Bug Appétit!

A qualitative research of purchase intentions towards insect-based products.
Master Thesis within Business Administration

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Abstract

Background A significant increase in the global food demand is expected to occur in the near future. Since the currently implied food system will not be able to meet this demand without impacting the environment negatively, it is crucial to consider alternative ways of producing food. Entomophagy thereby presents an approach that could be deployed to meet the future demand in an environmental and sustainable way. However, whereas multiple studies investigate consumers’ acceptance of insect-based products, little is known about their purchase intentions.

Purpose The purpose of this study is to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards insect-based products. In order to fulfill the purpose of this study, two research questions have been developed. Thereby, the Theory of Planned Behavior was chosen as a theoretical framework.

Method The research philosophy of this study adopted elements of both constructionism and interpretivism. Further, this study applied an abductive approach and a qualitative research design with an exploratory purpose. A total of three focus groups were conducted in order to explore purchase intentions towards insect-based products. In addition, a taste test was incorporated in each focus group to explore the participants’ reactions when given the opportunity to try an insect-based product. To adequately reach the selected target population, a combination of a self-selection sampling technique and a convenience sampling technique was employed. Lastly, a content analysis following a directed approach was applied in order to properly analyze the collected data.

Conclusion The empirical findings of this study suggest that eleven factors are contributing to the target populations’ purchase intentions towards insect-based products. Thereby, ten of these factors are connected to the components of attitude, subjective norm, and perceived behavioral control of the theoretical framework whereas the remaining factor was not categorized within these components. Regarding the conducted taste test, it was found that the large majority of the participants were willing to try. Further, the taste test showed that all participants followed their initial intentions.
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1 Introduction

The introductory chapter will provide a general introduction to the research topic of the present study. Throughout this chapter, the relevance of the chosen topic will be discussed by providing essential background information. Further, the purpose and the proposed research questions, as well as the delimitations and the contribution of the study, are presented.

1.1 Background

In the near future, humans will face a lack of nutritive resources (FAO, 2009). It is expected that the world's population reaches 9.7 billion in 2050, which represents a growth of 2.2 billion inhabitants over the next three decades (United Nations, 2017). Together with a strong expected growth in per capita income and urbanization, the population growth creates a combined effect which is expected to result in a significant increase in the global food demand of up to 70% by 2050 (FAO, 2009). In the fact of this, there will be an increasing pressure on the food system because natural resources will become more and more scarce (FAO, 2009). To meet this future demand, it is of utmost importance to consider the environmental sustainability of current food production practices (Garnett, 2013; Giovannucci et al., 2012). Even though meats supplied through conventional livestock breeding are good sources of high-quality protein for humans, particularly these food productions can impact negatively on the environment to an excessive degree (Charles et al., 2010; Pimentel & Pimentel, 2003). Entomophagy, which describes the consumption of insects by humans, presents an approach to provide proteins to the human kind at low environmental costs (Anankware, Fening, Osekre, & Obeng-Ofori, 2015; Yen, 2009). According to van Huis et al. (2013), entomophagy can be promoted for the following three reasons:

• Health: It can be stated that insects are nutritious due to their nutritional composition (proteins, good fats, calcium, vitamins, and energy) (Verkerk, Tramper, van Trijp, & Martens, 2007; Rumpold, & Schlüter, 2013; van Huis et al., 2013).
• **Environment:** Compared to other sources of protein, it can also be said that insects have several benefits for the environment (Lensvelt, & Steenbekkers, 2014) such as the emission of fewer greenhouse gases than most livestock productions (van Huis et al., 2013).

• **Livelihood:** Insects can be fed on organic waste streams (van Huis et al., 2013) and reared easily as well as efficiently in a rather small space and a short period of time (Gahukar, 2011; Rumpold & Schlüter, 2013). According to Yen (2010), entomophagy can, therefore, result in a more energy-efficient food production while conserving the environment. Regarding the fact that insect rearing, as well as harvesting, represents a low-tech and low-capital investment option, the production of insect-based products could offer livelihood opportunities for poorer sections of society (van Huis et al., 2013).

