 1500, where customers subscribed to upcoming versions of their maps, which were expanded as new territories were conquered. From the 17th century until recently, subscriptions have then mostly been applied to information-related products such as periodicals, books, and ultimately phone plans. Since the early 2000s, digitization has led to a revival of subscription models, driven at first by purely digital goods, such as multimedia streaming services (e.g.,

Netflix and Spotify). Most recently, the subscription business model has also arrived in the world of physical goods. CrateJoy, the world's first subscription marketplace, currently lists more than 1'300 subscriptions ranging from book clubs via food and beverages al bath and beauty. Over history, the subscription business model has thus been applied to various product segments, with a current focus on marketing and consumer goods ([Rudolph et al., 2017](#)). There are three broad types of subscriptions: replenishment, curation, and access. Replenishment subscriptions allow consumers to automate the purchase of commodity items, such as razors or diapers. Curation subscriptions seek to surprise and delight by providing new items or highly personalized experiences in categories such as apparel, beauty, and food. Last, access subscribers pay a monthly fee to obtain lower prices or members-only perks, primarily in the apparel and food categories. Curation services, with 55 percent of total subscriptions, are by far the most popular, suggesting a strong desire for personalized services. Replenishment accounts for 32per cent of subscriptions and access subscriptions for 1 per cent ([Chen et al., 2019](#)).

Recently, subscriptions became also part of the grocery retail industry and the most common (ancillary) service associated with it is home delivery for online purchases. In this model, upon the payment of a membership fee, customers subscribe to products they need regularly where they are eligible for free home delivery during a given period ([Wagner et al., 2021](#)).

Product and service providers deliver value to consumers by providing goods that offer practical and pleasant benefits. Different consumer benefits trigger interest in subscribing to boxes, benefits ranging from utilitarian (e.g., the convenience of replacing items) to hedonic (e.g., the ability to try new products and the element of surprise. It also gives flexibility to customers to order according to their requirements). The other major benefits are:

- Offers new items within a specific niche product category
- Offers VIP or exclusive access to items.
- Offers items that deliver savings relative to the retail store equivalent. Includes holiday gift boxes and other comparable options.
- Offers consumers an element of excitement

Although the subscription model has seen a steep growth only 15% of online consumers said they subscribed to a subscription service in 2018. The majority of these subscribers tend to be young women living in urban areas. Women account for 60% of total subscriptions, but men tend to have a higher number of subscriptions per person than women. 42% of men compared to 28% of women reported having on average three subscriptions ([Chen et al., 2019](#)). In addition, subscribers tend to have high incomes, with approximately 54% reporting incomes over \$100,000. Subscription boxes are most popular with millennials: 13.8% of millennials have subscriptions, followed by 10.4% of Gen Zers, 9.5% of Gen Xers, and 3.7% of baby boomers ([PYMNTS, 2020](#)).

With the help of scientific research, it is easy to study the success factors for making the subscription model a real success for the vegetable sales industry ([Andonova et al., 2021](#)). These success factors are also going to be analysed with the data collected to make this study more feasible. Below mentioned are some of the success factors:

- **Increase perceptions of convenience** – The subscription model offers convenience, which consumers are typically willing to pay more for to avoid having to search for and evaluate products. Convenience is part of the subscription model value proposition, as there is value in eliminating the need to go to a physical store. The key to increasing consumer perceptions of convenience is to constantly remind subscribers of the convenience of the service using compelling, story-based messaging that focuses on the time, effort, decision-making, and transactional benefits enjoyed by actual users.
- **Increase perceptions of value** - While delivering value is important to all businesses, it is particularly paramount in markets with a subscription model because the high churn-rated consumers are quick to cancel a subscription when they no longer see value in it. Subscription cancellations are prominent in part because of recurring monthly fees, making the subscription model an obvious choice when consumers look to cut down expenses, especially when it comes to nonessential product categories. Therefore, finding ways to signal to consumers that subscription boxes are valuable may hold one of the keys to subscriber retention. Possibly offering unique or hard-to-find items that, owing to the difficulty of generating reference points, may increase the perceived value of the offering.
- **Reward customers for staying** - should focus on providing a customized and highly desirable rewards program to minimize subscriber churn and foster service continuity. The following are rewards systems that could be used by the subscription model for existing customers:
  - A rewards program based on gamification principles that offer consumers discounted purchases from points gained by playing games.
  - Free quarterly miniboxes with surprise (unexpected) offerings based on customer preference for product categories.
  - Free returns for non-perishable boxed items within a time limit.
  - Provide subscribers with the ability to pause their subscriptions and resume them at a later time.
- **Offer bricks and clicks** – Subscription service providers should partner with retail outlets to increase brand awareness and stimulate trials. Doing so allows for the leveraging of brick-and-mortar outlets as a form of distribution and as a site for returning perishable goods. Thus, for a subscription model, it will be a dual distribution model, one in which consumers can purchase boxes in stores as well as online, providing the model with the opportunity to capture a larger market size and decrease the perceived risk of subscribing.
- **Leverage social media influencers** - As subscription boxes are heavily promoted to younger consumers, and women, in particular, the use of relatable social media influencers may prove to be more persuasive and cost-effective than that of traditional celebrities. In addition, the content posted by influencers is often perceived as more candid than traditional ads ([Zhou et al., 2021](#)). Therefore, the subscription industry should leverage social media influencers to promote continued patronage.

Especially, by creating a “Just for You” experience, which entails personalized encounters between subscribers and influencers and their social content. These encounters can be exciting, live interactions with influencers that allow the brand to engage with subscribers after the purchase.

This research is focused on three broad categories namely success factors for the subscription model, selling of vegetables and consumers in the Netherlands. The question comes from the problems faced by the vegetable suppliers and retailers who sell vegetables directly to consumers on a subscription model as the industry is not able to retain their customers on a subscription model and also unable to keep up the regular sale of vegetables ([Wagner et al., 2021](#)). So, for the chosen research topic the problem owners are the vegetable suppliers who cannot keep up the sale of vegetables selling on the subscription model and the consumers who are unaware of the benefits of the subscription model.

A research question with supplementary sub-questions will serve as the backbone of this research. The main research question that this thesis aims to answer is formulated as follows:

“What are the success factors of the subscription model for the sale of vegetables in the Netherlands?” To answer the main question, the following sub-questions are formulated:

- In what way subscription model is successful for selling vegetables?
- Which factors make the subscription model attractive for consumers?
- Which factors make the subscription model attractive for sellers?

The objectives of this study are: (1) To study different success factors of the subscription model by figuring out the importance of each success factor to attract sales through this model; (2) To ease the process of buying and selling of vegetables for both consumers and suppliers with the subscription model; 3) To understand the buying behaviour and preferences of people of the Netherlands for suppliers of vegetables. These objectives are directly connected to the sub-questions of the main research question

This thesis is written for the people and the companies who are using the subscription model for selling vegetables to customers to figure out what are the success factors to focus on while defining the process of the model. Also, the target group of this research is the consumers of vegetables in the Netherlands as this research provides the benefit of selling vegetables on the subscription model. Consumer preferences will be collected in the form of quantitative data and the data will eventually help the research to determine the success factors for the subscription model, for which the study will be done deep in the next chapter.

## 2. Material and Methods

To answer each of these sub-questions, quantitative research was carried out. The research tool used to collect data and gather information was a questionnaire. To have a better understanding of different perspectives and preferences two different questionnaires were used each for consumers and suppliers. Consumer's questionnaire was shared with people who are involved in buying vegetables and the responses were taken via different online platforms like LinkedIn and collected during the Floriade Expo (Almere, the Netherlands) at the Flevofood network pavilion, where a lot of people are coming from different parts of the Netherlands to access the recent innovations going on in the industry. supplier's questionnaire was shared with the people who are growing and selling their vegetables in the Netherlands and the responses were taken by sharing the questionnaire with different networking platforms like LinkedIn. This questionnaire was also shared with Flevofood farmers and local to local network of farmers, which is a collaboration of farmers in the Netherlands which aims to sell their produce in the Netherlands itself. The reason for choosing these channels was that for the researcher to collect relevant and useful information, the answers to the sub-questions must be based on the answers of people who were actively living in the Netherlands and buying or selling vegetables and this group of people was also the target group for this research. Respondents who don't buy vegetables were rejected and were not allowed to continue with answering the questionnaire, as their answers were not applicable and would have created bias. Respectively for the questionnaire used for suppliers, respondents who are not involved in the selling of vegetables were rejected and were not allowed to continue with the further questions. Additionally, the author of this thesis was physically in the Netherlands and getting questionnaires filled out at the internship desk at Floriade Expo was the most convenient and appropriate way to gather real information from the people of the Netherlands.

The reason for opting for a questionnaire is that it represents the best medium to elaborate and get insight into the actual consumer behaviour, to obtain standardized information, and later on, categorize these findings and make further use of these collected data. Moreover, a questionnaire is a time- and cost-efficient research tool which can be used even by non-scientist and does not require special expertise ([Lo et al., 2020](#)). The actual questionnaire can be found in appendix 1 and 2 at the end of the report.

Two questionnaires were made distinguished by focusing on the preferences of consumers and suppliers. The optimal number of responses needed for the questionnaire for consumers was 385 and it was 68 for the questionnaire for suppliers. For both questionnaires, a sample size calculator was used ([Schmidt et al., 2018](#)), where the approximate population of Netherlands living was used (i.e., 18000000) for consumers and the suppliers, and the active number of farmers was used (i.e., 12000). Additionally, a margin of error of 5 and a confidence level of 95% was used for the consumer's questionnaire and a margin of error of 10 and a confidence level of 90% were used for the supplier's questionnaire.

The results of the questionnaires can be quickly and easily quantified. Microsoft Excel was used to process the gathered information. In particular descriptive statistics, and graphical tools in Excel and t-test were used to analyse the respondents' answers and to give a good overview in the form of statistical analysis. T-test helped better understand and analyse the

data collected from both questionnaires as it compares the quantitative data and variables to provide statistical solutions. Responses from the questionnaire were studied based on variables and then compared using a t-test. Sub-questions are thoroughly explained in the coming sub-chapters.

