JÖNKÖPING UNIVERSITY
Jönköping International Business School

Customer Perceptions of Organic Certification Standards

A quantitative analysis on the organic certification standards of KRAV and Demeter through University students in Sweden

BACHELOR DEGREE PROJECT
THESIS WITHIN: *Business Administration*
NUMBER OF CREDITS: *15 ECTS*
PROGRAMME OF STUDY: *International Management*
AUTHOR: *Damir Kokic, Marcus Brando Pedersen-Slaatten*
JÖNKÖPING May 2019

Bachelor Thesis in Business Administration

Title: Customer Perceptions of Organic Certification Standards
Authors: Damir Kokic and Marcus Brando Pedersen-Slaatten
Tutor: Mohammad Eslami
Date: 2019-05-20

Key terms: Organic certifications, eco-labels, organic agriculture, resource circulation, resource nourishing, GMO, Biodynamic Farming

---

Abstract

Along with the organic food market development, two directions within the industry has appeared, the traditional organic farming and the biodynamic organic farming. The thesis aimed to derive at which organic certification of organic food in the Swedish food market is most appropriate to the organic movement, based on customer perceptions of Swedish University students. The thesis looked at KRAV, a certifier of traditional organic farming, and Demeter, a certifier of biodynamic organic farming. A quantitative method was used to gain a deeper understanding of the consumer perceptions of organic certification standards and the comparison of KRAV and Demeter, and which certification consumers preferred. A survey was distributed in order to find out the consumer perceptions. The findings of the thesis were split into two parts, each answering one research question. The first part showed that people adhered to the standards of Demeter, with average means skewed towards their side of the scale. The second part identified five hypotheses to be tested against each other, and found customer confusion to be the main impacting factor of consumer perceptions of organic food standards.

Acknowledgements

Firstly, we would like to show our appreciation to Anders Melander and the administration involved in creating and providing the guidelines of the thesis course. Their work has been particularly important to understand what is required and expected for the thesis sections and the thesis overall.

Secondly, we would like to thank all the participants in our survey for taking the time to answer our survey, and showing engagement in our thesis work.

Thirdly, we would like to thank close family and friends for offering motivational advice and helping us with new insights for our project.

Marcus Brando Pedersen-Slaatten

Damir Kokic

Table of Contents

.....1

Acknowledgements ii

1. Introduction 1
1.1 Background 1
1.2 Problem.....4
1.3 Purpose 4
1.4 Delimitations 5
1.5 Definitions.....5

2. Literature Review 7
2.1 Defining the Organic Culture.....7
2.1.1 Naturalness.....8
2.1.2 Sustainability and Health.....9
2.1.3 Process Orientation.....10
2.2 Certification System of Organic Agriculture.....13
2.3 Customer Perceptions and the Factors of the Theory of Planned Behavior 15
2.3.1 Customer Intentions.....17
2.3.2 Perceived Behavioral Control 20
2.3.3 Violation of Organic Standards 22

3. Methodology.....23
3.1 Research Philosophy.....23
3.2 Research Approach.....23
3.3 Research Design.....24
3.3.1 Quantitative 24
3.4 Operationalization 25
3.4.1 Dependent Variable 25
3.4.2 Independent Variables.....25
3.5 Data Collection 26
3.5.1 Primary Data Collection.....26
3.6 Data Analysis.....28
3.7 Reliability and Validity 29

4. Empirical Findings and Analysis 31
4.1 Descriptive Statistics.....31
4.1.1 Dependent variable 32
4.1.2 Independent Variables.....32
4.1.3 Control Variables 33
4.2 Normality Test 34
4.3 Spearman's Correlation Matrix 35
4.3.1 Independent Variables.....40
4.3.2 Control Variables 40
4.4 Linear Regression Analysis 40

5. Conclusion.....42

6. Discussion.....43
6.1 Findings and Non-Findings 43
6.2 Contributions 46

6.2.1 Theoretical Contributions 46
6.2.2 Empirical Contributions 46
6.3 Limitations 47
6.4 Suggestions for Future Studies 47
7. Reference list 49

Figures

Figure 1 17
Figure 2 29
Figure 3 35

Tables

Table 1 31
Table 2 35
Table 3 40
Table 4 41
Table 5 41
Table 6 42

1. Introduction

The purpose of this chapter is to present the background of the development of the organic agriculture and certifications, as well as a brief description of influences on customer perception, followed by the problem definition and research purpose. Lastly, delimitations of the study are presented.

1.1 Background

The replacement of conventional food consumption among food shoppers has opened up for alternative types of farming, which have continued to take up more of the total food market share (Andersen & Lund, 2014; Wang, Zhu & Chu, 2017; Cohrssen & Miller, 2016). In turn, customers seek healthier lifestyles, and following this movement is the organic agriculture. It is due to this development from conventional - to organic farming, that pressure has been put on quality controls and left customer faith into the hands of certifications (Galvin, 2011). As presented in the article of Galvin (2011), there was an early attempt to establish quality controls on organic food standards, the National Organic Program Proposed Rule of 1997 by the United States Department of Agriculture (USDA) in the United States, which resulted in major weaknesses to the system. Unfortunately, this attempt is one of several which has ended up damaging the certification system of organic food, and in this case, the program left some organic farms with the option to include the now abandoned practice of genetically modified organisms (GMOs) in the production (Vos, 2000).

A major obstacle in establishing common and universal organic standards is political priorities across borders (Galvin, 2011), which may result in discrepancies between organic certifications. An in depth understanding of the organic certification system reveals that quality controls for organic food heavily depend on the certification institutions. However, the current system allows different certifications to create their own frameworks for quality controls (Dabbert, Lippert & Zorn, 2014), and this practice imposes implications for an organic food system based on common rules for quality.

Within the European Market, all certifications need to comply with Act 834/2007, the minimum requirements of quality assurance (i.e. standards), set by the EU Commission (Zander, Padel & Zanoli, 2015). Nevertheless, it is important to underline the difference in possible focus areas *within* the organic agriculture. Whereas most directions within organic farming do not leave farms and producers of organic food with the responsibility to engage in preserving the larger ecosystem, there are directions that do. Other similar differences in the quality frameworks of certifications add up and create a system where different certifications have own interpretations of organic food standards, and this further underlines the inconsistencies of organic food quality controls today.

Two common ways to regard organic agriculture is traditional and biodynamic farming (Heimler et al, 2012). The first direction is based on the requirements that its farming should circulate its resources, a practice known as *resource circulating*. Here, the main idea is that inputs, the resources, of organic farming should leave behind what has been consumed (Biodynamisk.se, 2019). For traditional organic farming, this means the only and minimum requirement is that there should be, for instance, a consistent number of the animal population, and that most of the animal feed should derive from organic farms. Then, the second and stricter direction is the biodynamic farming of organic agriculture. This focus goes beyond resource circulating requirements, and rather demands the organic food producers to be *resource nourishing*. The main idea is that producers should always leave behind more resources than what has been consumed, and that would imply increasing the animal population and use feed that only derives from organic farms (Biodynamisk.se, 2019). The biodynamic direction also takes an active engagement in the preserving of the ecosystem, such as increasing important microorganisms in the soil to better the air quality, and reduce pollution levels by connecting and enforcing individual farms to cooperate.

In regards to the certifications in the Swedish Market, there are two institutions that qualify the quality of organic food sold in the stores. These two labels are KRAV and Demeter, and for this thesis, it is important to understand the differences between these. Relating to the findings of Heimler et al. (2012), KRAV is a certifier of traditional organic farming (i.e. resource circulating practices), and Demeter a certifier of

biodynamic farming (i.e. resource nourishing practices)(Biodynamisk.se, 2019). In addition to covering all the same standards as KRAV, when qualifying organic food, Demeter in general holds stricter requirements in all its standards and there are 31 standards in total, based on both certifications (KRAV, 2018; Svenska Demeterförbundet, 2019). The similarities between these two frameworks are that they both comply with the minimum requirements of the 834/2007 Act of the EU Commission, but due to their different approaches, the interpretations of these requirements, which create the base for the standards of KRAV and the standards of Demeter, may vary significantly.

From a customer behavior perspective, there are several factors which prevent consumers from fully understanding how this certification system functions. One aspect of this concerns the actual standards that the organic certifications consider when certifying food. As seen above, this becomes difficult for the end-user when each certification has its own framework for quality control. Because customers gain their information from a wide range of sources, such as newspapers, tabloids, academic publications, legal papers and forums, Kahl et al. (2012) further argue that information is highly subjective. Another finding is that in the majority of occasions, organic customers do not exhibit information that requires a deeper understanding, such as specific information about certificates.

A model commonly used to contextualize consumer intentions and behavior, is the Theory of Planned Behavior (Ajzen, 2011). The model, often abbreviated TPB, explains intentions and behavior through the attitude consumers have towards a certain behavior, the subjective norms and the perceived behavioral control. Originally deriving from an earlier and simplified theory, the Theory of Reasoned Action (TRA), both the TPB and the TRA frameworks have been applied to understand consumer green intentions and green purchasing behavior for years (Albayrak, Aksoy & Caber, 2013; Paul, Modi & Patel, 2016). The more expansive TPB model is a valid tool for researchers interested in analyzing customers, and it is a highly reliable tool for understanding customers' intentions and behavior (Iyigun, Tastan, Ayhan, Kose & Acikel, 2016).

1.2 Problem

While the subject of organic agriculture has been discussed by academics for decades, literature largely focuses on production inputs of organic food. However, little attempt is done in trying to highlight which criteria, standards, are evaluated by the certification institutions issuing food quality labels, and the perceptions of organic food consumers hold for these standards being used to qualify organic food. Although customers have general knowledge of organic food standards, they are often not able to recognize the difference in standards between certifications, such as KRAV and Demeter. This means there is little knowledge about the certifications that appear on organic products, nor the standards used by organic certifications, such as KRAV and Demeter, in their evaluation. Consequently, there may be large inconsistencies between what customers of organic products believe they are buying, and what the certification ensures.

Although the TPB model has been applied to investigate consumer green purchase behavior, there is still a need to view it from a perspective that focuses on organic certification labels. In today's presence of fake, or misleading, information, the TPB model should also be applied to understand customers from the perspective of the organic agriculture. Due to the inconsistencies in quality frameworks among organic certifiers, and the subjective understanding of organic standards among customers, the TPB model needs to be applied to investigate the inconsistencies between organic certification standards and customer perceptions of organic standards.

1.3 Purpose

To determine which of the two organic food quality certifications in Sweden, KRAV and Demeter, is most appropriate to today's organic movement, based on the customer perceptions Swedish students hold about organic food standards. The thesis also aims to investigate which factor in the Theory of Planned Behavior model of customer perceptions has the biggest impact on these perceptions overall. Therefore, our research aims to answer the following two research questions:

Research Question 1: Which organic certificate, KRAV or Demeter, best reflects the organic movement according to the customer perceptions of organic food standards, among Swedish University customers?

Research Question 2: Which factors of consumer perceptions have the most influence on the customers' assumptions about organic food standards?

The thesis will limit the scope of organic food standards to the current frameworks of KRAV and Demeter, which in total consists of 31 standards (KRAV, 2018; Svenska Demeterförbundet, 2019), in which this thesis will discuss four; Naturalness, Sustainability, Health, and Process Orientation.