Although the consumption of insects as food is common in multiple areas of the world, such as Asia, Africa, and Latin America, entomophagy is rather unusual in the Western world (Anankware et al., 2015; van Huis et al., 2013). In 1999, DeFoliart argued that the origin of this phenomenon lies in the existence of a **major attitudinal barrier** towards the consumption of insects in Western societies. According to Yen (2010), this barrier is mainly caused by cultural factors since the view of insects as dirty, disgusting, and dangerous is entrenched in the Western psyche (Looy, Dunkel, & Wood, 2014). On the other hand, recent studies have shown that entomophagy becomes progressively accepted in Western societies (Caparros Megido et al., 2014; Lensvelt, & Steenbekkers, 2014; Looy, et al., 2014; Tan, Fischer, Tinchan, Stieger, Steenbekkers, & van Trijp, 2015).

Some companies have already detected the potential of insect-based products. Bagels & Beans, for example, is a Dutch franchisor operating in the Netherlands and Germany that offers a "Bugs Bagel" which includes unprocessed insects (Bagels & Beans, n.d.). Another example is the Finnish company Fazer, which introduced its crunchy insect bread baked with processed insects to Sweden's neighboring market unit of Finland in November 2017 (Fazer, n.d.).

However, little is known about the present **purchase intentions** of Western consumers towards insect-based products. Hence, gaining insights into the underlying factors influencing consumers' buying intentions towards the consumption of insects could help companies to develop and market insect-based products successfully.
1.2 Problem Statement

According to the Food and Agriculture Organization of the United Nations’ predictions, the food systems will continuously be pressurized in order to produce higher volumes to meet the demand (FAO, 2009). An excessive increase of livestock breeding to supply future populations with proteins would lead to environmental degradation as well as negative ecological and biodiversity-related effects (Machovina, Feeley, & Ripple, 2015). Furthermore, the consumption of livestock products would also increase public health problems (Friel et al., 2015; Machovina, et al., 2015). Thus, new, sustainable food systems have to be established to ensure an environmentally friendly provision of healthy proteins.

Replacing parts of the proteins obtained through the consumption of meat with insect-based substitutes thereby represents a strategic approach which would meet the challenges of developing sustainable food systems (Anankware et al., 2015; Garnett, 2013; van Huis et al., 2013; Yen, 2009, Yen, 2010).

However, as of today, insects are not consumed as food to a notable amount by Western societies. Since the factors influencing consumers’ purchase intentions towards insect-based products are unknown, it is of utmost importance to explore these determinants in furtherance of the consumption of insect-based products.

1.3 Purpose & Research Questions

In reaction to the earlier discussed facts, this study explores the underlying factors contributing to the purchase intentions towards eating insects - both consumed whole, as well as processed and unrecognizably incorporated into another product. The idea and the aim of this study emerged when it came to the authors' attention that there is a lack of research regarding purchase intentions towards insect-based products. Since the existing literature proposes that the culture consumers are part of contributes to their intentions, it got decided to concentrate on one culture, namely Swedes. Further, multiple studies found that individuals who are part of Generation Y are notably open-minded towards new products (Eisner, 2005; Tulgan, & Martin, 2001), which is why this study focuses on consumers belonging to this generational demographic group.
Therefore, the purpose of this study is to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards insect-based products.

In order to fulfill the purpose of this thesis, the following two research questions have been formulated and will thus function as a guideline for this study:

- **RQ1**: Which factors impact the purchase intentions of Swedish university-attending Generation Y consumers towards insect-based products?
  
  - Objective: to identify factors contributing to the target population’s purchase intention towards insect-based products, which have not been identified prior to the conduction of this study.

- **RQ2**: How do Swedish university-attending Generation Y consumers react when given the choice to try an insect-based product?
  
  - Objective: to examine the reactions of the target population when confronted with an insect-based product. This question was included in the study due to the extremely limited availability of insect-based products in Sweden, which indicated that Swedish consumers’ might not have been confronted with insect-based products to a large extent.

Further, it is the goal of this study to deliver valuable insights to marketers planning to develop and market insect-based products. To achieve this goal, the research follows an exploratory design using primary, qualitative data collected through focus group interviews.