## **2.1 Subscription model is successful for selling vegetables**

To understand more about sub-question 1, responses from both questionnaires will be taken into account. Question 1 of both questionnaires acts as a variable for the population as for this research respondents from the Netherlands were considered. For demographic knowledge of the responses collected questions 2-4 of the consumer's questionnaire and questions 2-3 of the supplier's questionnaire will be included. Question 5 and question 4 of the consumers and supplier's questionnaire filter the respondents if they are eligible to take part in the questionnaire because if they are not involved in either buying or selling vegetables their response is void and cannot be considered. Questions 9, 10 and 8, 9 of consumers' and supplier's questions respectively again filter the respondents for sub-question 1 on the variable that if they are aware and interested in buying/selling of vegetables through the subscription model. For the first sub-question, the main variables are 5 success factors (namely convenience, perception of value, rewards for loyalty, offering bricks and clicks and social media influencers) used from literature in chapter 1.3, consumers review was also used for these success factors as to find out how much they agree with the degree of these success factors proved to be successful for the subscription model. They are discussed in questions 17 to 21. The same variables were used for the success factors for the supplier's questionnaire from questions 16 to 20. Where an additional question was used in both questionnaires to know which of these 5 success factors was most relevant for the subscription model, Question 22 in the consumer's questionnaire and question 21 in the supplier's questionnaire.

Variables used in both questionnaires will be analysed and compared to know if consumers' and suppliers' preferences meet to make the subscription model favourable for both as they both have certain expectations to fulfil.

## **2.2 Attractiveness of subscription model for consumers**

To understand more about sub-question 2, responses from consumer questionnaires were used. Questions 6-8 of the consumer's questionnaire focused on having consumers' preferences for buying and how satisfied are they with this. It also includes variables for the preferred number of vegetables they preferred to buy at once. Question 9 and 10 again filter the respondents on the variable that if they are aware and interested in buying vegetables through the subscription model. The next group of questions 11 to 16 of the consumer's questionnaire follow these parameters from the questionnaire – frequency of order, customization, size of the delivery, delivery time, delivery mode and preferred quality.

For this sub-question Consumer's preferences were considered to figure out what attracts them to the subscription model. By these variables research also tries to figure out the expectations of consumers from the subscription model which will eventually help the research to compare with supplier's expectations in the next chapter.

## 2.3 Attractiveness of subscription model for suppliers

To understand more about sub-question 3, responses from the supplier's questionnaire were used. Questions 5-7 of the suppliers' questionnaire focus on having suppliers' preferences on how they prefer to sell, the usual amount they prefer to sell at once and how satisfied are they with the current selling process. Question 8 and 9 of the questionnaires again filters the respondents on the variable that if they are aware and interested in selling vegetables through the subscription model. The next set of questions comes up with the main variables for this sub-question which were discussed in questions 10 to 15 and the variables covered are frequency of order, customization, size of the delivery, delivery time, delivery mode and preferred quality.

For this sub-question suppliers' preferences were considered to figure out what attracts them to the subscription model. By these variables research also tries to figure out the expectations of suppliers from the subscription model which will eventually help the research to compare with consumers' expectations in the next chapter.

To relate the questionnaires with the sub-question Table 2.1 shows the relevance of sub-questions to the questions used for data collection

**Table 2.1** Relevance of sub-questions to the questionnaire.

Sub-Questions	Question no.
<ul style="list-style-type: none"> <li>In what way subscription model is successful for selling more vegetables?</li> </ul>	<p>Questionnaire 1 (Consumers) : Q – 1, 2, 3, 4, 5, 9, 10, 17, 18, 19, 20, 21, 22</p> <p>Questionnaire 2 ( Supplier's ) : Q – 1, 2, 3, 4, 8, 9, 16, 17, 18, 19, 20, 21</p>
<ul style="list-style-type: none"> <li>Which factors make the subscription model attractive for consumers?</li> </ul>	<p>Questionnaire 1 (Consumers) Q - 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16</p>
<ul style="list-style-type: none"> <li>Which factors make the subscription model attractive for suppliers?</li> </ul>	<p>Questionnaire 2 (Suppliers) Q - 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15</p>

### Research Hypothesis

A research hypothesis was created related to the main question to support the main questions statistically as well. Though, the research also focuses on answering three different sub-questions formed related to the main question. The hypothesis is-

**Null Hypothesis(H<sub>0</sub>)** - There is no significant difference that the consumers and suppliers have the same preferences for the success factors of the sale of vegetables through subscription model

**Alternative Hypothesis(H1)** - There is a significant difference that the consumers and suppliers have the same preferences for the success factors of the sale of vegetables through subscription model

### 3. Results

This chapter presents the results of the analysis of data generated from the responses received from Questionnaires. As the research aims to assess the preferences of both consumers and suppliers of vegetables to figure out the success factors of selling vegetables in the Netherlands, the research considers the descriptive research design to address the objectives of the study. To compare the preferences of both consumers and suppliers', different questionnaires were shared with both groups but the basis and objective of all the questions are the same in both questionnaires.

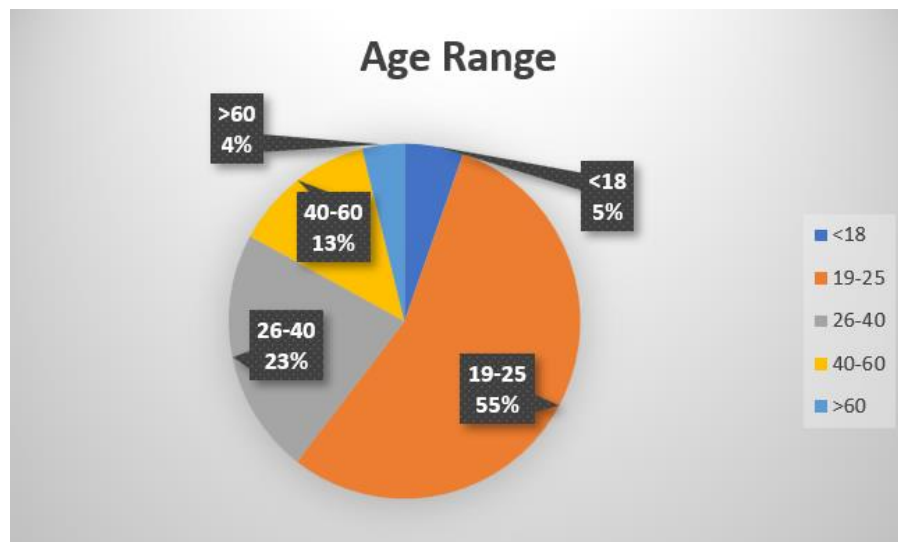
Also, there is a difference in the number of responses in both questionnaires for consumers it was 385 whereas it was 68 for suppliers' and the major reason behind it is the sample size of the population. For consumers, the sample size is calculated for all consumers of the Netherlands, which is almost the whole population of the country but for suppliers, the sample size is calculated only for the vegetable suppliers which is pretty less than the total consumers of the vegetables. One question from the consumer's questionnaire was not included in the supplier's questionnaire because the population of the Netherlands also include vegetable suppliers so to have an idea about the size of the family of a respondent, responses from the consumers were enough.

#### 3.1 Results for the success of selling vegetables on a Subscription model

The results for sub-question 1 are presented here. Results of the t-test are shown in appendix 3. Responses collected from consumers' questionnaires were 348 as the other 39 responses were not considered for analysis of the hypothesis and Responses collected from suppliers' questionnaires were 68. To better understand the demographics of the sample size in both questionnaires and to present the relevance of the data collected to answer the sub-question 1, graphs and tables have been used.

##### For Group 1(Consumers)

For consumers, the responses for the gender of respondents were collected with 3 options males, females and prefer not to say. After analysing the data collected it's found that 53% of the people have selected male, 46% of people have selected female and 1% do not prefer to mention their gender.



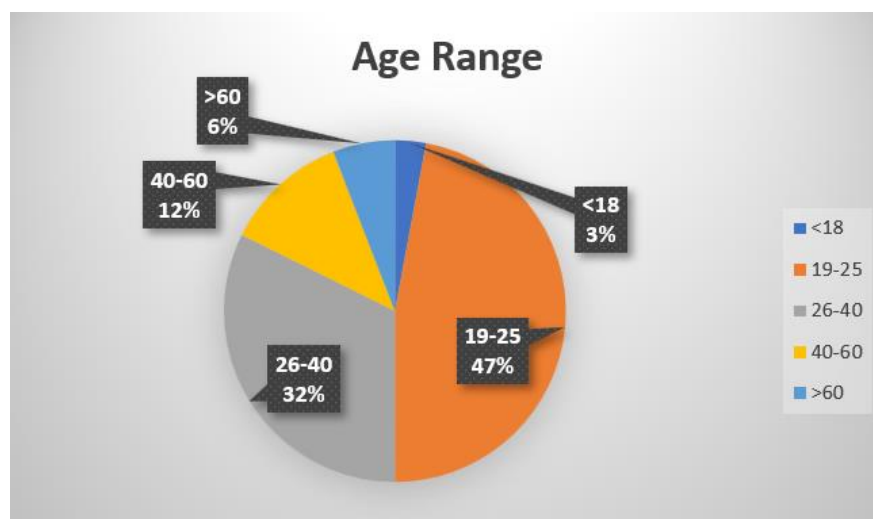
**Figure 3.1 Age range of Group 1**

The pie chart above uses the age group ranging from more than 18 years of age to more than 60 years of age. More than 50% of the pie chart is comprised of the age group 19-25 with 55%, followed by the other age groups where 26-40 is 23%, 41-60 is 13%, less than 18 years is 5% and at last, the age group of more than 60 years is 4%

The size of the family of consumers was also calculated ranging from 1 person to 6 or more persons. After the analysis of the questionnaire, it has been found that most of them were a family of 2 people who filled the questionnaire with 40% followed by the family size of 3-5 people with 35%. Then comes the singles which were 23% and last with 2% it's the family size of 6 or more persons. After the Family Size evaluation, consumers' involvement in buying vegetables was checked and it's been found that only 3% of the people don't prefer to buy vegetables and the rest 93% do.

#### **For Group 2 (Suppliers)**

The suppliers' preferences are assessed from a questionnaire for frequency of gender and it's been found that 71% of the suppliers filling the questionnaire are Male and 29% of them are female.



### Figure 3.2 Age range of group 2

It was important to know the Age group of suppliers as well. The range of the data was from Not less than 18 years to elder than 60 years of age. 47% of suppliers turned out to be between 19-25 years of age, followed by 32% of those whose age is 26-40 years of age, then 12% of the suppliers are 41-60 and only 6% are elder than 60 years. After evaluating the range of group 2 sellers were checked if they are involved in selling vegetables and it's been found that all the suppliers are involved in selling vegetables.