1.4 Delimitations

This thesis looks at the perspective of the organic agricultural industry as a whole, whereas it could have been observed from several perspectives within the agricultural industry, such as, production or processing perspective. For this paper, the authors will deliberately avoid using all 31 standards covering the entire organic agricultural industry, but limit the standards to 4 different perspectives; Naturalness, Sustainability, Health and Process Orientation. The reason behind studying only four would be that the studying all 31 standards would have made the study too broad to interpret correctly.

1.5 Definitions

Organic Certifications, Eco-labels: Institutions qualifying the quality of organic food.

Organic Agriculture: Food production system that aims to preserve the ecosystem, soil and people involved in this system.

Resource Circulating: Practice of organic agriculture in which the resources are circulated, and producers aim to keep resource levels stable to consumption.

Resource Nourishing: Practice of organic agriculture in which resources are nourished, and producers aim to leave behind more resources than what has been consumed.

Biodynamic farming: “Soil preservation and preservation of the living organisms in the soil, as well as maintenance of the natural balance in the vegetable and animal kingdom” (Vlahova & Arabska, 2015). Type of organic agriculture which is characterized as resource nourishing.

GMO: A particular method of production which manipulate atoms in plants and strongly contradicts with the principles of organic farming.

Theory of Planned Behavior: A psychological model which addresses factors for why consumers intend to behave the way they do.

2. Literature Review

This section first attempts to define the organic agricultural industry through 4 perspectives; Naturalness, Sustainability, Health and Process Orientation. Then, a general look at the organic certification system and implications of inconsistent organic standards along with a short presentation of the disadvantages of delegating quality controls of organic food to individual certifications. Lastly, the Theory of Planned Behavior Model for defining customer perceptions is presented through two sub factors; Customer Intentions and Perceived Behavioral Control. Customer Intentions is again dissected into Customer Attitude and Subjective Norms. As will be seen, Customer Attitude consists of Customer Knowledge and Customer Trust. In addition, the model will be expanded by an additional factor, which is Customer Confusion. The section will conclude by looking at some effects of negative customer perceptions when organic standards are violated.

2.1 Defining the Organic Culture

Before presenting the framework which will be used to define organic agriculture in this thesis, it is worth mentioning that general attempts to define the concept within the agricultural farming have been provided ever since the beginning of its movement in the 1960's (Løes et al., 2017; Kröger & Schäfer, 2014; Park, 2011). As the literature illustrates, these definitions are not necessarily viewed from the perspective of the food industry only, but from a variety of non-relating industries. However, providing a clear definition of the concept becomes difficult when applied across several different sectors so for illustrative purposes, imagine the possible applications of the concept even within the food industry, which this thesis will focus on. Within the context of the food industry, one of the interpretations Renko, Vuleti & Butigan (2010) had encompassed of the organic concept is organic marketing. This possible definition puts attention on retailers and other distributors of food and very central to this definition is that marketing practices shall not enforce overconsumption of food. Then, there is the definition of organic products, which are the food and beverages that are grown under environmentally and socially responsible conditions and which are free from, among

others, chemicals (Wang, Zhu & Chu, 2017). Another viewpoint is organic certifications, which regard the control authorities that ensure the quality of organic products. Nevertheless, common for all definitions of the organic concept within the food industry, whether it be from a marketing, product, certification or other perspective, is that they are all connected and subtopics of the wider concept, organic agriculture (Kahl et al., 2012; Park, 2011).

In treaty-based federations, such as the European Union (EU), there is a need for clear quality frameworks which can be generalized over a large number of sectors (Polese, Del Torre, Venir & Stecchini, 2014), such as the concept of organic agricultural. Because Member States are obliged to follow EU Regulations regarding among others, organic farming, definitions and frameworks are needed. Relating treaties, such as the International Federation of Organic Agriculture Movements (IFOAM), is similar. IFOAM's organic protocol (i.e. official framework of organic food standards) is regulated through the "IFOAM Principles and Standards" and similarly, the EU through the most recent "EC Regulation 834/2007" which both KRAV and Demeter follow and *base* their framework of standards on (Kahl et al., 2012). The protocols define all aspects in the organic food system, from the farming stage through the production and the overall processing, and serve as fundamental requirements for all certification agencies of food, in the organic industry. Kahl et al. (2012) have developed a common understanding between the IFOAM and EU regulations, and derived at 4 major underlying principles; Naturalness, Sustainability, Health, and Process Orientation. These principles can further help define the concept of organic agriculture in this thesis, and serve as a framework when analyzing the organic food quality standards of KRAV and Demeter.

2.1.1 Naturalness

The first principle, naturalness, is the aspect of organic agriculture in the preparation of organic products that concern the inputs that go into producing the food. Kahl et al. (2012) have come up with two varieties of inputs, where one of them are the internal inputs, and the other type are external inputs. The first type, internal inputs, are those inputs that only derive from organic farms and contain no chemicals. Examples would be manure that only contains the animals' own feces, and animal feed used for animals where the feed is either grown or developed in an organic farm. The other type, external

inputs, derives from conventional farms and farms otherwise not regarded as organic. Again, exemplifying, this would typically imply fertilizers and animal feed which are not free from chemical substances. According to EU standards, organic products sold in the European Market is strongly advised to only consist of internal inputs (Kahl et al., 2012; Zanoli, Gambelli & Solfanelli, 2014). This restriction aims to ensure reliable products that can ensure a fully organically produced product. Nevertheless, most organic producers in the European Market take use of external inputs, mostly due to the lack of more viable alternatives that both impose an economic and technological impact on the business or farm (Urfi, Kormosné Koch & Bacsi, 2011).

Due to this mixed application of both internal and external inputs, naturalness can further be dissected into three levels. These levels could be described as the farm's or producer's process from moving away from level 1 to level 2, and from level 2 to level 3. In level 1 the farm uses inputs from natural origin along with the use of some synthetic inputs. In level 2, the farm gradually integrates more internal inputs and takes into account sustainability in its operations, such as taking more care of the soil through the use of manure rather than fertilizers. In the third level, a fully internal approach has been adopted and at this stage, the caring for the living organisms in the soil and the social responsibility is equally important to the farm as any other element. The difference now, is that the farm more and more values itself as a fundamental key player that can preserve and have an impact on the ecosystem it operates in (Kahl et al., 2012). Wang et al. (2017) argue that implementing a third-level approach of naturalness, with an emphasis on no-tillage, which is the restriction of equipment usage in the soil, will maximize the microbial diversity and help improve the condition of the larger ecosystem, such as the atmosphere and air quality. This specific argument is more related towards production, and will be elaborated in the next section.

2.1.2 Sustainability and Health

The other two principles that define organic agriculture, are sustainability and health. These two principles are listed together as that is how they appear in the framework. Another reason is their close linkage, as will be seen. It is however important to understand the very fine line in the difference between the two principles. But first, let

us look at sustainability which, from the work of Kahl et al. (2012), are related to the actual production of organic food. Imagine the possible issues that are linked to a farm's production of organic food, which may range from the condition of the soil, to making sure that the workers who perform the production activities are paid a fair wage or to what extent its production activities affect the ecosystem. Likewise, whereas the principle of naturalness concerned the inputs going into organic agriculture to improve the ecosystem, a sustainable organic agricultural production enforces a reduction in tillage (Wang et al., 2017). When there is an emphasize on the sustainability concerns in the organic agriculture, Hole et al. (2005) show that there will be an abundance in soil organisms, insects and plants, resulting in a healthier ecosystem. This result is then likely to have an impact on other areas of the ecosystem, such as the water quality in the society the farm(s) operate in. As can be seen, sustainability is then also a social matter, in which should strive to "give back to the society" and thereby acknowledge its responsibility in improving the living conditions, such as access to clean water.

Kahl et al. (2012) then go on with defining the health aspect of organic agriculture, which is summarized as the "physical, psychological and social well-being" of most often, the animals but to so some extent, the workers in the organic farm. Focusing on the animals' health however, Bengtsson, Ahnström and Weibull (2005) points at the sustainable production and especially non-usage of tillage in the soil as a predicting factor for a healthy environment in the farm. The reason is a condition in which the soil can prosper and grow naturally will increase life of necessary microorganisms and prevent pests and other bacteria dangerous to animals, from establishing (Cabaret, 2003; Alecu & Alecu, 2015). It is this focus along with the separation of animals, focus on "free movement" and the breeding process where animals used for organic production only derives from organic farms, that researchers have found to be determining for preventing diseases in the organic farm (Thamsborgs, 2002; Vaarst, Padel, Hovi, Younie & Sundrum, 2005).

2.1.3 Process Orientation

The fourth principle is the process orientation of organic agriculture. While there is a constantly bigger emphasis on biodiversity in the organic vocabulary (Vlahova &

Arabska, 2015), the definition of organic from a process perspective attempts to define exactly how that can be achieved. The process orientation, which to a more degree corresponds with the biodynamic direction within organic agriculture more than the regular organic direction, is the whole process that concerns the farm's engagement in the inputs that go into the production, its engagement in the production activities and the preservation of the ecosystems. According to the EC Regulation 834/2007, the organic agriculture is therefore a holistic approach, or system approach, of food production where all the steps from naturalness to sustainability and health is addressed (EU Commission, 2007). Key here is the detachment from the idea that each activity in the organic agriculture should be isolated from other activities, and more towards the view that all activities combined have an impact on the social, economic and ecological conditions at large and therefore need to be synchronized. Kahl et al. (2012) have not provided a clear formulation of the holistic approach either, but their definition still somewhat corresponds with that of the EU Commission; "The holistic approach is a whole food chain approach oriented towards consumer expectations, a whole food approach with food as a result of combined nutrients and an understanding of living organisms in relation to food and the health of the consumer".

There are real-time evidences of farms that have implemented the system approach into their organic agricultural operations and succeeded, like in Brazil, where organic farms have been struggling with the late blight disease attacking and decomposing potato- and tomato crops. As a result, a holistic approach in the organic production system to fight the disease, was put in practice in 2003 (Nazareno, Pereira, Medeiros, 2008). Applying this system approach has involved challenging the status quo of traditional control measures of crops, and pushed forward new ways of protecting and preserving crop fields to improve the ecosystem. A part of this movement has been to replace the potato- and tomato cultivars originating from the European Market, and reducing crop rotation, a practice of traditional farming in which dissimilar crops are grown in the same area in sequenced seasons (Smith, Smith & Stirling, 2011). Because of this new method, organic farms in Panara, Brazil, now develop resistant cultivars for producing potatoes and tomatoes, which are new plant combinations resistant to the late blight disease, a method which otherwise is not regarded as a practice of GMO, which strongly contradicts with the principles of all organic agriculture (Bain & Selfa, 2017).

The new plant combinations from the Panara farms are therefore a fortunate direction contributing to preserve the social, economic and ecological areas of organic agriculture, and is a case in point of the potential upsides of adopting a holistic approach.

2.1.3.1 Biodynamic Direction of Organic Agriculture

A digression to the definition of Kahl et al. (2012), but still a relating concept to the process orientation of organic agriculture, is the biodynamic type of farming. Keep in mind however, this is not one of the four principles in the definition of the organic agriculture, but is important to mention, because it elaborates on the holistic, or system approach of preserving the social, economic and ecological areas (Vlahova & Arabska, 2015). Recalling Heimler et al. (2012) that there are two main directions within the organic agriculture, traditional organic farming, which KRAV is classified as, and biodynamic farming, which Demeter is classified as, there is from a process orientation (i.e. holistic/system approach) two distinctions to make: Traditional farming is resource circulating and biodynamic farming is resource nourishing ("Vad är biodynamisk odling?", 2019.) In other words, and the main difference between the two types of directions of the organic agriculture is that, in the preserving of social, economic and ecological areas, traditional farming leaves behind an equal amount of resources what has been consumed, whereas biodynamic farming always leaves behind more resources than what has been consumed (Biodynamisk.se, 2019.) Both of the directions take the previously described principles into account, but the biodynamic direction, hence Demeter, holds even stronger requirements for each of the principles naturalness, sustainability and health and the synchronization of these in the process orientation (Heimler et al., 2012). Despite scarcity in the literature on biodynamic farming (McCarthy & Schurmann, 2018; Trujillo-Barrera, Pennings & Hofek, 2016), there are evidences which point toward the advantages of this type of farming over traditional organic farming, such as increased animal welfare due to more free movement and less storage, higher soil microbial diversity and absence of chemicals, although not the same productivity as traditional farming (Döring, Frisch, Tittmann, Stoll & Kauer, 2015; Heimler et al., 2012).