### 1.4 Delimitations

This research will solely examine insect-based products as an alternative source of protein. Therefore, the results of this study cannot be expected to explain consumers’ determinants affecting their purchase-intentions towards all alternative sources of protein such as e.g. legume- or soy-based products.

The empirical data collected in this study was exclusively gathered from individuals enrolled at Jönköping University in Jönköping, Sweden. Moreover, the target population will solely contain Swedish students of the generational demographic Generation Y.
Therefore, the results of this research cannot be expected to present findings of other generational demographics.

Furthermore, the present study will concentrate on the target populations’ purchase intentions only and therefore does not aim to examine consumers’ actual behavior.

1.5 Contribution of the Research

Previous research regarding entomophagy has primarily focused on the benefits and risks concerning the consumption of insects as food (Mlcek, Rop, Borkovcova, & Bednarova, 2014; Rumpold, & Schlüter, 2013; Verkerk, et al., 2007). Furthermore, studies within the field of consumer behavior regarding the consumption of insect-based products have tended to focus mainly on consumers’ receptiveness (Myers, & Pettigrew, 2018), acceptance (Barrena, & Sánchez, 2012; Caparros Megido et al., 2014; House, 2016; Lensvelt, & Steenbekkers, 2014; Sogari, 2015; Tan et al., 2015) and readiness (Verbeke, 2015) to consume insect-based products rather than on individuals’ actual purchase intentions and the factors contributing to the formation of these intentions. In addition, none of the available studies have focused specifically on younger individuals, such as Generation Y.

The practical contributions of this thesis are reflected in the findings derived from the research which provide valuable information for various stakeholders who are interested in amassing insights about the underlying factors affecting purchase intentions towards insect-based products among Swedish Generation Y consumers. Marketers can make use of the knowledge acquired from the outcomes of this study to develop consumer appealing approaches in terms of insect-based product development and marketing. Furthermore, this thesis aims to raise awareness concerning the benefits that come with the consumption of insects by providing valuable information about entomophagy to its readers. The theoretical contribution of this study provides a comprehensive understanding of the investigated field and therefore represents an orientational point for future researchers to explore additional aspects.
1.6 Definition of Key Words

Key words for this study are presented below in alphabetical order:

**Attitude**
Attitude can be defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly, & Chaiken, 1993, p. 1). According to Allport (1954), attitudes consist of three distinct but inter-related components, namely cognitive-, affective-, and behavioral components. The cognitive component describes what people think about the attitude object and thus involves an individual’s beliefs and knowledge, whereas the affective component relates to what people feel and their emotions about the attitude object (Allport, 1954). The behavioral component concerns how people act towards the attitude object (Allport, 1954).

**Consumer buying behavior**
Ertemel and Ammoura (2017) define consumer buying behavior as a process where individuals search for, select, purchase, use and adapt to goods and services in order to satisfy their needs.

**Entomophagy**
The roots of the term entomophagy originate from the Greek language; éntomon means "insect" and phagein stands for "to eat" (Testa et al., 2017). Today the term entomophagy is universally used to describe the consumption of insects as food by humans (Myers, & Pettigrew, 2018).

**Food system**
The Food and Agriculture Organization of the United Nations defines a food system as a system which comprises all stages involved in keeping a population fed (FAO, n.d.). Therefore, a food system starts with the first stage of growing and ends with the stage of disposing of food. In between, a food system further includes stages such as harvesting, processing, marketing, as well as consuming. (FAO, n.d.).

**Generation Y**
This generational demographic “(…) denotes those people born between 1981 and 1999” (Heery, & Noon, 2009). Also referred to as “Millennials”.
Insect

Insects belong to the class of animals within the arthropod group which is characterized by a chitinous exoskeleton, a three-part body, three pairs of jointed legs, two antennae and compound eyes. The word insect originates from the Latin word insectum, which stands for “with a notched or divided body” (van Huis et al., 2013, p.1).