The results of the t-test for all five success factors are discussed in the following statements.

- **Success factor as an Increasing perception of convenience** is used as Score A. An independent-samples t-test was conducted to determine whether there is a difference in the consumer's and the supplier's preferences for the success factors of the sale of vegetables on a subscription model. The results indicate a significant difference between Group 1 ( $M=4.52$ ,  $SD=.664$ ) and Group 2 ( $M=4.76$ ,  $SD=.427$ ), [ $t(414) = -2.921$ ,  $p = .004$ ] and indicate a difference between the means of the sample. Consequently, the null hypothesis was rejected which says that there is no difference between the preferences of the two groups.
- **Success factor as Increasing perceptions of value** is used as Score B. An independent-samples t-test was conducted to determine whether there is a difference in the consumer's and the supplier's preferences for the success factors of the sale of vegetables on a subscription model. The results indicate a not significant difference between Group 1 ( $M=4.43$ ,  $SD=.673$ ) and Group 2 ( $M=4.38$ ,  $SD=.490$ ), [ $t(414) = .501$ ,  $p = .538$ ] and did not indicate a difference between the means of the sample. Consequently, the null hypothesis was not rejected which says that there is no difference between the preferences of the two groups.
- **Success factor as Rewarding customers for staying** is used as Score C. An independent-samples t-test was conducted to determine whether there is a difference in the consumer's and the supplier's preferences for the success factors of the sale of vegetables on a subscription model. The results indicate a significant difference between Group 1 ( $M=3.91$ ,  $SD=.678$ ) and Group 2 ( $M=4.09$ ,  $SD=.617$ ), [ $t(414) = -1.969$ ,  $p = .050$ ] and indicate a difference between the means of the sample. Consequently, the null hypothesis was rejected which says that there is no difference between the preferences of the two groups.
- **Success factor as Offering bricks and clicks** is used as Score D. An independent-samples t-test was conducted to determine whether there is a difference in the consumer's and the supplier's preferences for the success factors of the sale of vegetables on a subscription model. The results indicate a not significant difference between Group 1 ( $M=3.81$ ,  $SD=.766$ ) and Group 2 ( $M=3.88$ ,  $SD=.587$ ), [ $t(414) = -.734$ ,  $p = .463$ ] and did not indicate a difference between the means of the sample. Consequently, the null hypothesis was not rejected which says that there is no difference between the preferences of the two groups.
- **Success factor as Leveraging social media influencers** is used as Score E. An independent-samples t-test was conducted to determine whether there is a

difference in the consumer's and the supplier's preferences for the success factors of the sale of vegetables on a subscription model. The results indicate a not significant difference between Group 1 ( $M=3.84$ ,  $SD=.703$ ) and Group 2 ( $M=3.91$ ,  $SD=.511$ ), [ $t(414) = -.747$ ,  $p = .455$ ] and did not indicate a difference between the means of the sample. Consequently, the null hypothesis was not rejected which says that there is no difference between the preferences of the two groups.

To summarise the results of the t-test, for consumers' and suppliers' preferences there is no significant difference in the perception of value, offering bricks and clicks and leveraging social media influencers. Where preferences for the perception of convenience and rewarding customers for staying scores differently success factors.

In table 3.1 below, the means of responses obtained from the responses from two groups are shown. The range of mean values is between 5 and 0. Where the highest value means the group fully agrees and the lowest value means the group fully disagrees with the variables for the success factors. For the highest mean, score A(convenience) has the highest mean in which the value of mean for the group 1 is 4.53 and the value of mean for the group 2 is 4.76. On the contrary for the highest mean, score D(offering bricks and clicks) have the lowest mean in which the value of mean for the group 1 is 3.82 and the value of mean for the group 2 is 3.88.

**Table 3.1 Means of responses from two groups for success factors**

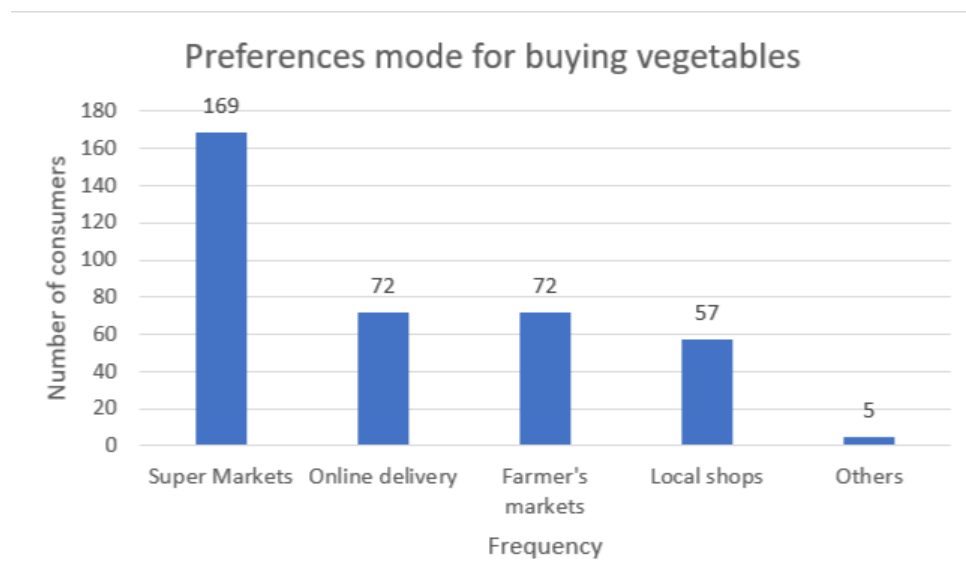
	Groups	N	Mean
Score A	1	348	4.52
	2	68	4.76
Score B	1	348	4.43
	2	68	4.38
Score C	1	348	3.91
	2	68	4.09
Score D	1	348	3.81
	2	68	3.88
Score E	1	348	3.84
	2	68	3.91

### **3.2 Results for the Attractiveness of subscription model for Consumers**

This section presents the results of the analysis of data generated from the consumer questionnaire. Results obtained in this section are focused to answer sub-question 2 primarily focusing on the preferences of consumers towards buying vegetables on a subscription model. This section focus on three sets of questions- First set is Questions 9, and 10 of questions filter the respondents for sub-question 2 on the variable that if they are aware and interested in buying vegetables through the subscription model. The second set is questions

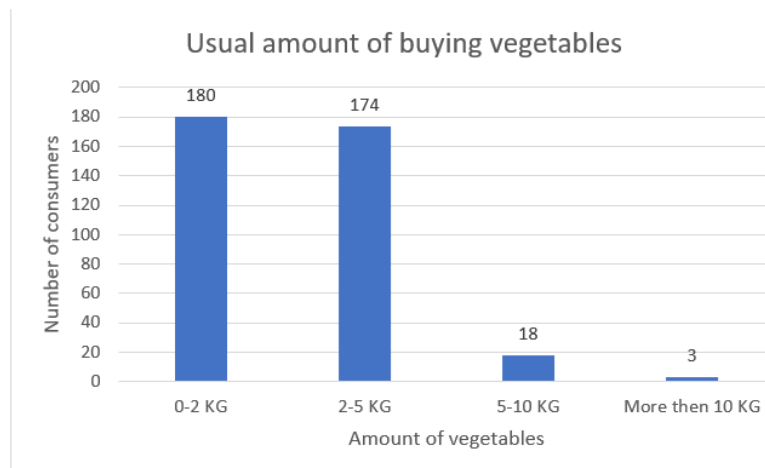
6-8 where responses were taken on the preferred variables of consumers for buying vegetables and the third set of questions from 11-16 focuses on the variables of buying preferences of customers on the subscription model. Responses in the questionnaire vary because the respondents who are not aware and interested in buying vegetables through the subscription model were not included in the analysis. Results in this section are presented in the form of tables and figures to have a better understanding and comparison of the attractiveness of the subscription model with suppliers.

Consumers' preferences were also collected for awareness and interest in buying vegetables on the subscription model. For the awareness of buying vegetables with the subscription model, it was found that more than 50% per cent of the people said yes, followed by 30% of people who were not sure and followed by 16% who weren't aware of it and for the consumers interested in buying vegetables it was found that more than 50% of the people are interested, followed by 32% of them are not sure whether to opt for the subscription model or not and 9% of them rejected it.



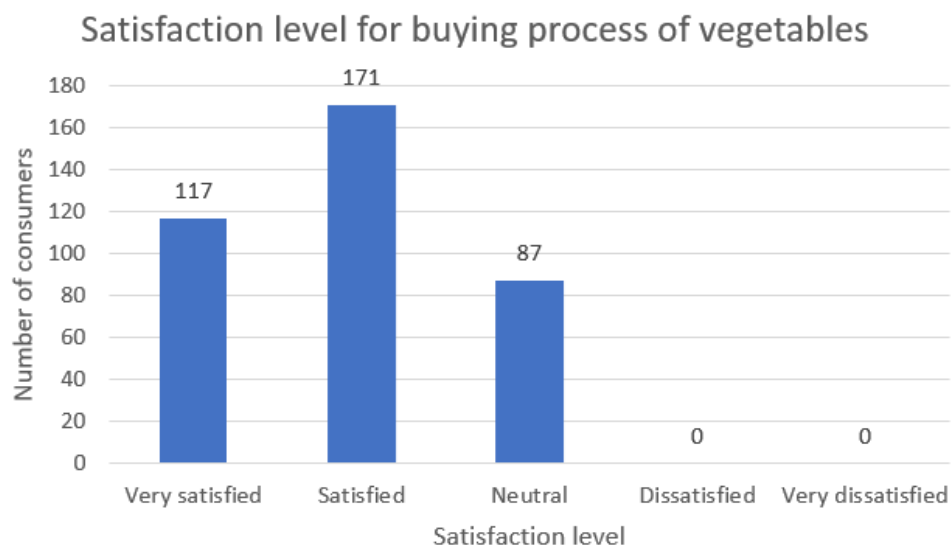
**Figure 3.3 Preferred mode for buying vegetables of consumers**

In figure 3.3 169 consumers choose to prefer buying vegetables from supermarkets. 72 consumers prefer online deliveries and Farmer's Markets each. Where rest is being held by the local shops and others.