2.2 Certification System of Organic Agriculture

Companies issuing organic certificates have certain criteria regarding what business practices of farms and producers of organic food should be included in the framework for quality standards and not. Often, these business operations cover natural production systems and animal health, discussed above in the principle of sustainability and health, to mention some (Carreño, 2012). A major weakness to organic food standards, both from a national- and even multi-national perspective, is that standards are not necessarily set. In practice, this may result in discrepancies between what one association issuing an organic certification regards as organic farming throughout their production system and what quality measures another association values in their framework for qualifying organic products. These inconsistencies in quality frameworks is even transferred to the end-consumer, who perhaps ends up buying organic products that do not follow the expectations she or he has for organic food (Tseng & Hung, 2013).

Existing literature has looked at the effects of unestablished organic standards from a global perspective, and findings show that this practice impose large implications. These implications vary among world regions and among the most affected geographical areas, is the United States. To understand that the issue of inconsistencies of organic standards between different certificates goes beyond the European Market, return to Cohrssen and Miller (2016) who blacken the organic certification standards of the USDA in which they refer to it as a "deceptive marketing program." According to the two researchers, this program confuses customers into buying "healthy" and "eco-friendly" products, when in reality, they are not. Their reasoning builds on a statement of a former Secretary of the USDA who made the following statement about organic certification labels: "Let me be clear about one thing: the organic label is a marketing tool. It is not a statement about food safety. Nor is "organic" a value judgement about nutrition or quality" (Cohrssen & Miller, 2016). The unfortunate direction of organic certifications is that it since the 1990's has served marketing purposes more than a quality measure for food quality (Guion & Stanton, 2012).

Interestingly, data from the Italian consumer market has looked more closely at organic quality labels as a marketing tool. The research is particularly interesting because it

builds on the two organic food quality control schemes the European Union (EU) took in practice during the 1990's (Roselli, Giannoccaro, Carlucci, De Gennaro, 2017). The two quality controls were geographical indication (GI) and organic production (OP). GI differentiated products based on origin, whereas OP was a food standard ensuring production processes with minimal impacts on human health, animals and plants or the environment, in other words a quality label for naturalness, sustainability and health. Although the GI standard will not be included in this thesis, it is still interesting to look at the findings of Roselli et al. (2017) about GI along with OP, as they both may give an understanding of the affect quality standards have on customers' perceptions about organic food. Previous literature has researched these schemes individually and disregarded their potential dependence on each other, and it would be helpful to test whether the appearance of the GI and OP label on an organic product simultaneously has an impact on the customers' perception toward the product. The authors of this article used bivariate probit models, which tested for correlations between GI and OP, to prove that synergies between them exist. Their findings showed that the use of both quality labels, affect attitudes toward products in a positive direction when the customer were aware of both quality standards. This might show a pattern in which the more standards the certificate or quality label ensures and which customers are familiar with, the more likely the customers are to have a positive attitude toward that specific product. Although the research is limited to the Italian olive oil segment, it is reasonable to assume that this effect is not entirely specific to the olive oil segment, nor Italy, and that the findings can therefore be generalized. The study then increased the awareness of what strict regulations should be imposed on, in this case, the EU's organic standards, due to the significance on customer perception.

Inefficient quality control systems might impose serious threats to the overall credibility of organic certifications, and historically speaking, the EU has put forward a number of acts for quality control to ensure compliance with their organic food standards (Lindeberg, 2017). In her article, Lindeberg points at three major EU acts spread from 1991 to 2014 (No. 2092/91, No. 1804/99, No. 834/2007), which aimed at "resolving market failures that are a consequence of information asymmetries regarding products' environmental costs." Although having been improved over time, the author raises implications of applying a system in which quality controls of organic food standards

are delegated to individual institutions within each member state of the EU. One of Lindeberg's (2017) findings exploits weaknesses of current EU supervising practices, including the Member State's incapability to occasionally choose incompetent authorities to be in charge of controlling the organic food standards in their agricultural industry, again resulting in inconsistencies in quality frameworks for certifying organic food.

2.3 Customer Perceptions and the Factors of the Theory of Planned Behavior

The model that will be used to address *customer perceptions* in this thesis, is based on the Theory of Planned Behavior (TPB). In context of the organic food literature, TPB is fundamentally a model of organic food choice behavior, and focuses on the purchase-related factors that determine why customers buy organic food (Suh, Eves & Lumbers, 2015). However, although this model has existed for several decades it is based on an earlier and general conceptualization of customer purchase behavior, derived by Ajzen in 1975, of how customers' behavior is determined by their behavioral intentions (Suh et al., 2015). In this model, the Theory of Reasoned Action (TRA), behavioral intention can be explained through two underlying ideas; (1) the attitude toward the behavior and (2) the subjective norms. Ajzen's interpretation of customer behavior was that the attitude toward the behavior could either by favorable or unfavorable. Put in simpler terms, when customers perform a certain action, their culture, morals and other subconscious beliefs will either make them believe that the action in focus supports these subconscious beliefs that they hold or that it contradicts them (i.e. favor or unfavor the action). The other, subjective norms address the social pressure to perform, or not perform (Suh et al., 2015). Social pressure can be defined as all external influences that motivates the customer to consume products because he or she feels morally obligated to do so (Liobikienė, Mandravickaitė & Bernatonienė, 2016). This obligation is primarily driven by two pressures, group pressure and the intrinsic pressure to increase social image.

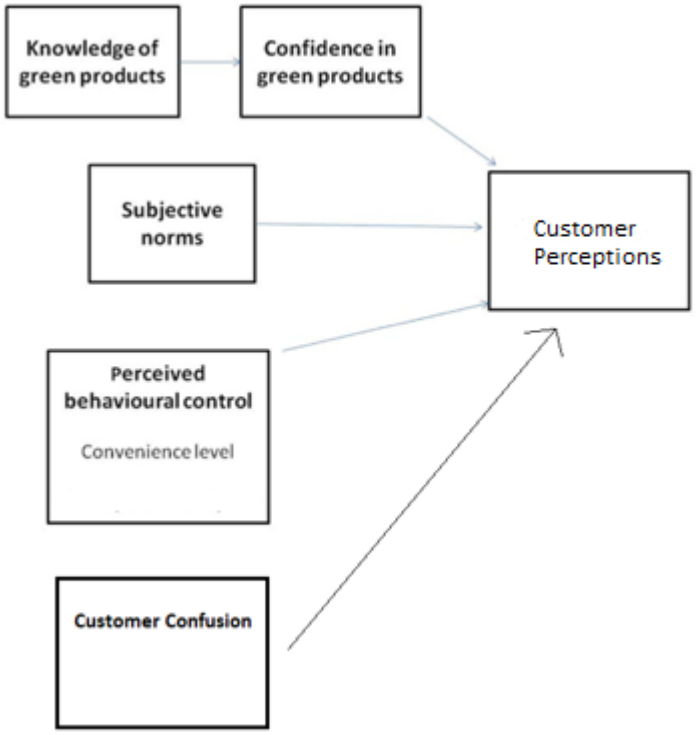
Key in the definition of customer perceptions about organic food standards in this thesis, is that the authors only include factors of the TPB model that has to do with "intention" (first part of TPB model) and not "actual/realized purchase behavior"

(second part of the TPB model). In the model, the academic formulation of "customer intentions" is "intended purchase behavior", and according to Suh et al. (2015) this is the stage before the actual moment of purchase, which is called the realized purchase. This clarification and decision to focus on only factors of intended purchase behavior to define the customer perceptions in this thesis, is important for several reasons, and the first involves the lack of models for mapping customer perceptions of organic standards. Literature does not provide theoretical models that are accurate in order to explain customer perceptions in this context, and therefore the TPB model needs to be applied. Since this is the case, it is important to underline the similarity between customer perceptions of organic standards, and the customer intended purchase behavior. The author's motivation is based on the fact that both the factors influencing customer's perceptions about organic standards and the factors influencing the intentions they hold when buying something, are both linked to their assumption and/or expectation of what they want the final product to ensure or contain. Therefore, whether a customer's perception that an organic standard should ensure, say, animal care, or the intention he or she has about what is bought contains, say, healthy ingredients, are both equally connected to and a part of their assumptions about *something*. The factors influencing these assumptions must therefore be somewhat similar, hence applying the factors of intended purchase behavior in the TPB model to define customer perceptions of organic food standards must therefore be appropriate.

Although the factors of the TPB model in this thesis is based on the work of Suh et al. (2015), there will be made some small adjustments to it, in order to relate it to this study on customer perceptions of organic standards. To achieve that, we will turn to the study of Liobikienė et al. (2016) who also partially based their study on the TRA concepts to make their interpretation of the TPB model. However, a characteristic here was their dissection of customer attitude, the first component of customer intentions, into two more subcategories; Knowledge and confidence. Furthermore, in our definition of customer perceptions, the second component of intentions, subjective norms, is also used. As for concepts of TPB not already introduced, we will also take use of "perceived behavioral control", which encompasses "convenience level" and "importance of price". Although the price factor is important from a purchase related context, it is not when forming a framework for perceptions of organic standards, hence

this part will be excluded. In addition to the model, Kuchler, Bowman, Sweitzer & Greene (2018) also investigated the importance of customer confusion. This factor is then also included in the definition of customer perceptions in this thesis.

Figure 1 Theory of Planned Behavior



Source: Adapted from Liobikienė, Mandravickaitė & Bernatonien (2016).

2.3.1 Customer Intentions

2.3.1.1 Customer Attitude

2.3.1.1.1.1 Knowledge

Liobikienė et al. (2016) define a customer's knowledge as the "information held in one's memory that affects the way in which consumers interpret and assess available preferences". Relating this factor of customer perceptions to organic food standards, Janssen & Hamm (2012) have aimed at investigating customer knowledge of different certification labels in their study. Their hypothesis predicted that, when customers shop for organic products, they preferably choose products that are issued from a certification that they are knowledgeable about. In this case, knowledge of the certifications involved the awareness of what organic food standards were ensured for the organic product, and that this awareness was a determining force for the customers' preference for either

certification labels. Janssen & Hamm (2012) found that there was an increased customer awareness of certifications with a label or logo that the customer was exposed to more frequently. This exposure could for instance be a result of a dominant representation of a particular certification in the store, which then naturally would make customers more aware of this label, or logo. Their study also revealed that the knowledge factor of customer perceptions in regards to organic standards, is highly subjective, meaning that the level of knowledge from an individual perspective varies from customer to customer. The findings of Liobikienė et al. (2016) illustrate the same when they tested for knowledge of environmental consequences and general advantages of organic products over conventional products. Recalling that this particular study was angled towards purchase behavior, a higher level of knowledge would result in positive attitudes towards then, the purchase of organic products. As will be elaborated more in the next paragraph, knowledge is then determining for the customers' extent of trust in these certifications, as well as what the organic standards of these claim to ensure. As a result of the literature above, the authors came up with the following hypothesis,

H1: Increasing level of customer knowledge will have a positive impact on customer perceptions of organic certification standards.