Purchase

Intention

Purchase intention can be seen as a form of decision-making which studies the reasons behind a consumers’ intent to purchase a product/service. Moreover, the term can be further defined as a situation and a complex process that is commonly related to the behavior, perceptions, and attitudes among consumers (Mirabi, Akbariyeh, & Tahmasebifard, 2015).
2 Literature Review

The aim of this chapter is to introduce the reader to relevant literature and the theoretical base of this study. Thereby, the chapter starts off by reviewing literature regarding consumer behavior before presenting the relevant theory, the Theory of Planned Behavior by Ajzen (1991), which has been used as the theoretical framework of this study. Subsequently, relevant literature regarding food consumption and the behavior of Generation Y consumers is reviewed. The last sections of this chapter concentrate on providing valuable knowledge about entomophagy to the reader by presenting general aspects, available literature, as well as the benefits of the consumption of insects.

2.1 Consumer Behavior

Consumer behavior represents an inter-disciplinary social science which has always been an area of major interest for researchers (MacInnis, & Folkes, 2010). According to Solomon (2009, p. 33), the term of consumer behavior can be described as “(…) the study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires”. These processes involve the dynamic interaction of many different elements such as affect, cognition, conation, as well as personal and environmental factors (Sethna, & Blythe, 2016), which consequently underlines the complexity of the overall topic. Although consumer behavior is important from a large number of different points of view, this thesis concentrates on the field of marketing.

From the perspective of marketing, it is crucial to understand consumers’ behavior since consumers represent a major determining factor regarding the success of an enterprise (Kotler, Keller, Brady, Goodman, & Hansen, 2016). The main purpose of marketing a product or a service is to satisfy demands and wants of consumers (Solomon, 2009; Sethna, & Blythe, 2016). Therefore, the study of consumer behavior helps marketers to understand which factors contribute to consumers’ buying decisions and further unveil their needs to enable them to develop products and services which directly address these needs and consequently provide value to the consumers (Solomon, 2009). Moreover, the understanding of consumers’ behavior allows enterprises to develop strategies concerning when, where, and how products and services should be offered in order to meet the
demands and wants of their targeted group of individuals (Venkatesan, & Kumar, 2004). Consequently, the more precise an analysis of consumers’ behavior is conducted, the more exact can enterprises market their products and services in order to drive the performance of the overall business.

However, the behavior of consumers does not only differ from individual to individual but also in regard to the product or service being offered (Solomon, 2009). Consequently, investigating consumers’ behavior depicts a challenging and complex task.

As of today, multiple models following different approaches while aiming to examine and describe consumers’ behavior exist. Maslow’s (1943) Theory of Human Motivation, for example, puts forward that individuals act in order to fulfill their needs based on a five-part priority system. The economic model of consumer behavior, which is based on Alfred Marshall studies, assumes consumers to be rational in their decision-making by following the law of diminishing marginal utility (Marshall, 2005). Hence, this theory aims to investigate consumer behavior based on economic indicators such as individuals’ purchasing power and the prices of substitutional products (Marshall, 2005). In comparison to this, other models, such as Stern’s (1962) Impulse Buying Theory, emphasize that consumers’ purchasing behavior consists not only of rational decision-making but is further influenced by buying impulses. The Theory of Reasoned Action (TRA), on the other hand, centers its analysis on the effect of pre-existing attitudes and subjective norms on consumers’ decision-making process (Ajzen, & Fishbein, 1980). Further, the core of this theory posits that consumers’ intention towards a behavior is the best predictor of their actual behavior (Ajzen, & Fishbein, 1980). In 1991, Ajzen extended the Theory of Reasoned Action and thereby introduced the Theory of Planned Behavior, which is considered one of the most widely adopted and well-known theories in the field of social psychology (Conner, & Armitage, 1998; Greve, 2001).

However, even though the previous paragraph only briefly listed some of the many existing consumer behavior theories, it highlighted that various different approaches in investigating consumers’ behavior exist.

Since the present study aimed to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards insect-based products, the Theory of Planned Behavior, which focuses on consumers’ intentions, was
chosen as a theoretical framework. In order to introduce this theoretical framework, the following section will thoroughly describe the Theory of Planned Behavior.

2.1.1 Theory of Planned Behavior

The Theory of Planned Behavior (TPB), which was proposed by Ajzen in 1991, intends to predict and explain consumer behavior. Thereby, the theory is based on the hypothesis that the best predictor of behavior is the behavioral intention (Bellisile, 2006).