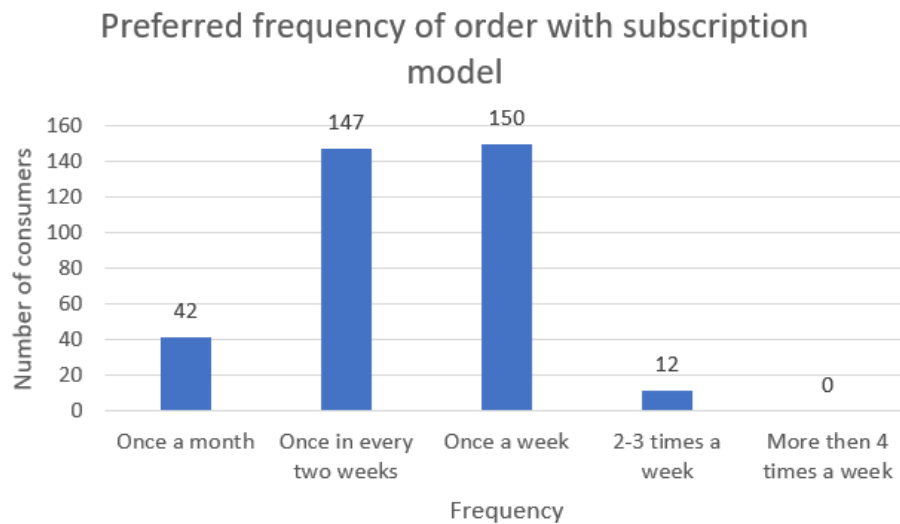
**Figure 3.4 usual amount of vegetables consumer buy at once**

After the buying preference comes the amount of vegetables consumers usually buy at once. In figure 3.4 consumers who prefer to buy the amount of 0-2 kgs or 2-5 kgs of vegetables amount to 180 and 174 respectively. Where only 21 consumers prefer to buy more than 5 kgs at once.



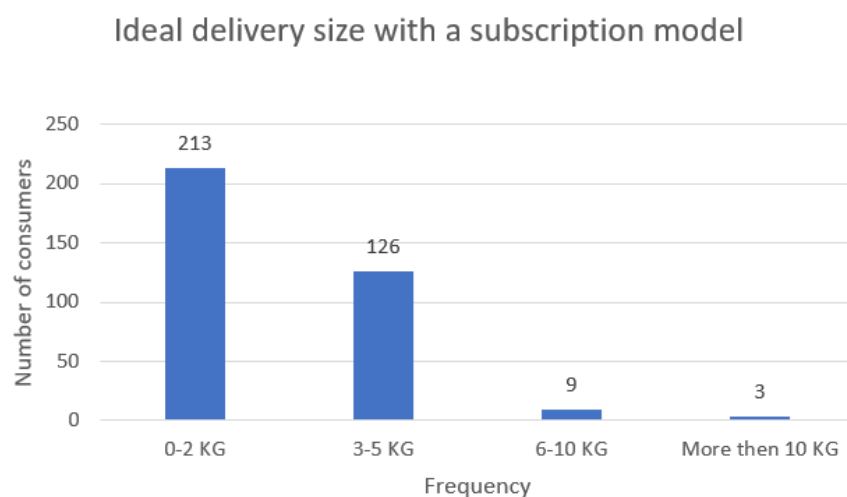
**Figure 3.5 Satisfaction level of consumers for buying process of vegetables.**

The most important factor is customer satisfaction when it comes to the buying process. In figure 3.5 117 consumers choose very satisfied followed by 171 consumers who are satisfied and the rest prefer to choose neutral.



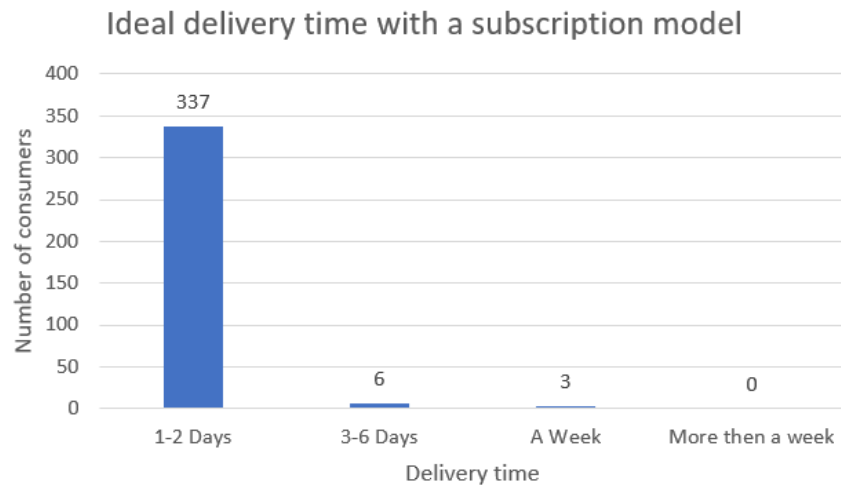
**Figure 3.6 Frequency of orders of consumers with a subscription model.**

Now Comes the frequency of order in figure 3.6 in which 43 consumers choose to order once a month. Next is followed by once every two weeks and once a week which amounts to 147 and 150 consumers respectively. Followed by 12 consumers who choose to order 2-3 times a week and no one chooses to order more than 4 times a week. After the analysis of the order frequency, the next factor to know is if consumers prefer customisation in their order 85% said yes to it and 11% were not sure about it. Where 4% choose No for customisation for vegetables while buying on the subscription model.



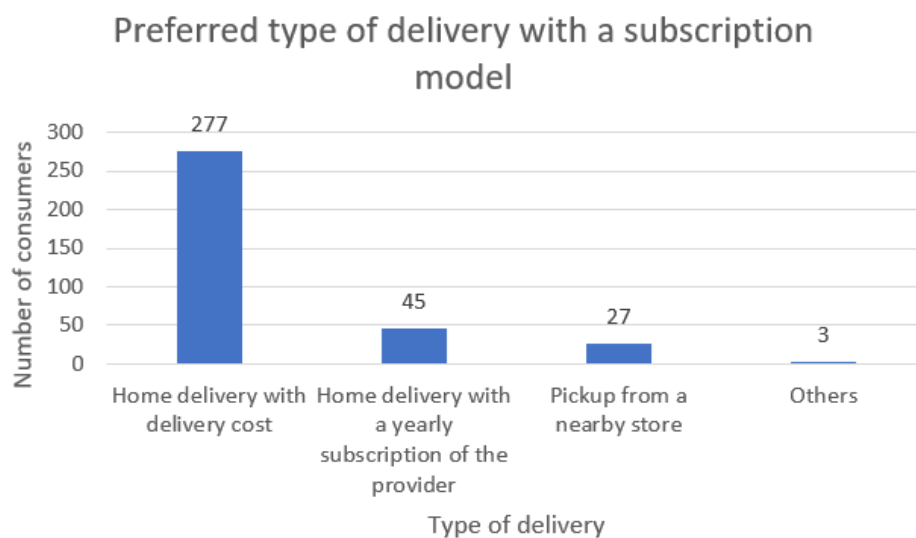
**Figure 3.7 Ideal size of delivery for a subscription model**

Now, the consumers are also asked to choose to ideal delivery they would like to order with a subscription model which as shown in figure 3.7 213 consumers choose to order between 0-2 kgs and 126 for 9 for between 3-5 kgs and 6-10 kgs respectively. Where only 3 consumers would like to have a delivery size of more than 10 kgs.



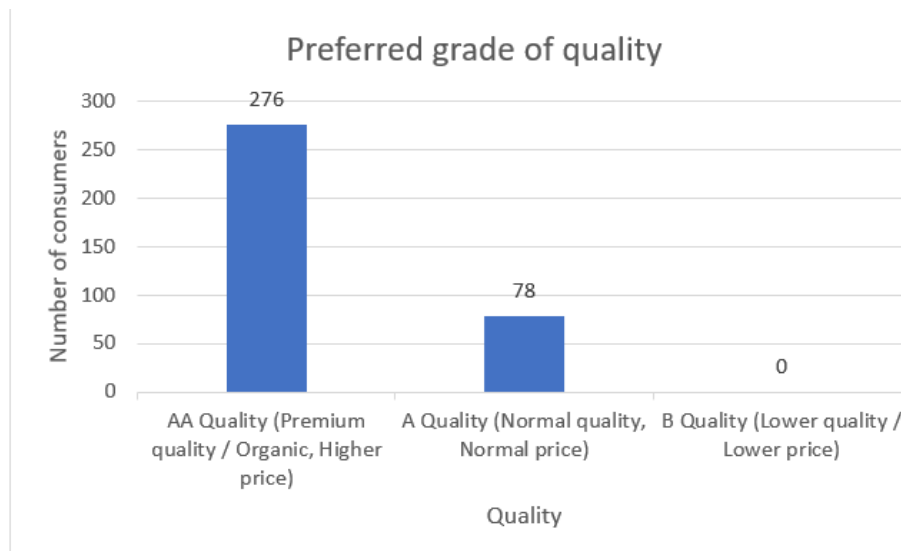
**Figure 3.8 Ideal time of delivery for a subscription model**

In figure 3.8 consumers choose the preference for ideal delivery time. 337 consumers choose to have a delivery between 1-2 days and 6 consumers prefer to have a delivery in 3-6 days. Where no consumer would like to have a delivery later than 6 days.



**Figure 3.9 Preferred type of delivery for a subscription model.**

Now, comes the part where consumers preferred type of delivery for a subscription model is checked. In figure 3.9 277 consumers choose to offer home delivery with a delivery cost and 45 suppliers choose to offer home delivery with a yearly subscription. Where 27 consumers prefer to pick up from a nearby store and 3 consumers choose to opt for others.