2.3.1.1.1.2 Trust

The level of trust on the basis of expectations of green products' ability and reliability, is primarily important to organic customers more than non-organic customers (Chen and Chang, 2012). It is this level of trust, in the definition of customer perceptions that is regarded as the confidence corresponding to these customers' believes that their expectations in quality towards the green product, will be met. Although current literature is relatively conforming in the significance of confidence of a customer's perception, the concept is discussed with different terminologies. However, in this thesis we will primarily follow the definition of Suh et al. (2015) as *trust*, although literature also discusses it as customer confidence (Liobikienė et al., 2016). Consequently, following the latter definition, Nuttavuthisit & Thøgersen (2015) discover whether trust and distrust (i.e. consumer skepticism) influence consumer intentions of organic products in the Thai market. What their findings suggest is that consumers tend to be skeptical towards the claims of green products, and that distrust is

a dominant factor affecting consumer perceptions negatively. The study found that this in turn would result in a negative attitude towards organic certifications, control systems and labeling (Nuttavuthisit & Thøgersen, 2015).

The study conducted from the Thai market is interesting for a number of reasons, and first and foremost because it illustrates the relationship between consumer knowledge and trust. This central idea to the TPB model, otherwise illustrated by Suh et al. (2015) and Liobikienė et al. (2016), accords with the findings of Nuttavuthisit & Thøgersen (2015). The latter have found that distrust or skepticism is a direct consequence of customers' inability to gain the knowledge to identify between the different qualities of organic food. This knowledge addressed in a more technical context is the ability for consumers to identify the standards of individual certifications of organic products. To establish a sense of trust and change their perception about green labels, Nuttavuthisit & Thøgersen (2015) suggest convincing customers in different ways, whether it be through social performance or informed and guarantee the quality of organic products. By guaranteeing the quality of organic products, consumer skepticism can be converted into consumer trust, and customer perceptions of organic standards will be less biased for uncertainty. As a result of the literature above, the authors came up with the following hypothesis,

H2: Presence of customer trust will have a positive influence on customer perceptions of organic certification standards.

2.3.1.2 Subjective Norms

An additional definition of Liobikienė et al. (2016), Al-Swidi, Mohammed, Haroon & Noor (2014), claim that subjective norms "reveal the beliefs of individuals about how they would be viewed by their reference groups if they perform a certain behavior." Although it is not the actual believes that are central in this literature, what comes first and is the biggest focus is rather what these influences on beliefs might be. As found by Minton, Spielmann, Kahle & Kim (2018) in their cross-country study, culture was brought up as a significant influence of subjective norms on customer perceptions, and it was found that the beliefs and perceptions customer hold about organic food in the,

here, purchase process, was to a large degree affected by the national culture. However, current literature also denies the effects of subjective norms on customer perceptions, where among others, Liobikienė et al. (2016) disproves cultural influence, and Tarkiainen & Sundqvist (2005) claim subjective norms have a minor impact on customer perceptions because it is shaded by customer attitude (knowledge and trust). Magistris & Graci (2012) found that the buying intention of customers from their study in the Italian market was not affected by subjective norms either. As a result of the literature above, the authors came up with the following hypothesis,

H3: Presence of subjective norms will have a positive influence on customer perceptions of organic certification standards

2.3.2 Perceived Behavioral Control

2.3.2.1 Convenience Level

This paragraph reviews what has already been discussed in Janssen & Hanssen's (2012) findings about customer knowledge of certifications in the organic food industry. Recalling that customer knowledge of eco-labels increased with the level of exposure of these labels, there is now a need to address this idea further. From a pure theoretical context, the TPB defines the level of exposure, referred to as the convenience level, as the extent to which "green products are easily available and has good value for money" (Liobikienė et al., 2016). Focusing on the convenience level of certifications in relation to increasing the awareness of organic standards, this thesis will leave the definition of "value for money" for now, and focus on the availability. According to Kong, Harun, Sulong & Lily (2014) a high convenience level of green labels can contribute to making customers more familiar with the quality standards of organic food. Without a high convenience level of organic certifications, the authors argue that these quality labels can lose their "manifestation of symbolic value", and that this in turn will make customers less aware of the strict quality controls that otherwise separate organic food from conventional products (Kong et al., 2014). As a result of the literature above, the authors came up with the following hypothesis,

H4: Increasing the level of convenience will have a positive impact on customer perceptions of organic certification standards

2.3.2.2 Customer Confusion

The last factor used to define customer perceptions, customer confusion, is an addition to the TPB model and not addressed by Suh et al. (2015) or Liobikienė et al. (2016). Kuchler et al. (2018), investigated the confusion customers experience when they examine a product that follows the requirements of the Federal Government and the USDA organic label, thinking they may be the same thing. The survey Kuchler et al. (2018) conducted showed that the majority of customers had no knowledge about any of these labels. In this case, the lack of a clear definition of the Federal Government and the USDA organic certification, resulted in some of the customers believing it ensured a non-artificial input of growth hormones in the production, or that there were no GMOs in the food. Due to this being the case, consumers are skeptical and distrustful of any claims which these labels make. Kuchler et al. (2018) findings show systematic confusion of customers as per their data, but if customers were aware and familiar with the two certifications, their perceptions of organic food may be less impacted by incorrect assumptions.

Drexler et al. (2017) look at customer confusion on customer perceptions in regards of an overrepresentation of organic certification labels. With the growth of the organic food industry since the 1960's, as introduced earlier, the number of retailers, which operate within the organic food industry, has grown significantly. Drexler et al. (2017) suggest that the entry of new organic operators might only be driven by market opportunities, and that these opportunities are often exploited to enhance reputation, increase market share, and others. However, with their entry, the number of organic certification labels has grown, and Drexler et al (2017) found that there have been hundreds of ecolabels in the German market. Some of these are control authorities in administration of the EC Regulation (No. 834/2007) but the majority are privately run institutions with unique standards for organic food production. Linking this growth back to consumer skepticism, Drexler et al. (2017) suggest that much of this consumer skepticism is closely linked with the overrepresentation of organic labels. They argue that an exaggerated convenience level, or large accessibility of different certifications

make it challenging for customers to be familiar with the standards of each certification. As a result of the literature above, the authors came up with the following hypothesis,

H5: Increasing the level of customer confusion would have a positive impact on customer perceptions of organic certification standards.

2.3.3 Violation of Organic Standards

Müller & Gaus, (2015) set out to investigate the effects of negative consumer perceptions, when standards of organic certifications are not followed and revealed by the mass media. The study was conducted by showing consumers a documentary depicting how not all certified organic food products are produced in the required conditions set by, for instance, the European Union through its organic farming standards in the EC Regulation (No. 834/2007). Consumers were directly monitored after the experiment, where negative response was traced to organic certifications in the form of consumer skepticism of food certified by these institutions (Müller & Gaus, 2015). Negative customer perceptions may impact other organic certifiers in the food market, and have people stay away from their products. Continuous media coverage on negative aspects of organic products may be detrimental to certification institutions that qualify the organic products.

3. Methodology

In this section the methodology and the method of data collection are presented. The methodology section will include the philosophy, approach and design, while the method section will include a data collection section, with subsections discussing secondary and primary data collection methods, and the validity and reliability of the study.

3.1 Research Philosophy

A research philosophy is a belief about the way in which data about a phenomenon should be gathered, analyzed and used (Saunders, Lewis & Thornhill, 2009). Our research is rooted in the positivist philosophy. The positivism philosophy observes social reality and makes generalizations (Saunders, Lewis & Thornhill, 2009). In a positivist study, only the observable phenomena will lead to the production of credible data, and to generate strategy to collect data in this manner, a hypothesis will be developed through existing theory (Saunders, Lewis & Thornhill, 2009). As this study plans to rely on theories which will be tested in a controlled manner, and it the phenomena will be measured, positivism would be the best fit as it is most often associated with quantitative methods of analysis based on the statistical analysis of quantitative data.

3.2 Research Approach

The authors chose the deductive research approach, because it works through existing theory and does not develop any new theories (Saunders, Lewis & Thornhill, 2009). Deductive research approach is based on coming up with hypotheses to test existing theories (Saunders, Lewis & Thornhill, 2009). The aim of deduction involves the search to explain causal relationships between variables (Saunders, Lewis & Thornhill, 2009). In our case it was the relationship between consumer perceptions (knowledge, trust, confidence, etc.) and organic food standards (KRAV and Demeter). To test the hypotheses another characteristic was utilized, the collection of quantitative data through an online survey was performed (Saunders, Lewis & Thornhill, 2009).

3.3 Research Design

Research design is defined as a general plan about what the authors will do to answer the research question (Saunders, Lewis & Thornhill, 2009). There are three types of research design, exploratory, explanatory and descriptive (Saunders, Lewis & Thornhill, 2009). Selecting one of the designs is Explanatory research emphasizes studying a situation or a problem in order to explain relationships between variables which can be subjected to statistical tests in order to gain a clear view of the relationship (Saunders, Lewis & Thornhill, 2009). As our research is concerned with establishing causal relationships between variables, the most suitable design would be in accordance to explanatory research.

3.3.1 Quantitative

To answer the research question and purpose, a quantitative approach is taken to analyze primary data. Quantitative research (data in numerical form) is defined as the explanation of a theoretical study using numerical data, which consists of measurable variables, and analyzing it using a statistical program (Yilmaz, 2013). In comparison to quantitative research, qualitative research gives an in depth interpretation from the researcher of the results, and the results could be more difficult to implement, due to the researcher losing objectiveness (Saunders, Lewis & Thornhill, 2009). Quantitative research allows a non-personal approach towards the respondents and gives the researcher the objectivity a qualitative study may lack (Saunders, Lewis & Thornhill, 2009). In addition, the technique that was chosen to conduct the quantitative approach was through an online survey. For the online survey to be impactful, a larger sample size of individuals is needed. (Holton and Burnett, 2005). Additionally, there are no budget constraints to an online survey, as well as it being less time consuming than for example, conducting interviews with various individuals at companies.

3.4 Operationalization

3.4.1 Dependent Variable

3.4.1.1 Perceptions of Organic Certification Standards

To measure the perceptions of organic certification standards, we chose one dependent variable. The content of the variable was derived from five questions from organic agriculture, specifically naturalness, process orientation, sustainability and health were used. To test whether the five questions were reliable, a reliability test was performed which revealed that the five questions were adequate as their reliability was measured at 0.798. The questions were formed on a 5-point Likert scale to measure what their perception of the organic certification standards of KRAV and Demeter was.

3.4.2 Independent Variables

To find out the customer perceptions of organic certification standards, the authors came up with independent variables using the Theory of Planned Behavior (TBP). Knowledge, trust, subjective norms, convenience level, and confusion were chosen.

3.4.2.1 Knowledge

Knowledge was measured by asking the participants if they had the knowledge of the organic certification system as well as if their opinion of the organic certification system is influenced by their knowledge.

3.4.2.2 Trust

To measure trust, the participants were asked if they generally felt skeptical towards the claims of organic certifications, then if the standards were stricter than normal food standards, and finally if their level of skepticism was influenced by their knowledge of organic certification standards.