The theory itself is an extension of Ajzen and Fishbein’s Theory of Reasoned Action which was developed in 1980. Even though both theories can be used to investigate consumers’ behavioral intention and behavior, they differ in terms of their scope. While the TRA model is solely based on the two human cognitions of attitude and subjective norm, the TPB also takes the perceived behavioral control into account (Rossmann, 2010).

It is the TPB’s main objective to predict a certain consumer behavior by understanding its causes (Armitage, & Christian, 2003). Thereby, an individual’s intention, which represents the motivational factors influencing its behavior, builds the most important factor of the model (Ajzen, 1991; Conner, & Armitage, 1998). According to the TPB, the three components of attitude, subjective norm, and perceived behavioral control contribute to the formation of intentions (Ajzen, 1991), which will be further defined in the following:

- **Attitude** can be defined as “The degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p. 188). This component is a function of the elements of behavioral beliefs and outcome evaluations (Mathieson, 1991).

- **Subjective norm** is characterized as “the perceived social pressure to perform or not to perform the behavior” (Ajzen, 1991, p. 188). Hence, this element relates to a consumer’s beliefs about whether others want him or her to engage in the behavior or not (LaMorte, 2016).

- **Perceived behavioral control** describes “the perceived ease or difficulty of performing the behavior” (Ajzen, 1991, p. 188) of interest. The TPB assumes that past experiences, anticipated impediments, as well as situational factors, have an
influence on an individual's perceived behavioral control (Ajzen, 1991; LaMorte, 2016).

As can be seen in Figure 1, intention represents a function of the aforementioned components (Ajzen, 1991). Consequently, the theory proposes that an individual’s intention to perform a behavior at a specific time and place will be stronger if the individual has a favorable attitude, engaging subjective norms, as well as a high level of perceived behavioral control regarding the behavior (Ajzen, 1991). However, the influence of the three aforementioned components on a consumer’s intention may vary depending on the anticipated behavior (Ajzen, 1991). Regarding the actual behavior, the TPB suggests that there is a direct correlation between intentions and actions (behavior), meaning that the higher the intention to perform a certain behavior, the more likely the actual performance of the behavior (Ajzen, 1991).

Figure 1: Theory of Planned Behavior

Even though the TPB has been developed to predict and explain consumers’ behavior (Ajzen, 1991), the fact that the theory proposes that behavioral intention predicts actual behavior underlines its applicability for research concerning individuals’ intentions. Since
the purpose of this study is to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards the consumption of insect-based products, the TPB presents a suitable theoretical framework to fulfill this purpose and further answer the proposed research questions. Hence, this study supposes that the target population’s attitudes, subjective norms, and perceived behavioral control influence their purchase intentions and further concentrates on unveiling factors which contribute to the formation of the aforementioned components and thus the formation of purchase intentions. Thereby, the TPB is applied to allow the collection of qualitative data by acting as a base for the development of a discussion guide and consequently allowing the authors to link back the findings to the original model.

However, since this study concentrates on exploring the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards the consumption of insect-based products, it is crucial to gain insights about how consumers make choices regarding their food consumption, which will be presented in the following section.

2.1.2 Food Consumption

Food consumption plays a central role in the life of every individual since it presents the source of nutrition and hedonic experiences and further serves social and cultural functions (Steenkamp, 1993). However, the study of food consumption behavior is characterized by a high complexity resulting from various influential factors contributing to consumers’ food choices (Koszewski, & Kuo, 1996).