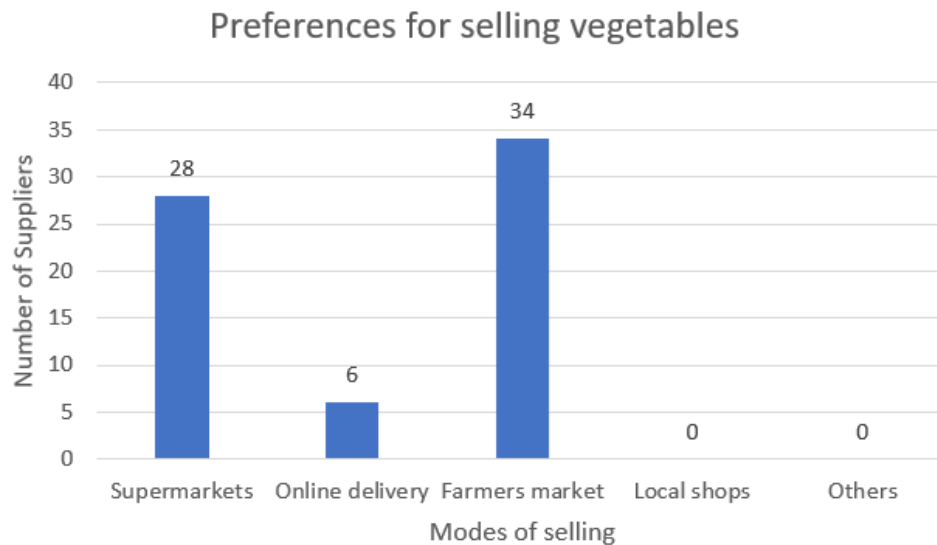
**Figure 3.10 Preferred grade of quality of vegetables for a subscription model.**

In figure 3.10 consumers were asked about the quality of vegetables they would like to buy. 276 consumers choose to have an AA quality whereas 78 consumers choose A quality and No consumer choose to have B quality.

### 3.3 Results for the Attractiveness of subscription model for suppliers

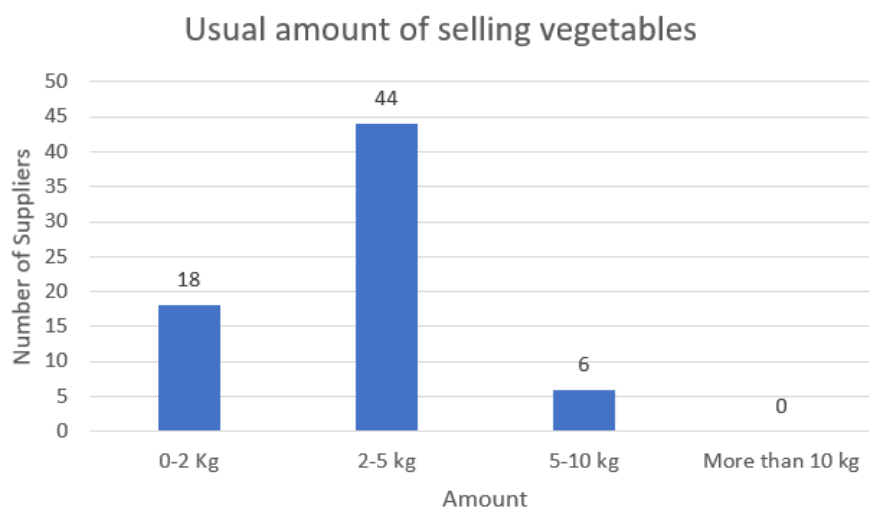
This section presents the results of the analysis of data generated from the supplier's questionnaire. Results obtained in this section are focused to answer sub-question 3 primarily focusing on the preferences of suppliers towards the selling of vegetables on a subscription model. This section focus on three sets of questions- The first set is questions 8, 9 of questions filter the respondents for sub-question 3 on the variable that if they are aware and interested in selling vegetables through the subscription model. The second set is questions 5-7 where responses were taken on the preferred variables of suppliers for selling vegetables and the third set of questions from 10-15 focuses on the variables of selling preferences of suppliers on a subscription model. Responses in the questionnaire vary because the respondents who were not aware and interested in selling vegetables through a subscription model were not included in the analysis. Results in this section are presented in the form of tables and figures to have a better understanding and comparison of the attractiveness of the subscription model to consumers.

Sellers' preferences were also collected for awareness and interest in selling vegetables on the subscription model. For the awareness of selling vegetables with the subscription model, it was found that 62% per cent of the people said yes, followed by 38% of people who were not sure and there was no seller who was not aware of it and for the suppliers interested in selling vegetables it was found that 65% of the suppliers are interested, followed by 35% of them, who are not sure whether to opt for the subscription model or not and none of the suppliers said no for selling vegetables on the subscription model



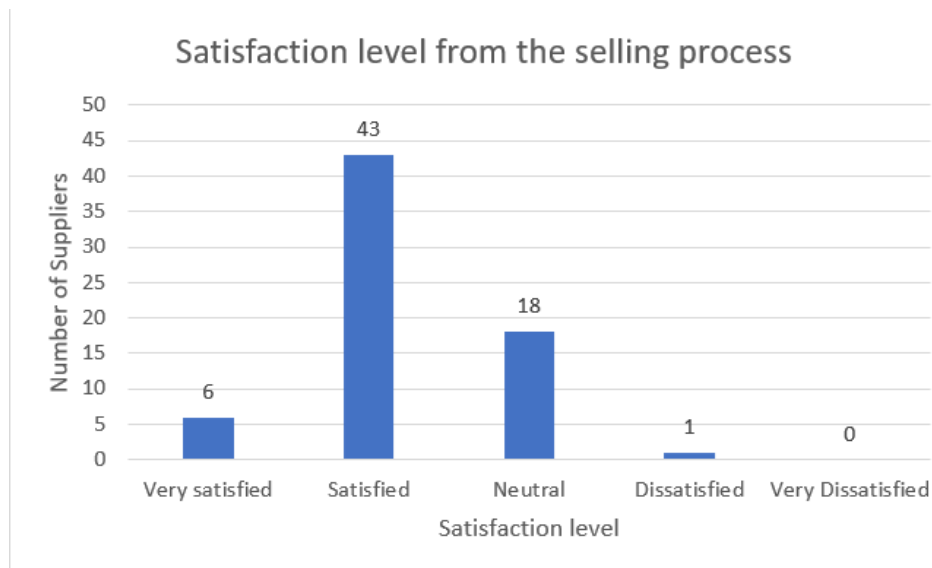
**Figure 3.11 suppliers preferences for selling vegetables**

In figure 3.11 34 suppliers choose to prefer selling their vegetables in the farmer's market. 28 suppliers prefer supermarkets. Where 6 suppliers choose online deliveries for selling vegetables and no supplier chooses local shops or others.



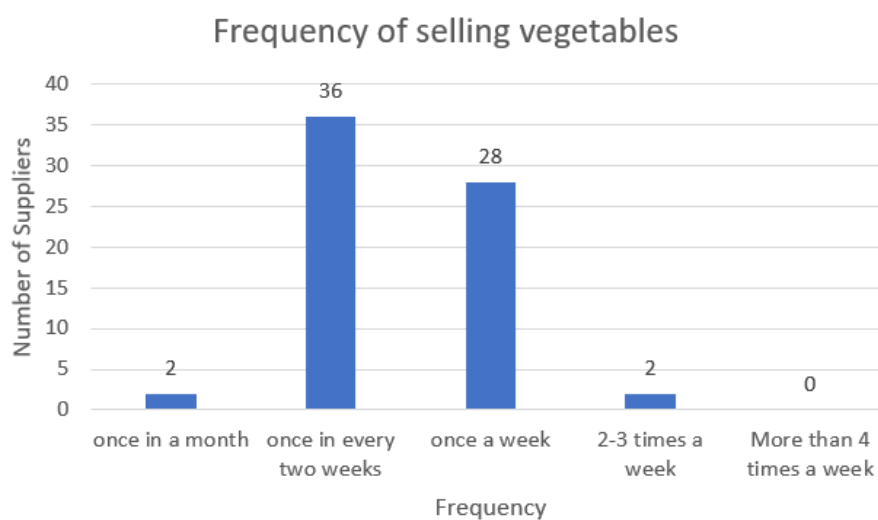
**Figure 3.12 Usual amount of vegetables sold by suppliers**

After the selling preference comes the amount of vegetable suppliers usually sell at once. In figure 3.12 44 suppliers prefer to sell amounts of 2-5 kgs. Where 18 suppliers sell the amount of 0-2 kgs. Followed by 6 suppliers who sell 5 kgs at once and no supplier sells more than 10 kgs of vegetables at once.



**Figure 3.13 Satisfaction level of suppliers with current selling process of vegetables**

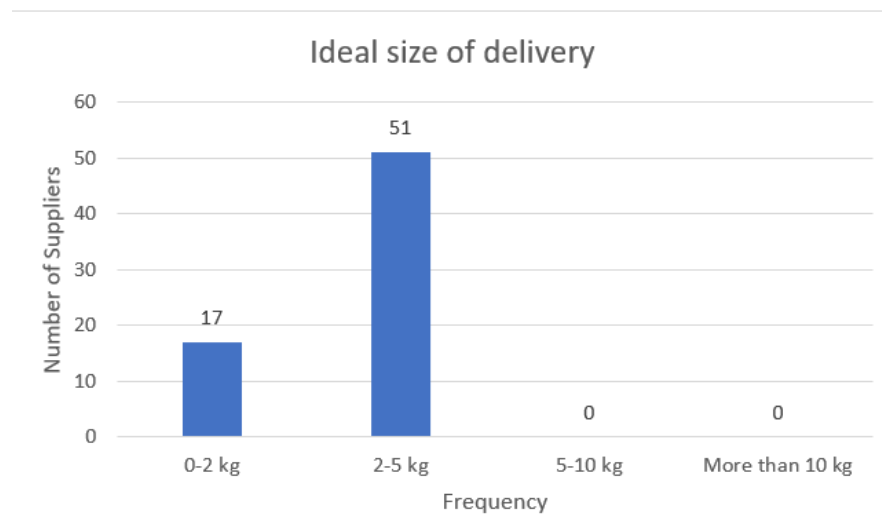
The most important factor is the suppliers' satisfaction when it comes to the selling process. In figure 3.13 6 suppliers choose very satisfied followed by the 43 suppliers who are satisfied, next are 18 suppliers with neutral and 1 dissatisfied supplier.