3.4.2.3 Subjective Norms

Subjective norms were measured through asking the participants if they were affected by their current surroundings (e.g. their friends and family) and if their cultural background had anything to do with their influences as they might have grown up in different parts of the country (e.g. the countryside, city, etc.).

3.4.2.4 Convenience Level

Convenience level was included as a control variable as a way to ask if the accessibility of organic products influenced the opinion they held of these organizations that made the certifications to qualify the products.

3.4.2.5 Confusion

Customer confusion was measured by asking whether the growth of the organic certification labels made it confusing to know the standards of these certifications.

3.5 Data Collection

3.5.1 Primary Data Collection

To conduct the approach of collecting primary data, the online survey tool Google Forms was used and the respondents were reached through University Facebook groups, the chosen sample, sample size, and the survey will be discussed below.

3.5.1.1 Sampling

There are four main reasons why collecting a sample instead of a whole population would prove to be more feasible, they include: (1) impracticability to sample a whole population, (2) budget constraints, (3) time constraints, and (4) all data is collected, but results are needed quickly (Saunders, Lewis & Thornhill, 2009). There are two types of sampling techniques, probability and non-probability, each with its own advantages and disadvantages. Nonprobability sampling is the selection of respondents is not known from the start, and are chosen at random (Saunders, Lewis & Thornhill, 2009). As the selected sample are university students in Sweden, the respondents would not be known from the start, due to the locations of universities without the direct connection with each other. Due to probability sampling trying to gain answers from each individual in a population, the logical step would be to follow the nonprobability sample as it is chooses participants at random.

3.5.1.1.1.1 Sample Selection

The sample selected for our research are University students in Sweden. The reasoning behind this due to the use of a convenience sampling method, which allows the collection of samples that are the easiest to obtain (Saunders, Lewis & Thornhill, 2009). Although this sample is deemed the most convenient and widely used, it is prone to bias and influences beyond the control of the researchers (Saunders, Lewis & Thornhill, 2009). The main problem with convenience sampling is that a person may send the survey to specific individuals that they are friends with, who may skew the results and not give an accurate representation of the population. The selection of individual cases may introduce bias to a sample, and then generalizations are likely to be flawed (Saunders, Lewis & Thornhill, 2009).

The criteria for the sample selection was that the respondents had to be students who attended university in Sweden, as the authors are testing the customer perception of organic labelling standards in the Swedish market. Selecting people who live in the country and interact with products on a daily or weekly basis seemed the logical choice in the given circumstance. Including other countries would then expand the number of organic labelling standards, which would need to be analyzed, thus making the study a larger one, and it would need more time to be carried out. Due to this, a different sample from the population would need to be selected.

To prevent sample selection bias, the distribution of the survey was conducted through online resources, and the people were reached through online communities, specifically Facebook groups, containing larger numbers of students in Swedish universities.

3.5.1.2 Survey Design

The authors designed parts of our survey in accordance to the Likert Scale Approach, which is most frequently used when analyzing customer's attitudes and are asked to indicate whether they agree or disagree with the question (Joshi, Kale, Chandel & Pal, 2015). Participants are asked to answer questions on either a 5 point, 7 point, or 10 point scale (Joshi, Kale, Chandel & Pal, 2015). As there are several constructs to the Likert Scale, it is argued that the larger the spectrum of choices offers more independence for participants to truthfully answer the question and pick the one they actually think is right (Joshi, Kale, Chandel & Pal, 2015). For example, a 5 point scale is ranked as (1) strongly

disagree, (2) Disagree, (3) No Opinion, (4) Agree, (5) strongly Agree (Joshi, Kale, Chandel & Pal, 2015). Although it gives the participant a larger scale to choose from, the 7 point scale only adds a "somewhat" category to each side of the argument, and the authors believe it does not bring anything new to the table to add on. Hence, the authors chose to go for the 5 point scale as it is the one believed would best represent the data being measured. The other part of the survey was designed around yes and no questions to find out what the participant views the perceptions to be like. When the survey is conducted, while collecting the data, each personal reaction to each statement is given a score, and then in accordance to each of the scores, the median and mean are calculated (Likert, 1932). We designed the survey using Google Forms as we deem it to be the most suitable survey data collection tool.

3.6 Data Analysis

For the data to be analyzed, the online survey data was downloaded into an Excel file through an automatic function on Google Forms. The Excel data was then examined to observe if there were any faults in the answers and mistakes from the authors' sides. The Excel file was then converted into an SPSS data file. Although some questions were not mandatory, there was missing data from a participant, and those responses had to be put aside as they were incomplete. The questions on the survey were thorough and had no intention of confusing the participants, as well as the questions being well formulated to identify the goal of the authors. The survey was coded into three parts, first, it asked general questions about the participant, second, questions were asked with answers on a scale ranging from 1 (strongly agree, or siding with KRAV) to 5 (strongly disagree, or siding with Demeter), and the third part was filled with yes and no questions asking about their perceptions of organic food standards.

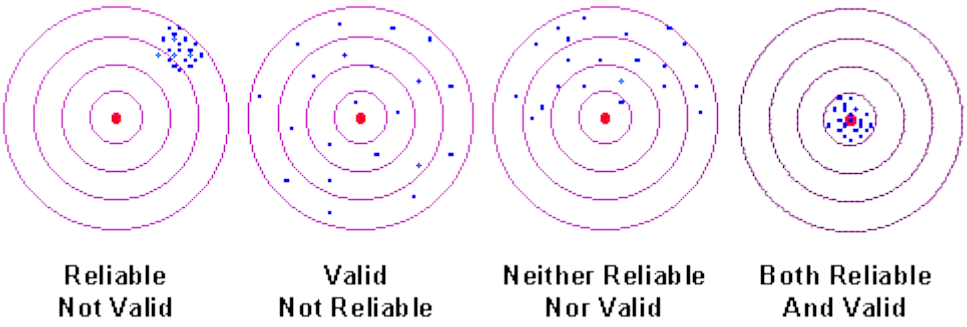
To analyze the data measured in this thesis a number of different tests were performed on the computer program SPSS. The first test conducted was to measure the internal level of reliability, which is done through a Cronbach's Alpha test. According to Conley (2011), anything with a score of ($\alpha > 0.700$) is deemed to be satisfactory on all levels. Descriptive statistics was used to help describe and understand the collected data by providing a less complicated way to present the dependent, independent, and control variables (Andersson, Sweeney & Williams, 2011). A normality test was conducted

using the Kolmogorov-Smirnov. Furthermore, a Spearman Correlation and Linear Regression were performed to test whether there was any significance and to test the hypotheses presented.

3.7 Reliability and Validity

Faulty procedures, poor samples, and misleading measurements may all hurt the validity of a study (Collins and Hussey, 2014). Validity is defined as the accuracy and preciseness of the data and how it reflects the study being conducted (Collins and Hussey, 2014). According to Collins and Hussey (2014, p. 53), "There are a number of different ways in which the validity of research can be assessed." Face validity is the most relevant form of assessing the research as it tries to ensure that the measures used by the researcher actually do what they are supposed to do (Collins and Hussey, 2014). "Reliability refers to the accuracy and precision of the measurement and absence of differences if the research were repeated" (Collins and Hussey, 2014, p. 52). Should a study be repeated with the same measurements, parameters, and tools, it is important for it to yield the same results or the study to be reliable (Collins and Hussey, 2014).

Figure 2 Reliability and Validity



Source: Adapted from Trochim (2006)

Figure 2 explains four possible situations for validity and reliability. The center of the target is the concept that is being measured, and each blue dot is a respondent to the study being conducted. The closer each blue dot is to the center, the better the concept is being measured in accordance to each person. Starting from the left, in the first target it shows that the target is being hit reliably and consistently, but not in the center, thus it cannot be considered valid. The measure is consistent, but wrong. In the second situation, the target is being hit all over, and on average the right answer is received. It

can be considered that the study is valid, but not reliable. The third situation is where the study is neither reliable nor valid, in other words it is plain wrong. In the fourth situation, the study is both reliable and valid.

4. Empirical Findings and Analysis

In this section, data from 54 sample respondents will be analyzed and measured against the authors' hypotheses. Descriptive statistics will first be presented, then a normality test will be conducted, and in accordance to the normality test a Spearman Correlation Matrix will be performed, followed by the presentation of the Linear Regression Analysis.

4.1 Descriptive Statistics

This section presents the empirical findings of this study, and starts with the dependent variable. Then, each of the independent variables are presented, followed by a look at the control variables.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	54	1,00	5,00	4,0815	,83102
I.Cust.Know1	54	0	1	,83	,376
I.Cus.Trust1	54	0	1	,78	,420
I.Subj.Norm1	54	0	1	,59	,496
i.Cus.Trust3	54	0	1	,59	,496
I.Cus.Know2	54	0	1	,59	,496
I.Cus.Trust2	54	0	1	,61	,492
I.Subj.Norm2	54	0	1	,43	,499
I.Conv.Level1	54	0	1	,56	,502
I.Cust.Conf1	54	0	1	,85	,359
C.Gender	54	0	1	,46	,503
C.A18.21	54	,00	1,00	,4630	,50331
C.A.22.25	54	,00	1,00	,4815	,50435
C.A.26.30	54	,00	1,00	,0370	,19063
C.A.31plus	54	,00	1,00	,0185	,13608
C.Org.Cons.Less1	54	,00	1,00	,2963	,46091
C.Orgh.Cons.Mid	54	,00	1,00	,3519	,48203
C.Org.Cons.More4	54	,00	1,00	,3519	,48203
C.NotAware	54	,00	1,00	,6111	,49208
C.AwareKrav	54	,00	1,00	,2963	,46091
C.AwareDemet	54	,00	1,00	,0370	,19063
C.AwareBoth	54	,00	1,00	,0556	,23121
Valid N (listwise)	54				

Table 1

4.1.1 Dependent variable

As can be seen from the table derived from the descriptive statistics, the dependent variable, which is the customer perception, equals a mean of 4.0815 based on a sample of 54 participants. This mean value is compromised by the second section in the survey, which asked the participants to choose a value between 1 to 5 on the Likert Scale. Which can then be seen is that, based on the mean of the dependent variable, the customer perceptions of the participants tend to adhere to Demeter standards.

4.1.2 Independent Variables

4.1.2.1 Knowledge

The first independent variable, customer knowledge, dealt with two questions in the survey. As can be seen from the table 1, on the question whether the participants felt they had knowledge of the organic certification system, 83% of the replies were positive (i.e. “Yes”). This implies that the majority of the organic consumers in the survey believed they were knowledgeable about how institutions, such as KRAV and Demeter, certify organic food. The second question which was aimed to test for customer knowledge, was the question that asked whether their level of knowledge would be likely to have an impact on their perception towards organic food standards. In this, 59% state that their level of knowledge about certification standards affects their opinion of these standards.

4.1.2.2 Trust

The second independent variable, is customer trust and in this matter, there were asked three questions in the survey. On the question whether the consumers in general feel skeptical towards the claims that organic food standards are always followed, 78% consented to the statement. The second question tested for consumers’ level of trust in the organic food standards compared to other food standards, and among the 54 participants, about 32 respondents, or 61%, replied that they do believe organic food standards to be stricter than other food standards. Lastly, in accordance to how the TPB model presents the level of trust in relation to customer knowledge, the third question tested for whether customers would be likely to trust claims of organic food standards depending on their level of knowledge. Based on this, 59% answered that their level of trust indeed depends on their level of knowledge.