*Figure 2* depicts the taxonomy of determinants of food consumption behavior proposed by Bellisle (2006), which distinguishes between *biological, economic, physical, social, and psychological determinants* and *attitudes, beliefs, and knowledge*. 
Thereby, the category of biological determinants relates to physiological effects as well as sensory aspects (Bellisle, 2006). Generally speaking, food is consumed by human beings in order to provide them with nutrition and hence enable their organisms to function. However, different food products fulfill this physiological need to different degrees depending on their nutritional composition. Eating high-calorie products, for example, reduces hunger more than the consumption of low-calorie products (Steenkamp, 1993). Consequently, consumers tend to consume more energy-rich foods when hungry than when sated (Booth, 1982), which indicates that both the feeling of hunger and the nutritional composition of a food product influence consumers’ food consumption behavior. Regarding the sensory properties of food products, multiple studies have shown that a product’s perceived taste as well as its appearance and texture are important determinants of an individual’s food consumption (Bellisle, 2006; Glanz, Basil, Maibach, Goldberg, & Snyder, 1998; McCrickerd, & Forde, 2016; Neumark-Sztainer, Story, Perry, & Casey, 1999; Pilgrim, 1957; Steenkamp, 1993; Traill, 1999). Concerning taste, a liking for sweetness and a dislike for bitterness are considered innate human traits which are present from birth (Steiner, 1977) whereas individual taste preferences evolve over time through experiences and are influenced by attitudes as well as personal beliefs and expectations (Clark, 1998).
In addition to biological determinants, economic and physical determinants influence consumers’ food consumption behavior (Bellisle, 2006). Thereby, the cost of food is considered to be a primary determinant of an individual’s food choice (Bellisle, 2006; Glanz et al., 1998). However, whether the costs of food products are prohibitive to consumers fundamentally depends on an individual’s income (Bellisle, 2006; Traill, 1999). Consequently, consumers who are part of low-income groups have a greater tendency to consume unbalanced diets than consumers who have higher income levels (De Irala-Estevez, Groth, Johansson, Oltersdorf, Prättälä, & Martinez-González, 2000). Additionally, the availability of food products contributes to consumers’ food consumption behavior (Bellisle, 2006; Shepherd, & Raats, 2006).

The fourth category of determinants of food consumption behavior concerns social and cultural determinants. Social influences on food intake refer to the impact that other individuals have on consumers, which can occur either direct, indirect, conscious, or subconscious (Bellisle, 2006; Feunekes, de Graaf, Meyboom, & van Staveren, 1998). Conducted studies have shown that social support can contribute positively to consumers’ food choices and healthful dietary changes (Berkman, 1995; Devine, Connors, Sobal, & Bisogni, 2003; Sorensen, Stoddard, & Macario, 1998). Thereby, the social groups of family and friends have been recognized as being significant regarding individuals’ food decisions and dietary changes (Anderson, Cox, McKellar, Reynolds, Lean, & Mela, 1998; Bellisle, 2006). However, also other social groups, such as peers, which consumers encounter during different social settings in their everyday lives have been identified as influential (Bellisle, 2006; Devine et al., 2003).

In addition to the aforementioned determinants, also cultural determinants contribute to consumers’ food consumption behavior. Cultural influences lead to the emergence of habitual preparation and consumption of foods and can further lead to exclusions of specific foods in diets (Bellisle, 2006). Multiple studies have identified the influence of cultures on consumers’ overall food choices (Lennernäs et al., 1997; Pollard, Kirk, & Cade, 2002; Prescott, Young, O’neill, Yau, & Stevens, 2002). Consequently, cultural factors can be seen as guiding the consumption of individuals (Steenkamp, 1993; Traill, 1999). However, cultural influences are amenable (Bellisle, 2006). This is especially the case when individuals stay in or move to countries which exhibit different cultural food
habits since they tend to blend in with local cultures by adopting their food practices (Cohen, & Aveli, 2004).

The fifth category of determinants regarding consumers’ food consumption behavior concerns *psychological factors*. Thereby, the psychological factor of stress has been identified to have an influence on individuals’ food intake (Oliver, & Wardle, 1999; Zellner, Loaiza, Gonzalz, Pita, Morales, Pecora, & Wolf, 2006). However, the effect of stress on food consumption behavior varies from individual to individual and further depends on the stressor (Bellisile, 2006). Hence, the experience of stress can lead to either an increase or decrease of a consumer’s food intake, depending on the circumstances (Oliver, & Wardle, 1999). In addition, it has been recognized that an individual’s mood influences its food consumption and vice versa (Bellisile, 2006; Christensen, 2001).