**Figure 3.14 Suppliers preference for frequency of selling vegetables**

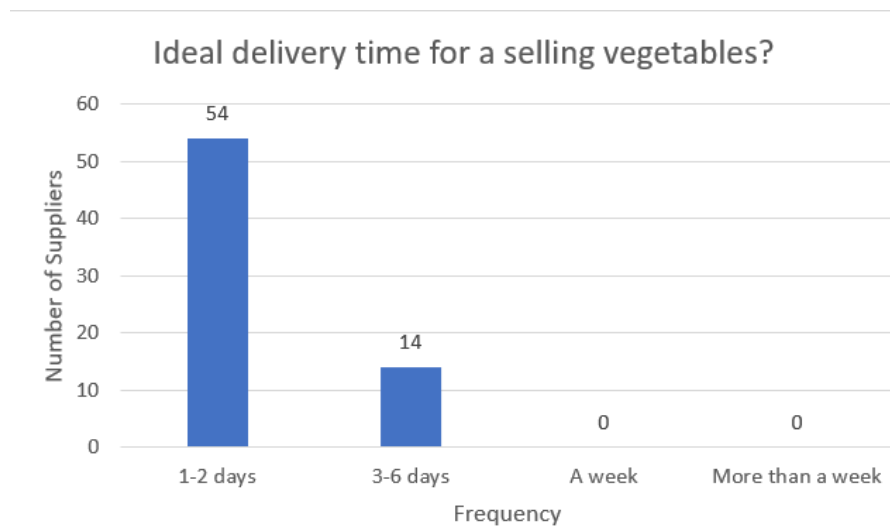
Now comes the frequency of selling vegetables in figure 3.14 in which 2 suppliers choose to order once a month. Next is followed by once every two weeks and once a week which amounts to 36 and 28 suppliers respectively. Followed by 2 suppliers who choose to order 2-3 times a week and no one chooses to sell for more than 4 times a week. After the analysis of the frequency of selling vegetables, the next factor to know is if suppliers prefer providing customisation in their order 97% said yes to it and 3% were not sure about it. Where no

supplier chooses no as an option for providing customisation for vegetables while selling on the subscription model.



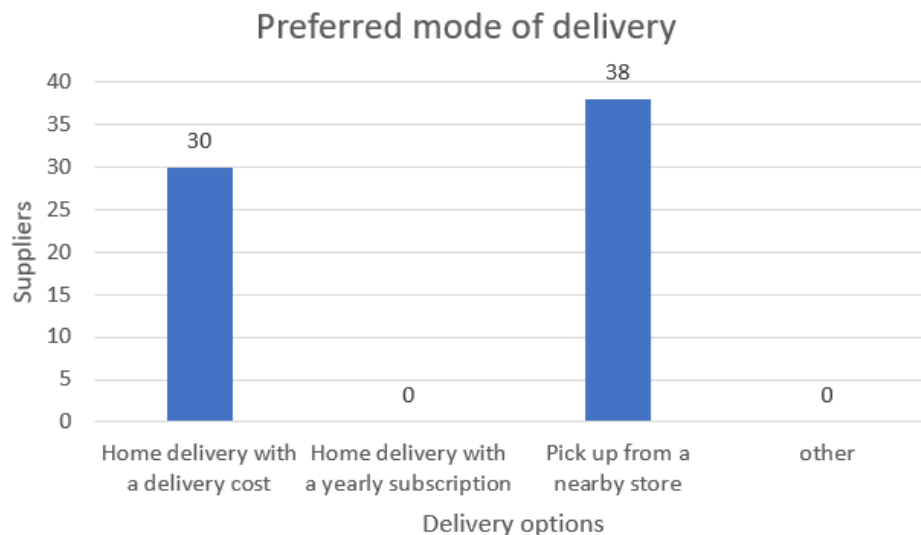
**Figure 3.15 Suppliers preference for ideal size of delivery**

Now, the suppliers are also asked to choose to ideal delivery they would like to offer with a subscription model in which as shown in figure 3.20 17 suppliers choose the size between 0-2 kgs. Where 51 suppliers would like to offer a delivery size of 2-5 kgs and no supplier would like to offer a delivery size of more than 5 kgs.



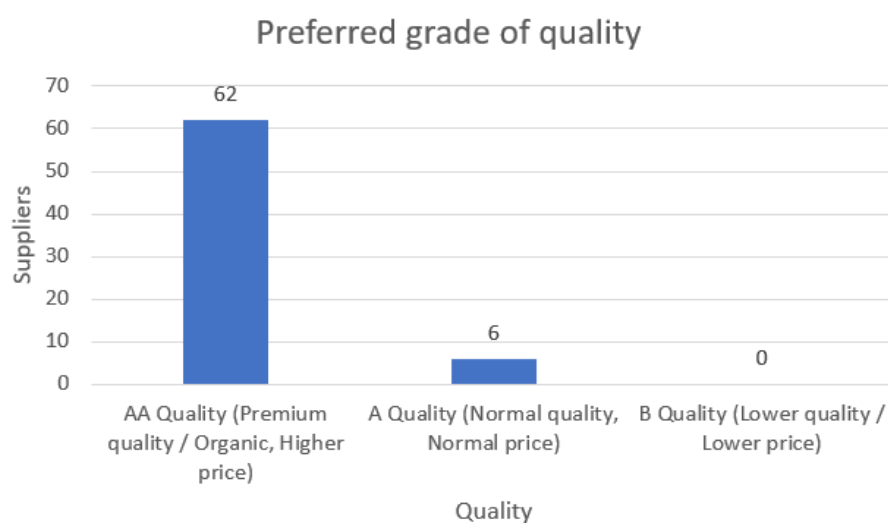
**Figure 3.16 suppliers preference for ideal delivery time for selling vegetables.**

In figure 3.16 suppliers choose the preference for the ideal delivery time they would like to offer. 54 suppliers choose to offer delivery between 1-2 days and 14 suppliers prefer to offer delivery in 3-6 days. Where no supplier would like to offer a delivery later than 6 days.



**Figure 3.17 Suppliers preferred mode of delivery**

Now, comes the part where suppliers preferred type of delivery for a subscription model is checked. In figure 3.17 30 suppliers choose to offer home delivery with a delivery cost and 38 suppliers choose to offer to pick up from a nearby store. Where no supplier would like to offer home delivery with a yearly subscription or any other option.



**Figure 3.18 Suppliers preferred grade of quality of vegetables**

In figure 3.18 suppliers were asked about the quality of vegetables they would like to offer with the subscription model. 62 suppliers choose to offer AA quality. Where 6 suppliers choose A quality and no supplier choose to offer B quality.

## 4. Discussion of results

This research titled “What are the success factors of the subscription model for the sale of vegetables in the Netherlands?” was conceived from the fact that the subscription model is the success story of some. It's still not considered a successful business model for major consumers and suppliers. To make the subscription model a considerable business model for both consumers and suppliers research objectives were set to see whether achieving these objectives is possible to make this model successful. Research objectives were: (1) To study different success factors of the subscription model by figuring out the importance of each success factor to attract sales through this model; (2) To ease the process of buying and selling vegetables for both consumers and suppliers with the subscription model; (3) To understand the buying behaviour and preferences of people of the Netherlands for suppliers of vegetables.

### 4.1 Success factors of selling vegetables on a subscription model

All five success factors were used as a variable for a t-test where they were checked on the preferences of consumers and suppliers if their preferences were significantly different or not. The first variable used for the t-test was convenience. Suppliers and consumers both consider it to be one of the major success factors as it seems to be the most preferred success factor according to the mean value score in table 3.1. Results from table 3.1 cannot be neglected and the perception of convenience should be considered a success factor for selling vegetables because the preference level of groups is still high. Although according to the results from the t-test there is a significant difference in the preferences of both groups but that only means that the two groups have a different level of preferences and it doesn't mean that the preference for this success factor is low. Some of the ways suppliers could maintain the expected level of convenience for consumers are by timely delivery, delivery options, easy returns or a tremendous customer experience. In return this brings regular operations and trust for suppliers that consumers will be subscribed with the business.

The second variable used for the t-test was providing value. Consumers and suppliers both seem to satisfy that perception of value as a success factor because there is no significant difference in the preferences. Also, the mean values of both groups are considerably high to be considered as a success factor for selling vegetables on a subscription model. Consumers are always looking for a perceived value, they prefer to leave when they no longer see value from the investment. Suppliers should not neglect including customisation of vegetables in their model as preferences for both consumers and suppliers meet for it but also it's going to provide the consumer with the valued product and this could also be a factor for them to trust on their supplier as discussed by [Bischof \(2020\)](#). Furthermore, it's better if suppliers could offer products which are distinguished and cannot be found somewhere else.

The third variable used for the t-test was rewarding customers for staying. There was a significant difference in the preferences of both groups. A possible reason for this could be insufficient Rewards. Furthermore, as discussed by [Dawer \(2021\)](#), focusing more on new customers and not responding to customer feedback or complex customer loyalty programs

could also be the reason for consumers not trusting rewarding consumers as a success factor. According to the author, complex customer loyalty programs seem to be a major reason for consumers not trusting this variable because usually, these programs need extra effort or registrations to avail into the program which demotivates the consumers to register for it. According to author if suppliers could work on making these loyalty programs easy to use and attractive, there are high chances that consumers would love to be rewarded.

The fourth variable used for the t-test was offering bricks and clicks. One of the major reasons for the mean value of this success factor seems to be the lowest for both groups is discussed by [Bischof \(2020\)](#). The perceived risk of trying a new service sometimes negatively affects the consumer's attitude toward the subscription model. The same seems to happen with the preferences of consumers for delivery of vegetables from the subscription model. Consumers prefer to have a home delivery with a delivery cost because it is tried and tested. Also on the other hand more than 60% of suppliers prefer to offer pickup from a near store as a delivery option. So, according to the author, if consumers have different preferences, suppliers could make a dual distribution model. Consumers can purchase vegetables from nearby stores as well as can have an online delivery, which will provide an opportunity for the subscription model to capture a larger market size with ease of doing business. Consequently, the preferences of both consumers and suppliers will meet.

The fifth variable used for the t-test was leveraging social media influencers. There was no significant difference in the preferences of both groups. In addition the mean values in table 3.1 for both groups were close to satisfied for considering it a success factor. The message from the influencers could be more persuasive and cost-effective than that of traditional celebrities. According to [Campbell \(2020\)](#), social media influencers have access to a potentially highly engaged audience. Their brand equity could help in expanding the reach and operations to attract more consumers. In addition, the content posted by influencers is often perceived as more candid than traditional ads.

Results from the t-test claim that according to the preferences of consumers and suppliers four out of five success factors of selling vegetables on a subscription model could be success factors because of two reasons: 1. There is no significant difference in the preferences of both groups 2. Mean value of the preferences of both groups is high. Although for rewarding customers for staying there was a significant difference in the preferences of both groups.