4.1.2.3 Subjective Norms

Subjective Norms, which from section 1.8 is recalled as the external pressure from the social, cultural and national settings, was measured through two survey questions. The participants generally confirmed the statement that their surroundings do impact their perceptions of organic food standards, with a percentage of 59%. Nevertheless, when asked whether their cultural background impacts their perceptions, only 43% agreed with this statement. Cultural background, such as their place of birth and origin, therefore did not prove to be as important as the social pressure.

4.1.2.4 Convenience Level

In regards of the convenience level, in other words the exposure of organic food standards, the majority of the respondents, with a percentage of 56%, responded that their perceptions towards organic standards rely on the level of accessibility of such standards. Such exposure of organic standards can be presented through packaging labels and protocols published by KRAV and Demeter, and reconciled with approximately half of the survey respondents.

4.1.2.5 Confusion

A strong indicator in the descriptive statistics, is the confusion many of the respondents experience in relation to the certification labels in the Swedish food market. 85% of the consumers agree to the statement that a system which allows for different organic certifiers make it difficult to know each of these certifiers' food standards. The confusion these consumers experience in this regard, is therefore the highest value of the independent variables.

4.1.3 Control Variables

4.1.3.1 Gender

The participants in the survey are unequally distributed between women and men. In total there are 53.7%, or approximately, 28 women, and 46.3%, or 25 men.

4.1.3.2 Age

The survey classifies the respondents according to their age, and among the respondents, there are 46.3% consumers who are in the age group between 18 to 21

years old, 48.15% are between 22 and 25 years old, 3.7% between the age group of 26 to 30 years old and 1.85% of the respondents were above 31 years old.

4.1.3.3 Organic Food Consumption

Another control variable is the question which relates to the time span the participants have consumed organic products. In the survey, 29.63% of the participants have been consuming organic food for less than one year, 35.19% have been consuming organic food between 1 and 3 years and 35.19% of people who answered the survey have been consuming organic food for over 4 years.

4.1.3.4 Awareness of KRAV and Demeter

The last control variable tests for the participants' awareness of the two organic certification labels in this thesis, KRAV and Demeter. 61.11% of people who answered the survey were not aware of neither KRAV or Demeter, 29.63% of people who answered the survey were only aware of KRAV, 3.7% of people who answered the survey were only aware of Demeter and lastly, 5.56% of people who answered the survey were aware of both KRAV and Demeter.

4.2 Normality Test

To test whether the data were normally distributed, a normality test is performed. Normality is used to describe a "bell-shaped" curve which has the greatest frequency of scores in the middle (Pallant, 2005). According to the Kolmogorov-Smirnov test of normality in the table below, the data is not normally distributed, due variable being significant (0,001). This can also be confirmed by observing the frequency distribution presented in the histogram where the data is not normally distributed, and mostly skewed to the right. For it to be normally distributed in the histogram below, it would have to be in the shape of a "bell curve."

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
D.Org.Perc	,168	54	,001	,908	54	,001

Table 2

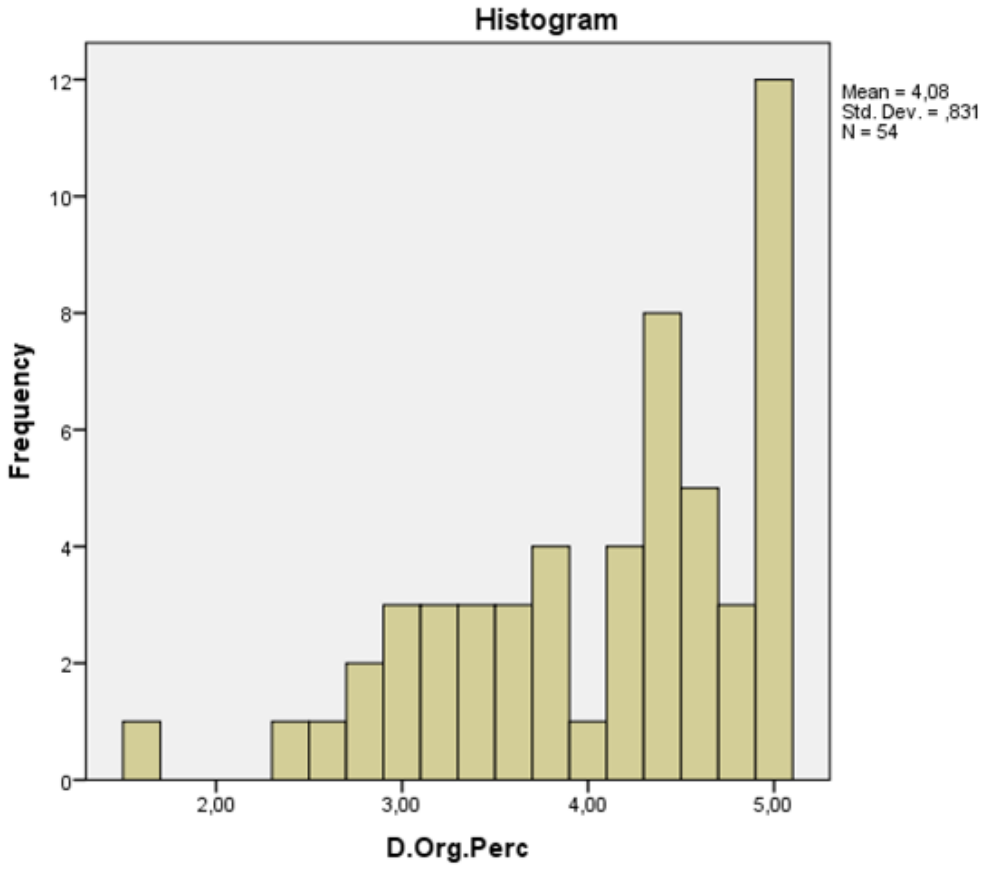


Figure 3

4.3 Spearman's Correlation Matrix

Spearman's Rank Order Correlation is used to calculate the strength of the relationship between two continuous variables (Pallant, 2005). Numeric value of the significance shows how strong the relationship between the two variables is (in this case it is organic

perceptions against each of the variables below). The level of significance the authors chose to work with was at the 10 percent level.

Correlations

			D.Org.Perc
Spearman's rho	I.Cust.Know1	Correlation Coefficient	0,132
		Sig. (2-tailed)	0,342
		N	54
	I.Cus.Trust1	Correlation Coefficient	-0,061
		Sig. (2-tailed)	0,664
		N	54
	I.Subj.Norm1	Correlation Coefficient	0,218
		Sig. (2-tailed)	0,113
		N	54
	i.Cus.Trust3	Correlation Coefficient	0,233
		Sig. (2-tailed)	0,090
		N	54
	I.Cus.Know2	Correlation Coefficient	0,054

	Sig. (2-tailed)	0,700
	N	54
I.Cus.Trust2	Correlation Coefficient	-0,047
	Sig. (2-tailed)	0,737
	N	54
I.Subj.Norm2	Correlation Coefficient	0,243
	Sig. (2-tailed)	0,076
	N	54
I.Conv.Level1	Correlation Coefficient	0,086
	Sig. (2-tailed)	0,538
	N	54
I.Cust.Conf1	Correlation Coefficient	-0,196
	Sig. (2-tailed)	0,156
	N	54
C.Gender	Correlation Coefficient	-,401**
	Sig. (2-tailed)	0,003

	N	54
C.A18.21	Correlation Coefficient	0,038
	Sig. (2-tailed)	0,783
	N	54
C.A.22.25	Correlation Coefficient	0,072
	Sig. (2-tailed)	0,605
	N	54
C.A.26.30	Correlation Coefficient	-0,146
	Sig. (2-tailed)	0,292
	N	54
C.A.31plus	Correlation Coefficient	-0,204
	Sig. (2-tailed)	0,138
	N	54
C.Org.Cons.Less1	Correlation Coefficient	-0,134
	Sig. (2-tailed)	0,335
	N	54

C.Orgh.Cons.Mid	Correlation Coefficient	0,158
	Sig. (2-tailed)	0,254
	N	54
C.Org.Cons.More4	Correlation Coefficient	-0,030
	Sig. (2-tailed)	0,829
	N	54
C.NotAware	Correlation Coefficient	-0,245
	Sig. (2-tailed)	0,075
	N	54
C.AwareKrav	Correlation Coefficient	0,134
	Sig. (2-tailed)	0,335
	N	54
C.AwareDemet	Correlation Coefficient	0,266
	Sig. (2-tailed)	0,051
	N	54
C.AwareBoth	Correlation Coefficient	0,034

	Sig. (2-tailed)	0,807
	N	54

Table 3

Overall the correlation matrix does not show any significant positive relationships between the variables, except for social norms factor two, customer trust factor 3, the differences in gender, not being aware of any of the certification standards, and being aware of only Demeter.

4.3.1 Independent Variables

The correlation matrix shows a positive relationship between the level of trust in organic food standards and their perception of organic certification standards. There is also a positive relationship between organic certification standards and whether the customer's opinion of organic food standards is affected by their cultural background (whether they grew up on the countryside, city, etc.).

4.3.2 Control Variables

Gender was found to be one of the factors that affects positive customer perceptions of organic certification standards. It was found to be that the more man a person is, the less positively they view the organic certification standards. The last positive relationship was found to be between the organic certification standards and the awareness they possessed of Demeter.

4.4 Linear Regression Analysis

A Linear regression analysis was used to test whether the five hypotheses were supported or not. This test was the only appropriate test which could be done for the authors' data to be accurately measured. The tables below presents the findings of the linear regression analysis and ANOVA, showing that there is no significance between any of the independent and controlled variables when put to test against the dependent variable.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,157	17	,715	1,053	,431[b]
	Residual	24,445	36	,679		
	Total	36,601	53			

Table 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4,189	,767		5,463	,000		
	Customer Knowledge 1	,584	,434	,264	1,346	,187	,481	2,077
	Customer Trust 1	-,243	,386	-,123	-,630	,533	,488	2,048
	Subjective Norms 1	,287	,263	,171	1,089	,283	,751	1,332
	Customer Trust 3	,304	,287	,181	1,061	,296	,634	1,577
	CustomerKnowledge 2	-,168	,311	-,100	-,541	,592	,540	1,852
	Customer Trust 2	,072	,304	,042	,236	,815	,574	1,743
	Subjective Norms 2	,280	,249	,168	1,127	,267	,831	1,204
	Convenience Level 1	,030	,336	,018	,090	,929	,452	2,213
	Customer Confusion 1	-,240	,411	-,104	-,585	,562	,591	1,692
	Age 22-25	-,260	,268	-,158	-,970	,338	,702	1,425
	Age 26-30	-,077	,699	-,018	-,111	,913	,722	1,385
	Age >31	-1,332	,992	-,218	-1,343	,188	,703	1,422
	Organic food consumption <1 year	,052	,345	,029	,151	,881	,506	1,978
	Organic food consumption 2-3 years	-,081	,351	-,047	-,229	,820	,447	2,239
	Not Aware of Either	-,750	,688	-,444	-1,089	,283	,112	8,956
	Awareness of only KRAV	-,061	,601	-,034	-,101	,920	,167	5,993
	Awareness of only Demeter	,301	1,031	,069	,292	,772	,331	3,018

Table 5

Based on the data collected through the linear regression, the data collected shows that none of the hypotheses are supported, as presented in the table below. However, even though the hypotheses were not supported, the findings did present some interesting results, in particular, how a factor of subjective norms and customer trust, as well as the gender, and awareness of Demeter had an impact on the perception of organic certification standards.