The last category identified to influence food consumption behavior concerns *attitudes, beliefs, and knowledge*. Thereby, the formation of attitudes results from the multiplication of beliefs with their evaluations (Aertsens, Verbeke, Mondelaers, & Van Huylpenbroeck, 2009). Further, these attitudes can be influenced by other determinants and vice versa, which underlines the interconnection of the identified categories (Bellisile, 2006). Additionally, multiple studies have shown that an individual’s knowledge influences its food consumption behavior (Aertsens, Mondelaers, Verbeke, Buysse, & Van Huylpenbroeck, 2011; Bellisile, 2006; Kearney, Kearney, Dunne, & Gibney, 2000; Zhu, & Xie, 2015). Further, Aertsens et al. (2011) and Zhu and Xie (2015) found that the knowledge a consumer is able to retrieve concerning a food product influences its attitude towards the certain product. In this context, conducted studies identified different dimensions of knowledge to affect consumers’ attitudes, such as knowledge regarding the country of origin (Hoffmann, 2000), the sustainability (Pelletier, Laska, Neumark-Sztainer, & Story; 2013; Vermeir, & Verbeke, 2006), and the nutritional composition (Crites, & Aikman, 2005) of food products.

In order to conduct a study focusing on the target population’s purchase intentions towards insect-based products, it is crucial to gain insights into their behavior. Therefore, the following section summarizes findings of available and relevant literature regarding the behavior of the generational demographic group Y.
2.1.3 Generation Y: Taking a glance at their behavior

As already defined, in this study, Generation Y refers to the generational demographic group of “(...) those people born between 1981 and 1999” (Heery, & Noon, 2009). As of today, these individuals are between 19 and 37 years old and represent a well-educated and highly active part of the population on the marketplace (Noble, Haytko, & Philips, 2009; Syrett, & Lammiman, 2003). Additionally, this generation, which is born and raised by Baby Boomers, grew up in a consumption-driven environment (Morton, 2002) and now has an enormous spending power (Kennedy, 2001; Taylor, & Cosenza, 2002), which underlines the importance for marketers to gain insights about their behavior.

Noble et al. (2009) found that Generation Y consumers’ behavior is influenced by socialization issues, which refers to gaining freedom by taking key decisions by their own while backing away from parental influence in order to fit in relevant groups and further finding oneself through the consumption of certain products. Additionally, the study found that Generation Y consumers’ consumption behavior is influenced by their aspired extend of attracting attention in their day-to-day lives whereby products are consumed to either show a sense of self (stand out) or to fit in one’s peer group (blend in) (Noble et al., 2009).

Further, multiple studies identified that Generation Y consumers emphasize value-seeking when making purchase decisions (Noble et al., 2009; Morton, 2002; Valentine, & Powers, 2013). Hence, the consumers focus on attempting to find the best price/quality relationship in their purchases. Additionally, Eisner (2005) and Tulgan and Martin (2001) found that Generation Y consumers are more open-minded towards and attracted by new products on the market than other generational demographic groups.

Growing up in a technology-dominated era, Generation Y consumers are adept with computers and the internet and are savvy with digital media (Valentine, & Powers, 2013). Thus, they are rather seeking for condensed and concise information online than being seduced by classical marketing and sales pitches (Morin, 2013). Thereby, social media networks play a crucial role as sources for information (Bolton et al., 2013). In this context, Bolton et al. (2013) found that Generation Y consumers are more likely to value others’ opinions on social media than older age groups, which underlines the influence of social media on Generation Y’s behavior.
2.2 Entomophagy: General Aspects

While about one million of the 1.4 million described animal species on earth are insects, providing accurate figures on the number of edible insect species around the globe is rather difficult due to two major reasons: firstly, biologists are not available at every geographical location of the world and it is unlikely that laymen are able to define insects by their Linnaean taxonomy (biological classification) (van Huis et al., 2013). Secondly, different vernacular names are used for the same species of insects, which results in immense complexity (van Huis et al., 2013). Nevertheless, Jongema (2017) conducted a worldwide inventory using available literature, which concluded that as of April 2017 there were over 2,111 recorded edible insect species. Figure 3 illustrates Jongema’s (2017) findings of recorded edible insect species per country.