Responses collected from the consumers are valid because the respondents were inhabitants of the Netherlands who were willing to take part in the research. For the genders of the respondents, there was not a big difference between the two major groups. It also seems that major respondents were from small families meaning their per day consumption of vegetables is in small amounts and that is a reason they prefer to have their vegetables supplied in smaller amounts. Respondents seem to be well aware of the presence of the subscription model in the industry and are keen to try the model specifically for vegetables. Responses collected from the suppliers seem to be more of mid-age and well-aware of selling vegetables through the subscription model. Suppliers' awareness also attracts their interest in choosing the model but according to the author, the possible reason for suppliers holding themselves from this model is the risk of investing in an inexperienced business model.

## **4.2 Consumer preferences for buying vegetables with a subscription model**

The sub-question 2 focuses on the preferences of consumers towards buying vegetables on a subscription model. This section focuses on section 3.2 of the research and will discuss variables taken on the consumers' preferences for buying vegetables and variables of buying preferences of consumers on a subscription model.

The satisfaction level of consumers with the current buying process of vegetables is inclined from neutral to extremely satisfied. The possible factors that the consumers are still looking for in the buying process are the convenience of buying and the perception of value. Supermarkets are the preferred mode for buying vegetables for consumers. Although, they have mixed preferences for online delivery and farmers' markets. All three are reliable modes for buying vegetables but following the latest trends and innovations in online delivery could help customers with the convenience and the perception of value that they have been looking for in the buying experience of vegetables. Also, consumers prefer to buy vegetables less than 5 kg at once because being a perishable product, buying in large amounts does not give the possibility of having a lot of options for preparing their meal.

Consumers prefer to have customisation of vegetables so they can have new tastes and varieties from time to time. If the subscription model could provide the possibility of customisation, consumers will get their perceived value and suppliers will get the trust of their consumers. Consumers also prefer to have a delivery size of fewer than 5 kgs from the subscription model. The possible reason according to the author is that consumers want to have new vegetables and new tastes every time a purchase is made. Understandably, consumers would like to have the delivery as soon as possible, if a consumer has to wait for vegetables for a longer period (more than 2 days) then they already have a possibility of buying vegetables from supermarkets or farmers markets and that's a reason delivery with the subscription model should be made to the earliest. To have a delivery to the earliest consumers are ready to pay the extra amount for delivery and if the suppliers could meet provide the most desired AA quality of vegetables usually premium quality / organic vegetables than all preferences of customers meet and they would prefer to buy vegetables with the subscription model.

## **4.3 Seller preferences for selling vegetables with a subscription model**

The sub-question 3 focuses on the preferences of suppliers towards the selling of vegetables on a subscription model. This section focuses on section 3.3 of the research and will discuss variables taken on the suppliers' preferences for selling vegetables and variables of selling preferences of suppliers on the subscription model.

According to the author, suppliers are always looking for business opportunities and if they got to have an opportunity where they can satisfy the preferences of consumers then that opportunity is worth investing in. Seeing the current preferences of the suppliers for the satisfaction level it seems that they are also looking for an upgrade in their selling process.

Currently, suppliers prefer to sell their vegetables through the farmer's market. The majority of the farmers in the Netherlands do not prefer to sell via supermarkets because they don't value the products according to the real value in the market discussed ([Dixon, 2022](#)). Because of this, there's only one major mode of selling means there are few options available for selling vegetables for farmers. Also, from the research, it's been found that suppliers prefer to sell a maximum of 5 kgs at once and the reason behind this is to have recurring orders from time to time which gives more stability and economic flow to the business. They prefer to sell with the frequency of once a week or twice a week delivery rather than monthly basis. According to the author, the possible reason for this could be that they want continuous orders from their consumers so they can have a continuous flow of logistics and operations.

For selling preference for vegetables with a subscription model the customisation of vegetables is hugely accepted among suppliers. It's one of the key features for attracting consumers because more than 80% of the consumers who participated in this research also preferred to have customisation while buying vegetables. Suppliers prefer to offer a delivery size of 2-5 kgs with 1-2 days of a delivery option of picking options from a nearby store. The major reason behind these choices of suppliers could be that delivery with a small size and higher frequency of delivery is feasible to keep the operations running and it also provides a sense of trust to the suppliers. The choice of delivery plays an important role in keeping the price of the commodity low and that's a reason suppliers prefer to offer a pickup delivery option to their consumers. But with home delivery, the delivery cost is paid by the consumers and 80% of the consumers are ready to bear that cost. So it is better for suppliers to consider this mode of delivery to attract more consumers. Seeing the trends of preferred vegetables, suppliers also prefer to sell AA quality vegetables usually premium quality / organic vegetables.

Both questionnaires from consumers and suppliers were formulated in such a way that while discussing the results, it could also help compare the preferences of both. So, to achieve that same variable was used in both questionnaires to check if the preferences and expectations of both consumers and suppliers meet each other in regard to buy and to sell vegetables on the subscription model. This comparison will support the answer to sub-questions 2 and 3.

The following points compare the discussion of preferences of both consumers and suppliers.

- As consumers prefer to buy vegetables from supermarkets, suppliers prefer to sell their vegetables in farmers' market but also there are around 40% of suppliers who also prefers to sell their vegetables in the supermarket. This means that there is a reason for suppliers choosing farmers' markets over supermarkets and one of the reasons found responsible for that is they are not paid well for their supplies which is not the case with farmers' markets ([Dixon, 2022](#)). As for consumers, the usual amount they prefer to buy at once varies from 0-5 kgs. It's 2-5 kgs for sellers. So, in brief, if both parties are ready to buy and sell the same amount and meet the requirement of both consumers and suppliers then there's a match. Evidently, this data can be used for the subscription model as a factor for success.
- Also, from responses from both parties, it's clear that they are trending towards being satisfied but not very satisfied with the current buying and selling process. Meaning

there is an opportunity in the vegetable market and this is also an opportunity for the subscription model to shine.

- As consumers prefer to have an order from once every two weeks to once a week, it was the same for suppliers offering as well. So, it is clear that preferences for both parties are the same for this variable. Meaning the subscription model needs to provide this frequency to attract more consumers of vegetables.
- It was also found that both consumers and suppliers prefer to have and offer customisation of vegetables while using the subscription model as a source. So, it should be a must-have offering for the subscription model as it's one of the major unique selling points of this model.
- As for consumers, the ideal size of delivery varies from 0-2 kgs, suppliers prefer to offer 3-5 kgs. Where around 30% of consumers also prefer the same range as suppliers. So, if suppliers could lower the size of delivery to meet the preferences of consumers, it could attract more demand for the subscription model.
- But for the delivery time, both consumers prefer to have an offer of 1-2 days of delivery time because consumers prefer to have their products delivered as soon as possible. Where suppliers prefer to have a short delivery time to have frequent orders from time to time.
- Also, when it comes to the quality of the vegetables both groups prefer to buy and sell AA quality ( premium/organic vegetables). According to the author, the recent trend for moving to organic products is a driving force for this preference. Consequently, if both groups have the required demand and supply to fulfil then it's also a major force for successful a subscription model.

In the research, the author explored, reflected and theorized the experience as a bachelor's student. while writing this research thesis. The author already had an interest in working with a problem-solving case and working on this research intrigued the author's interest. While working on the project author learned that it's better to read the research material and related literature in advance and just briefly skim over the text. Also, while working on the research author had an overall learning experience, especially while analysing the data. The author could never acquire that kind of knowledge during class discussions.

Suitable planning must have been done according to the deadlines so there were no last-minute changes to work on. To finalise the main research question, consumers' and suppliers' preferences were discussed with the author's supervisors and seeking the possibility of a new business model to shine guidelines were set. The main research question focuses on the two huge groups of the population so it was important to have the sample size of respondents as wide as possible, which also became a reason for the delay in sticking to guidelines. Also, the sample size of consumers of the Netherlands was huge so it took longer than expected to receive the required responses. Reaching out to suppliers was also difficult as there is no specific group for suppliers. So, they were reached out personally by the author which took longer time than expected. The structure of the thesis could have been framed much better

so the most important tasks should be performed first because the whole research relies on it. The data collected was enough to formulate the tests and analyse the results. The method used to conduct this research was quantitative. In addition, a t-test was used to analyse the data collected. According to the results obtained from the t-test, there's a significant difference in the preference of consumers and suppliers for convenience. For the author, it was unexpected because both groups rated fully agree to consider it a success model with a majority. Conducting a quantitative thesis was the author's first learning experience where a lot of difficulties were faced in the initial stages of conducting this research.

## 5. Conclusions and Recommendations

### 5.1 Conclusions

This research was conducted to explore the topic of the Subscription model. As the subscription model has prevailed in almost every industry for a very long time it still doesn't prove to be a major successful business model as discussed by [Andonova et al. \(2021\)](#). The aim was to conduct research that could potentially help the buyer and sellers of vegetables understand subscription model for buying and selling vegetables in deep. Also if the model could help boost the reach of the subscription model for buying and selling of vegetables. Recommendations that followed from the results could provide insights into the success factors for selling vegetables on the subscription model and the attractiveness of the subscription model for consumers and suppliers of vegetables.

An extensive data sheet was compiled with the research and was analysed to answer the three proposed sub-questions, which will answer the main research question of this thesis.

Q.1 In what way subscription model is successful for selling vegetables?

For successfully selling vegetables through a subscription model, suppliers need to focus on a higher level of convenience with timely delivery, delivery options, easy returns etc. Providing a higher level of perceived value for its product and services is as important as the perception of convenience. The other major way is to adopt a dual distribution channel. Online delivery with a subscription model and pickup delivery from partnered stores will give flexibility in choice to choose from two different delivery modes. Hiring social media influencers is the other way for attracting consumers to the subscription model as it's targeted marketing and they are more persuasive and cost-effective in comparison to traditional celebrities.

Q.2 Which factors make the subscription model attractive for consumers?

Various factors make the subscription model attractive for consumers and one of these is the frequency of order. Consumers prefer to have their vegetables delivered once or twice a week with a delivery size of 0-2 kgs. Where the delivery should not take more than 1-2 days as they are agreed to pay extra cost for home delivery. Also, they prefer to have premium quality / organic vegetables. One of the major factor from consumers preferences is to have customisation of vegetables. Majority of consumers prefer to have it and providing customisation with the subscription model will be real success the suppliers.