Hypotheses					
	H1	H1	H3	H4	H5
Supported					
Not Supported	•	•	•	•	•

Table 6

5. Conclusion

The goal of this thesis was to determine if there is a positive relationship between customer perception and organic certification standards, and if there is any significance between the perceptions of the organic certifications.

In research question one it can be seen from the findings that the Swedish University students in the survey, strongly favored Demeter organic food standards. From the findings, the value of the dependent variable is close to the highest value on the Likert Scale, and therefore, Demeter seems to fit the organic perceptions among Swedish University students, as Demeter standards reflect values closer to 5 on the Likert Scale. Hence, the participants adhere to the strictest requirement for organic standards, mirroring the preferences of the biodynamic direction over traditional organic farming (McCarthy & Schurmann, 2018; Trujillo-Barrera, Pennings & Hofek, 2016).

To discover if there was a positive relationship between the standards and perceptions, the theory was based on the Theory of Planned Behavior (Ajzen, 2011). To test the theory a quantitative method was used, consisting of primary data collected through an online-survey and the standards of the certifications were collected from the respective websites of KRAV and Demeter (KRAV, 2018; Svenska Demeterförbundet, 2019). 54 responses

were collected to be analyzed out of the population of university students in Sweden. To test the theory, a total of five hypotheses were examined, in accordance to each of the factors of the Theory of Planned Behavior. It was found that none of the hypotheses were supported, but some correlations observed presented interesting results to be further elaborated on.

The analysis of the data showed, from research question two, that the increasing level of customer knowledge had no positive impact on customer perceptions of organic certification standards, rejecting H1 in the process. In H2, the presence of customer trust had no positive influence on customer perceptions of organic certification standards, thus, H2 was rejected in accordance to the findings. Although the hypothesis was rejected, one of the factors of customer trust was found to be significant in the process. The next hypothesis tested was if the presence of subjective norms will have a positive influence on customer perceptions, and it was found that it did not have a positive influence, and H3 was rejected. H4 tested if the increasing level of convenience will have a positive relationship on customer perceptions of organic certification standards, and it was found that it did not have a positive relationship, stating that the level of convenience had no impact on customer perceptions. H5, the final hypothesis, tested if the increasing level of customer confusion would have a positive impact on customer perceptions of organic certification standards. It was found that the increasing levels of customer confusion did not have a positive impact on customer perceptions, thus H5 was rejected.

6. Discussion

This section will discuss the findings and analysis of the thesis, followed by a section on the reflections of the findings and non-findings, and then a section on theoretical and empirical contributions, limitations of the study and suggestions for future studies.

6.1 Findings and Non-Findings

The thesis did not find a relationship between any of the variables of customer knowledge and customer perceptions of the organic certification standards, thus H1 was rejected as a result. The authors cannot confirm what Janssen and Hamm (2016) explored in their study of customers choosing products from a certification that they are more knowledgeable with. Although they did find that customer knowledge did have a role to

play, the case could be that the customers were merely exposed to the dominant label in the market, thus this could lead the customers be aware of one logo instead of others. Liobikiene et al. (2016) performed a similar study, but in the context of purchase behavior, where a higher level of knowledge meant that a purchase was made. This may be the case where knowledge may have an impact on the customers. The purchasing aspect of customer's knowledge may impact their purchasing behavior, but not their perceptions in the case of organic certification standards.

The study did not show any relationship between customer trust and customer perception of organic certification standards, meaning that H2 was rejected. Although the hypothesis was rejected, a factor of the customer trust was found to have significant impact on customer perception. The third factor, where it was found that the customers' level of trust is linked with their level of knowledge about organic food standards had a positive relationship with customer perceptions of organic certification standards. The factor of customer trust may be impactful when put against customer knowledge Nuttavuthisit & Thøgersen (2015). The findings of Nuttavthisit & Thøgersen (2015), confirm that customer distrust is a direct consequence of the lack of customer knowledge of organic certification standards, thus the clear lack of establishing clear guidelines from the organic certification standard companies may be impacting factor, where the knowledge is hard to gain, thus the trust is severely impacted.

The third factor tested was if the presence of subjective norms had a positive influence on customer perception. It was found that subjective norms did not have a positive influence on customer perceptions of organic certification standards, and H3 was rejected. This is supported by the findings of Magistris & Graci (2012) who studied the Italian market, and found that the presence of subjective norms did not have a positive influence on customer perception of organic certification standards. Tarikiainen & Sundqvist (2005) support this claim, as they argue that the presence of subjective norms is overshadowed by the impact of customer knowledge and trust on customer perception. Although customer trust as a whole was found to not have an impact, the second factor of subjective norms was found to have significance. The opinion of organic foods was found to be linked with the customer's cultural background (e.g. whether they grew up in the city, countryside, etc.). Minton, Spielmann, Kahle & Kim (2018) studied different

cultures and found there to be a significance presence of subjective norms in the context of the second factor.

The fourth factor the study tested was if the increasing level of convenience has a positive impact on customer perceptions of organic certification standards. This was found to be false, thus H4 was rejected. The reasoning behind this may due to convenience level usually being linked to the value for a customer's money (Liobikiene et al. 2016). Convenience contributes to making the customers more familiar with their products, but that does not mean that it is convenient for the customers to buy the products (Kong et al. 2014).

The fifth and final factor the authors tested was to discover if the increasing level of customer confusion would have a positive impact on customer perception, and it was found not to be true. H5 was rejected as a result. The reason behind this may be the amount of certifications present in the Swedish market. In total there are six control and certification bodies in Sweden, with KRAV being used on 80% of organic products ("Sweden | IFOAM EU", 2019). This may have an impact on how customer confusion in Sweden is not as significant as Germany, where according to Drexler et al. (2017), there are hundreds of ecolabels and customer confusion between them may be a significant problem.

Other variables were tested and found that the gender and awareness of Demeter were found have a significant impact on customer perception of organic certification standards. In the case of gender, the findings showed that the more man a person was, the less positive perception of organic certifications they have. This may be due to a study conducted by Haselhuhn, Kennedy, Kray, Van Zant & Schweitzer (2015), where they found that women trust more than men following a trust violation. Although this is the case of a trust violation, a conclusion can be made that women tend to trust more than men (Haselhuhn, Kennedy, Kray, Van Zant & Schweitzer, 2015). This may be the reason why there is a significant relationship between gender and customer perception. The reasoning for people having awareness of Demeter and it having a significant impact on customer perceptions might have to do with the amount of certifications present in Sweden ("Sweden | IFOAM EU", 2019). As there are six certifications, it is easier for

them to obtain the information they need to form an opinion about a certification. As the authors found that Demeter has stricter standards than KRAV, the people that know about Demeter, might have a positive perception that implies that Demeter has significant impact on their perception.

6.2 Contributions

6.2.1 Theoretical Contributions

This thesis aimed to investigate the customer perceptions of organic certification standards, such perceptions including knowledge, trust, and subjective norms. The reason for choosing to conduct the study in accordance to the certifications standards, was that the authors did not find any other matching studies, unlike customer perceptions and purchasing behavior, which has been studied by Suh, Eves & Lumbers (2015) before. With the research the authors conducted into the customer perceptions of organic certifications, they suggest that more researchers analyze customer perceptions in accordance to other theoretical measures.

This research provides insightful theories about the certification standards of KRAV and Demeter, marking their differences clearly, and provides information about the standards they provide and any drawbacks whether one of them has. As Demeter does have more impact than KRAV, it may be important to for KRAV to be reworked, as it governs about 80% of the organic produce that is in Sweden ("Sweden | IFOAM EU", 2019). Having clearer standards that provide clear message of what they do and what they do not do could be the way to go, or to provide stricter standards, which were identified, would improve the significance of KRAV as an organic certification standard.

6.2.2 Empirical Contributions

The empirical contributions of this thesis is that it contributes to the field of customer perceptions and their relationships with organic certification standards. Previous research in this area was conducted by Suh, Eves & Lumbers (2015), who investigated how factors that determine why customers buy organic food. This study was done in the context of purchasing behavior of customers, but it did not investigate their perceptions of organic certification standards. An interesting contribution this study found was how gender, specifically how the more man an individual is less of a significant relationship they had

with customer perception and the awareness of the organic certification label Demeter, had a significant impact on the customer perception. These relationships may be important to understand which gender may be more informed and have more knowledge of certification standards, and how people who know about Demeter may be a positive relationship, due to the nature of how Demeter works as a label, with stricter standards set.

6.3 Limitations

As the study was based on a sample of university students in Sweden, ä generalization of the results is not possible, due to the research being conducted as non-probability sampling. The selected sample was chosen out of convenience to the authors and could not be used to generalize the whole population of the selected market due to it analyzing a specific group of people, in the authors' case, it was university students in Sweden. Due to the previous reason and time limitations, the sample size of the population collected should have been larger as it may lead to bias and generalizability without adequate quantitative backing. To further research this topic, expanding the number of participants in the study is an important factor, as it impacts the validity and reliability of the study.

Although the survey was successfully conducted and data was collected, a pilot survey was not run to ensure the questions asked were valid and made sense in the context of the study. For the survey content itself, the second part of the survey was designed in accordance to the Likert Scale, the third was not. This should have not been the case, as the use of the Likert Scale throughout the study would have proven to be a far more superior method to using the comparison of means analysis method. Using the Likert scale to measure customer perceptions would have allowed for a correlation analysis and a test of significance throughout the survey. Future studies may want to have this in the back of their heads as it is important for the study to be performed through the better methods.

6.4 Suggestions for Future Studies

Although the limitations mentioned above impact the study, it could still open up different doors to others studies to be performed. The scale of the study could be increased to analyze a number of different organic certifications and their standards. This may be

performed on country levels, and then expanded into larger economic zones (e.g. European Union), to study the effects on customer perceptions through the theory mentioned in the literature review. Furthermore, there may be other factors, which may impact customer perceptions, they may be taken into account and other forms of customer perceptions may be analyzed. Moreover, sub factors within the factors may be found and may have varying degrees of impact on the customers.

7. Reference list

Alecu, I., & Alecu, E. (2015). Biodynamic agriculture versus organic farming. *Journal Of Biotechnology*, *208*, 48-49. doi: 10.1016/j.jbiotec.2015.06.141

Al-Swidi, A., Mohammed, S.R.H, Haroon, M.H, & Noor, M.M.S. (2014). The role of subjective norms in theory of planned behavior in the context of organic food consumption. *British Food Journal*, *116*(10), 1561-1580. doi: 10.1108/bfj-05-2013-0105

Andersen, L., & Lund, T. (2014). Digging deeper: How do different types of organic consumers influence the increasing organic market share?. *British Food Journal*, *116*(1), 16-29. doi: 10.1108/bfj-07-2011-0186

Bain, C., & Selfa, T. (2017). Non-GMO vs organic labels: purity or process guarantees in a GMO contaminated landscape. *Agriculture And Human Values*, *34*(4), 805-818. doi: 10.1007/s10460-017-9776-x

Bengtsson, J., Ahnström, J., & Weibull, A. (2005). The effects of organic agriculture on biodiversity and abundance: a meta-analysis. *Journal Of Applied Ecology*, *42*(2), 261-269. doi: 10.1111/j.1365-2664.2005.01005.x

Bryman, A., & Bell, E. (2011). *Business Research Methods.* Oxford: Oxford University Press.

Cabaret, J. (2003). Animal health problems in organic farming: subjective and objective assessments and farmers' actions. *Livestock Production Science*, *80*(1-2), 99-108. doi: 10.1016/s0301-6226(02)00309-3

Canfora, I. (2006). Development of Organic Food Labelling Rules in the EU and in National Legislation. European Food and Feed Law Review, 1(3), pp.170-173. https://primo.library.ju.se/primo-explore/fulldisplay?docid=TN_jstor_sus_journals90008259&context=PC&vid=jul&lang=en_US&search_scope=jul_all&adaptor=primo_central_multiple_fe&tab=default_tab

&query=any,contains,eu%20organic%20labelling%20&facet=tlevel,include,peer_reviewed&offset=0

Carreño, I. (2012). EU and US Mutually Recognise their Respective Organic Standards and Control Systems as Equivalent. *European Journal Of Risk Regulation*, *3*(02), 225-227. doi: 10.1017/s1867299x00002087

Chen, Y., & Chang, C. (2012). Enhance green purchase intentions. The roles of green perceived value, green perceived risk, and green trust. Management Decision, 50(3), 502-520. doi: 10.1108/00251741211216250

Cohrssen, J., & Miller, H. (2016). The USDA'S meaningless organic label: the courts could end this deceptive marketing program. *Regulation*, *39*(1), 24-28. Retrieved from https://search-proquest-com.proxy.library.ju.se/docview/1787917470?rfr_id=info%3Axri%2Fsid%3Aprimo

Collins, J. and Hussey, R. (2014). *Business Research a practical guide for undergraduate and postgraduate students*. 4th ed. London: PALGRAVE.

Connelly, L. M. (2011). Cronbach's alpha. *Medsurg Nursing, 20*(1), 45-45, 44. Retrieved from http://proxy.library.ju.se/login?url=https://search.proquest.com/docview/851871291?accountid=11754

Dabbert, S., Lippert, C., & Zorn, A. (2014). Introduction to the special section on organic certification systems: Policy issues and research topics. *Food Policy*, *49*, 425-428. doi: 10.1016/j.foodpol.2014.05.009

Döring, J., Frisch, M., Tittmann, S., Stoll, M., & Kauer, R. (2015). Growth, Yield and Fruit Quality of Grapevines under Organic and Biodynamic Management. *PLOS ONE*, *10*(10). doi: 10.1371/journal.pone.0138445

EU Commission. (2007). *COUNCIL REGULATION (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation*

(EEC) No 2092/91[Ebook] (pp. 1-39). Retrieved from http://extwprlegs1.fao.org/docs/pdf/eur72928.pdf

Gleim, J. and Gleim, R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. [online] Available at: http://hdl.handle.net/1805/344 [Accessed 27 Apr. 2019].

Guion, D., & Stanton, J. (2012). Advertising the U.S. National Organic Standard: A Well-Intentioned Cue Lost in the Shuffle?. *Journal Of Promotion Management*, *18*(4), 514-535. doi: 10.1080/10496491.2012.668430

Haselhuhn, M., Kennedy, J., Kray, L., Van Zant, A., & Schweitzer, M. (2015). Gender differences in trust dynamics: Women trust more than men following a trust violation. *Journal Of Experimental Social Psychology*, *56*, 104-109. doi: 10.1016/j.jesp.2014.09.007

Heimler, D., Vignolini, P., Arfaioli, P., Isolani, L., & Romani, A. (2012). Conventional, organic and biodynamic farming: differences in polyphenol content and antioxidant activity of Batavia lettuce. *Journal Of The Science Of Food And Agriculture*, *92*(3), 551-556. doi: 10.1002/jsfa.4605

Hole, D., Perkins, A., Wilson, J., Alexander, I., Grice, P., & Evans, A. (2005). Does organic farming benefit biodiversity?. *Biological Conservation*, 122(1), 113-130. doi: 10.1016/j.biocon.2004.07.018

Holton, E. F., & Burnett, M. F. (2005). The basics of quantitative research. *Research in organizations: Foundations and methods of inquiry*, 29-44.

Janssen, M., & Hamm, U. (2012). The mandatory EU logo for organic food: consumer perceptions. *British Food Journal*, *114*(3), 335-352. doi: 10.1108/00070701211213456

Kahl, J., Baars, T., Bügel, S., Busscher, N., Huber, M., & Kusche, D. et al. (2012). Organic food quality: a framework for concept, definition and evaluation from the

European perspective. *Journal Of The Science Of Food And Agriculture*, *92*(14), 2760-2765. doi: 10.1002/jsfa.5640

Kong, W., Harun, A., Sulong, R., & Lily, J. (2014). The Influence of Consumers' Perception of Green Products on Green Purchase Intention. International Journal Of Asian Social Science, 4(8), 924-939.

KRAV. (2018). *Regler för KRAV-certifierad produktion utgåva 2018* [Ebook]. Uppsala. Retrieved from https://www.krav.se/wp-content/uploads/2018/09/kravs_regler_2018.pdf

Kröger, M., & Schäfer, M. (2014). Between Ideals and Reality: Development and Implementation of Fairness Standards in the Organic Food Sector. *Journal Of Agricultural And Environmental Ethics*, *27*(1), 43-63. doi: 10.1007/s10806-013-9444-0

Libguides.library.kent.edu. (2019). *LibGuides: SPSS Tutorials: One Sample t Test*. [online] Available at: https://libguides.library.kent.edu/SPSS/OneSampletTest [Accessed 5 May 2019].

Liobikienė, G., Mandravickaitė, J., & Bernatonienė, J. (2016). Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study. Ecological Economics, 125, 38-46. doi: 10.1016/j.ecolecon.2016.02.008

Løes, A., Bünemann, E., Cooper, J., Hörtenhuber, S., Magid, J., Oberson, A., & Möller, K. (2017). Nutrient supply to organic agriculture as governed by EU regulations and standards in six European countries. *Organic Agriculture*, *7*(4), 395-418. doi: 10.1007/s13165-016-0165-3

McCarthy, B., & Schurmann, A. (2018). Risky business: growers' perceptions of organic and biodynamic farming in the tropics. *Rural Society*, *27*(3), 177-191. doi: 10.1080/10371656.2018.1504734

Minton, E., Spielmann, N., Kahle, L., & Kim, C. (2018). The subjective norms of sustainable consumption: A cross-cultural exploration. *Journal Of Business Research*, *82*, 400-408. doi: 10.1016/j.jbusres.2016.12.031

Pallant, J. (2005). *SPSS survival manual: a step by step guide to data analysis using SPSS for WIndows (Version 12).* Open University Press.

Park, E. (2011) The Organic Food Method and Movement: An Interdisciplinary Reference Review, Community & Junior College Libraries, 17:3-4, 119-129, DOI: 10.1080/02763915.2011.628861

Polese, P., Del Torre, M., Venir, E., & Stecchini, M. (2014). A simplified modelling approach established to determine the Listeria monocytogenes behaviour during processing and storage of a traditional (Italian) ready-to-eat food in accordance with the European Commission Regulation N° 2073/2005. *Food Control*, *36*(1), 166-173. doi: 10.1016/j.foodcont.2013.08.026

Renko, N., Vuleti, A., & Butigan, R. (2010). ORGANIC FOOD MARKETING IN CROATIA - PRODUCER'S PERSPECTIVE. *International Journal Of Management Cases*, *11*(3), 71-79. doi: 10.5848/apbj.2010.00008

Roselli, L., Giannoccaro, G., Carlucci, D., & De Gennaro, B. (2017). EU quality labels in the Italian olive oil market: How much overlap is there between geographical indication and organic production?. *Journal Of Food Products Marketing*, *24*(6), 784-801. doi: 10.1080/10454446.2017.1413473

Smith, M., Smith, J., & Stirling, G. (2011). Integration of minimum tillage, crop rotation and organic amendments into a ginger farming system: Impacts on yield and soilborne diseases. *Soil And Tillage Research*, *114*(2), 108-116. doi: 10.1016/j.still.2011.04.006

Suh, B., Eves, A., & Lumbers, M. (2015). Developing a Model of Organic Food Choice Behavior. Social Behavior And Personality: An International Journal, 43(2), 217-230. doi: 10.2224/sbp.2015.43.2.217

Svenska Demeterförbundet. (2019). *Regler för Biodynamisk växtodling och djurhållning* [Ebook] (pp. 1-37). Järna. Retrieved from http://www.demeter.se/index.php?s=file_download&id=51

Sweden | IFOAM EU. (2019). Retrieved from https://www.ifoam-eu.org/en/sweden

Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, *107*(11), 808-822. doi: 10.1108/00070700510629760

Thamsborg, S. (2002). Organic Farming in the Nordic Countries – Animal Health and Production. *Acta Veterinaria Scandinavica*, *43*(Suppl 1), S7. doi: 10.1186/1751-0147-43-s1-s7

Trochim, W. (2006). *Social Research Methods - Knowledge Base - Reliability & Validity*. [online] Socialresearchmethods.net. Available at: https://socialresearchmethods.net/kb/relandval.php [Accessed 15 May 2019].

Tseng, S., & Hung, S. (2013). A framework identifying the gaps between customers' expectations and their perceptions in green products. *Journal Of Cleaner Production*, 59, 174-184. doi: 10.1016/j.jclepro.2013.06.050

Trujillo-Barrera, A., Pennings, J., & Hofek, D. (2016). Understanding producers' motives for adopting sustainable practices: The role of expected rewards, risk perception and risk tolerance. *European Review of Agricultural Economics*, *43*(2), 1–24.

Urfi, P., Kormosné Koch, K., & Bacsi, Z. (2011). Cost and profit Analysis of Organic and Conventional Farming in Hungary. *Journal Of Central European Agriculture*, *12*(1), 103-113. doi: 10.5513/jcea01/12.1.885

Vaarst, M., Padel, S., Hovi, M., Younie, D., & Sundrum, A. (2005). Sustaining animal health and food safety in European organic livestock farming. *Livestock Production Science*, *94*(1-2), 61-69. doi: 10.1016/j.livprodsci.2004.11.033

Vad är biodynamisk odling?. (2019). Retrieved from https://www.biodynamisk.se/om-biodynamiskt/odling-23042186

Vlahova, V., & Arabska, E. (2015). BIODYNAMIC AGRICULTURE - ECO-FRIENDLY AGRICULTURAL PRACTICE. *Novo Znanie*, *4*(2), 46-50. Retrieved from https://primo.library.ju.se/primo-explore/fulldisplay?docid=TN_doaj_soai_doaj_org_article_d705dc23835946bbb94a11fe93d53bd0&context=PC&vid=jul&lang=sv_SE&search_scope=jul_all&adaptor=primo_central_multiple_fe&tab=default_tab&query=any,contains,biodynamic%20farming&offset=0

Wang, Y., Li, C., Tu, C., Hoyt, G., DeForest, J., & Hu, S. (2017). Long-term no-tillage and organic input management enhanced the diversity and stability of soil microbial community. *Science Of The Total Environment*, *609*, 341-347. doi: 10.1016/j.scitotenv.2017.07.053

Wang, Y., Zhu, Z., & Chu, F. (2017). Organic vs. Non-Organic Food Products: Credence and Price Competition. *Sustainability*, *9*(4), 545. doi: 10.3390/su9040545

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, *48*(2), 311-325.

Zander, K., Padel, S., & Zanoli, R. (2015). EU organic logo and its perception by consumers. *British Food Journal*, *117*(5), 1506-1526. doi: 10.1108/bfj-08-2014-0298

Zanoli, R., Gambelli, D., & Solfanelli, F. (2014). Assessing Risk Factors in the Organic

Control System: Evidence from Inspection Data in Italy. *Risk Analysis*, *34*(12), 2174-2187. doi: 10.1111/risa.12244