Q.3 Which factors make the subscription model attractive for suppliers?

One of the various factors that make the subscription model attractive for suppliers is the frequency of supplying vegetables. They prefer to supply vegetables once a week with the ideal size of 2-5 kgs. Delivery time of at least 1-2 days and they prefer if consumers could pick their delivery from a nearby partnered store. Also, they prefer to sell premium quality /

organic vegetables. Customisation of vegetables is also a major factor from supplier's preferences as most of the suppliers would like to offer this service to their consumers. As it's a same preference for consumer as well, subscription model is a mode for providing this service to its consumers. Subscription model also provides the supplier the dependency on continuous orders and regular operations in exchange of convenience from its consumers.

Combining the results from the three sub-questions, the following research question can be answered:

Q. "What are the success factors of the subscription model for the sale of vegetables in the Netherlands?"

For concluding the research to answer the main research question, four success factors could prove to be successful for selling vegetables. Delivering value is important to all businesses, it is particularly paramount in the subscription model because consumers are quick to leave when they no longer see value in it. As consumers are paying recurring fees for the service, it's expected to innovate the experience of customers and serve value as to what consumers expect. Consumers prefer to have convenience for every penny spent, they expect a tremendous customer experience for every product or service provided by the supplier. The other is partnering with nearby retail outlets to provide flexibility of delivery and ease of doing business. The subscription model could expand its reach and operations to attract more consumers by borrowing brand equity from social media influencers. It could help promote the subscription service. The use of relatable social media influencers may prove to be more persuasive and cost-effective than that of traditional celebrities.

The factors for which preferences of both consumers and suppliers meet also acts a success factor because these factors actually satisfy both groups.

- Frequency of order of vegetables
- Expected delivery time
- Preferred quality of vegetables.

## 5.2 Recommendations

These recommendations are drafted mainly based on the results and conclusion of this research. They are directed to the target group of this research and the people living in the Netherlands who are involved in buying and selling vegetables. Especially the suppliers of vegetables who are selling or planning to sell their vegetables through the subscription model. Based on the findings of this study the researcher recommends the following:

- Suppliers should focus on having a dual delivery model for vegetable delivery as consumers prefer to have home delivery at extra cost. By not offering this delivery suppliers have to let go of 80% of consumers. The dual delivery model will give flexibility and will give consumers the choice to choose from two different delivery modes. Where suppliers will be able to attract a major portion of consumers.

- Suppliers can make a “just for you” campaign which will be focused on providing customisation to their consumers and make them more aware of the service provided with the subscription model. They do so by collaborating with social media influencers and campaigns.
- For the perceived value of consumers, suppliers should offer products which are distinguished and cannot be found somewhere else.
- The supplier should always keep an eye on new innovations and be updated with the upcoming trends in the industry because consumer preferences are always inclined towards the current trends in the industry. Being updated will allow suppliers to make time-to-time changes needed to fulfil consumer preferences and will help beat the competition.
- More research work should be carried out on the topic focused on suppliers and the companies who are already working with the subscription model for selling vegetables.

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# Appendix 1

- 1 Which part of the Netherlands do you currently live in?  
Ans-
- 2 What is your gender?
  - Female
  - Male
  - Prefer not to say
- 3 How old are you?
  - <18
  - 19-25
  - 26-40
  - 40-60
  - >60
- 4 What's the size of your family?
  - 1 person
  - 2 persons
  - 3-5 persons
  - 6 or more persons
- 5 Do you buy vegetables?
  - Yes
  - No
- 6 How do you prefer to buy your vegetables?
  - Supermarket
  - Online delivery
  - Farmers market
  - Local market
  - other
- 7 What's the usual amount of vegetables you buy at once?
  - 0-2 kg
  - 2-5 kg
  - 5-10 kg
  - More than 10 kg
- 8 How satisfied are you with the current buying process of vegetables?
  - Very satisfied
  - Satisfied
  - Neutral
  - Dissatisfied
  - Very dissatisfied
- 9 Are you aware of buying vegetables on the Subscription model?
  - Yes
  - No

- Maybe
- 10** Are you interested in buying vegetables on the Subscription model?
- Yes
  - No
  - Maybe
- 11** How often do you prefer to order with a subscription model?
- Once in a month
  - Once in every two weeks
  - Once a week
  - 2-3 times a week
  - More than 4 times a week
- 12** Would you prefer having customization of vegetables according to your preferences while ordering through a subscription model
- Yes
  - No
  - maybe
- 13** what should be the ideal size of the delivery through a subscription model
- 0-2 kg
  - 2-5 kg
  - 5-10 kg
  - More than 10 kg
- 14** What is the ideal delivery time expected from a subscription model?
- 1-2 days
  - 3-6 days
  - A week
  - More than a week
- 15** Which mode is delivery is preferred with the Subscription model?
- Home delivery with the delivery cost
  - Home delivery with a yearly subscription of the provider
  - Pickup from a nearby store
  - Other
- 16** Which grade of quality is preferred to buy
- AA Quality (Premium quality / Organic, Higher price)
  - A Quality (Normal quality, Normal price)
  - B Quality (Lower quality / Lower price)
- 17** I think a higher level of Convenience could be a success factor for the subscription model.
- Fully disagree
  - Disagree
  - Neutral
  - Agree
  - Fully Agree

**18** I think the perception of value could be a success factor for the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**19** I think rewards for the loyalty of consumers could be important for the success of the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**20** I think offering bricks and clicks (order online, "pick-up" in-store option, and a site to return perishable goods.) could be important for the success of the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**21** I think leveraging social media influencers could be important for the success of the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**22** Please indicate on a scale of 1 to 5(Fully disagree to Full agree) how relevant are these factors for the success of the subscription model.

	Fully disagree	Disagree	Neutral	Agree	Fully Agree
Convenience					
Perception of value					
Rewards for loyalty					
Offering bricks and clicks					

Social media influencers					
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## Appendix 2

- 1 Which part of the Netherlands do you currently live in? \*  
Ans -
- 2 What is your gender?
  - Female
  - Male
  - Prefer not to say
- 3 How old are you?
  - <18
  - 19-25
  - 26-40
  - 40-60
  - >60
- 4 Are you involved in selling Vegetables?
  - Yes
  - No
- 5 How do you prefer to sell your vegetables?
  - Supermarkets
  - Online delivery platforms
  - Farmer's market
  - Local market
  - other
- 6 What's the usual amount of vegetables you sell at once?
  - 0-2 kg
  - 2-5 kg
  - 5-10 kg
  - More than 10 kg
- 7 How satisfied are you with the current selling process of vegetables?
  - Very satisfied
  - Satisfied
  - Neutral
  - Dissatisfied
  - Very dissatisfied
- 8 Are you aware of selling vegetables on the Subscription model?
  - Yes
  - No
  - Maybe
- 9 Are you interested in selling vegetables through a subscription model?
  - Yes

- No
  - Maybe
- 10** How often do you prefer to sell with a subscription model?
- Once in a month
  - Once in every two weeks
  - Once a week
  - 2-3 times a week
  - More than 4 times a week
- 11** Do you prefer providing customization of vegetables while selling on a subscription model?
- Yes
  - No
  - maybe
- 12** what should be the ideal size of the delivery through a subscription model
- 0-2 kg
  - 2-5 kg
  - 5-10 kg
  - More than 10 kg
- 13** What is the ideal delivery time expected from a subscription model?
- 1-2 days
  - 3-6 days
  - A week
  - More than a week
- 14** Which mode of delivery is preferred with the Subscription model?
- Home delivery with the delivery cost
  - Home delivery with a yearly subscription of the provider
  - Pickup from a nearby store
  - Other
- 15** Which grade of quality is preferred to sell
- AA Quality (Premium quality / Organic, Higher price)
  - A Quality (Normal quality, Normal price)
  - B Quality (Lower quality / Lower price)
- 16** I think a higher level of Convenience for consumers (Time, Effort, Decision, and Transaction based benefits enjoyed by consumers) could be a success factor for the subscription model.
- Fully disagree
  - Disagree
  - Neutral
  - Agree
  - Fully Agree
- 17** I think the perception of value for consumers (Box customization and providing unique offerings) could be a success factor for the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**18** I think rewards for the loyalty of consumers could be a success factor for the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**19** I think offering bricks and clicks (order online, "pick-up" in-store option, and a site to return perishable goods.) could be a success factor for the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**20** I think leveraging social media influencers could be a success factor for the subscription model.

- Fully disagree
- Disagree
- Neutral
- Agree
- Fully Agree

**21** Please indicate on a scale of 1 to 5(Fully disagree to Full agree) how relevant these success factors are

	Fully disagree	Disagree	Neutral	Agree	Fully Agree
Convenience					
Perception of value					
Rewards for loyalty					
Offering bricks and clicks					
Social media influencers					

# Appendix 3

## T-Test

Table 3.1 Group Statistics					
	Groups	N	Mean	Std. Deviation	Std. Error Mean
Score A	1	348	4.52	.664	.036
	2	68	4.76	.427	.052
Score B	1	348	4.43	.673	.036
	2	68	4.38	.490	.059
Score C	1	348	3.91	.678	.036
	2	68	4.09	.617	.075
Score D	1	348	3.81	.766	.041
	2	68	3.88	.587	.071
Score E	1	348	3.84	.703	.038
	2	68	3.91	.511	.062

Table 3.2 Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score A	Equal variances assumed	30.211	.000	-2.921	414	.004	-.245	.084	-.409	-.080
	Equal variances not assumed			-3.891	139.082	.000	-.245	.063	-.369	-.120
Score B	Equal variances assumed	11.052	.001	.501	414	.617	.043	.086	-.126	.211
	Equal variances not assumed			.618	122.351	.538	.043	.069	-.095	.180
Score C	Equal variances assumed	.981	.323	-1.969	414	.050	-.174	.089	-.349	.000
	Equal variances not assumed			-2.098	101.288	.038	-.174	.083	-.339	-.010
Score D	Equal variances assumed	6.047	.014	-.734	414	.463	-.072	.098	-.265	.121

	Equal variances not assumed			-.877	116.546	.382	-.072	.082	-.235	.091
Score E	Equal variances assumed	17.389	.000	-.747	414	.455	-.067	.090	-.243	.109
	Equal variances not assumed			-.923	122.615	.358	-.067	.072	-.210	.077