*Figure 3: Recorded Edible Insect Species per Country*

![Map of recorded edible insect species per country](image)

*Source: Own representation based on Jongema (2017)*

Entomophagy does not represent a new concept in many parts of the world. From the consumption of ants and beetle larvae by African and Australian tribes as part of their subsistence diets to the popular, crunchy-fried locusts and beetles eaten in Thailand, it is estimated that insects are included in traditional diets of over 2 billion people (van Huis et al., 2013). However, the ways in which insects are consumed vary greatly. While some insects are consumed in their larval or pupal stages, others are only consumed in mature stages (Cerritos, 2009). Additionally, insects can be either consumed as a whole or in a
processed form. While the consumption of whole insects does not require a lot of prior preparations of the insects, the processing of insects includes procedures such as grinding or milling (van Huis et al., 2013). The end-products of such productions are mostly protein-based intermediates in granular- or paste forms used to enrichen other products (van Huis et al., 2013).

Overall, insects are considered a traditional source of food in around 100 countries (DeFoliart, 1999; Durst, Johnson, Leslie, & Shono, 2010), which shows that entomophagy is practiced at many locations in the world. Nevertheless, a clear pattern concerning the practice of eating insects exists. Generally, entomophagy is commonplace in the tropics, whereas it tends to be absent in temperate zones (van Huis et al., 2013). According to available literature, this is due to the fact that insects occur in larger sizes, congregate in larger numbers, and are available year-round in tropical zones, which consequently facilitates the harvesting process and further makes them a reliable source of nutrition for local populations (Gaston, & Chown, 1999; Kirkpatrick, 1957; van Huis et al., 2013).

However, since this study focuses on Swedish consumers, the following section concentrates on delivering information regarding the practice of entomophagy in Europe and further reviews available literature concerning the consumption of insects in Europe.

2.2.1 Entomophagy in Europe

Food practices are influenced by cultural aspects, which in turn have been influenced historically by religious beliefs (van Huis et al., 2013). The practice of eating insects is cited throughout the sacred scriptures of Europe’s most common religions:

- **Bible (old testament) and Torah:** “Yet among the winged insects that go on all fours you may eat those that have jointed legs above their feet, with which to hop on the ground” (Leviticus 11:21). “Of them you may eat: the locust of any kind, the bald locust of any kind, the cricket of any kind, and the grasshopper of any kind” (Leviticus 11:22).

- **Sunan ibn Majah:** “Locusts are Allah’s troops, you may eat them (Sunan ibn Majah, 4.3219, 3220).”
Nevertheless, entomophagy has never taken place in Europe to a considerable extent (Anankware et al., 2015; DeFoliart, 1999; van Huis et al., 2013). The reason for this phenomenon likely lies in the fact that Europe’s food production led to the domestication of an increasingly wide variety of plants and animals over the course of time (van Huis et al., 2013). As stated by Shepherd and Raats (2006, p. 19), “The plain fact is that the biggest determinant of what an individual eats is availability. One eats what is there, and more critically, one does not eat what is not there”. Thus, the progressive improvement of farming procedures in combination with insects’ seasonal availability in the temperate zones of Europe possibly contributed to the loss of interest in consuming insects (DeFoliart, 1999). Additionally, insects have become perceived as nuisances and threats to both humans as well as food productions over the course of time (van Huis et al., 2013). The result of this historically developed negative attitude towards insects is that Western societies nowadays view insects as dirty, disgusting and dangerous (Looy et al., 2014; Rozin, & Fallon, 1987) and further perceive the practice of eating insects to be associated with primitive behavior (Vane-Wright, 1991; Ramos Elorduy, 1997; Tommaso Ponzetta, & Paoletti, 1997). Hence, multiple researchers argue that a major attitudinal barrier towards entomophagy arose among most Western countries over the course of time (DeFoliart, 1999; Cerritos, 2009; van Huis et al., 2013; Yen, 2010).

However, despite the abovementioned facts, the topic of entomophagy has only recently started to receive more attention in Europe and other Western societies (van Huis et al., 2013).

As of today, multiple studies and researches on entomophagy have been conducted but were mostly related to consumers’ receptiveness (Myers, & Pettigrew, 2018), acceptance (Barrena, & Sánchez, 2012; Caparros Megide et al, 2014; House, 2016; Lensvelt, & Steenbekkers, 2014; Shelomi, 2015; Sogari, 2015; Tan, Fischer, Tinchan, Stieger, Steenbekkers, & van Trijp, 2015) and readiness (Verbeke, 2015) to consume insect-based products. Further, a focus of research has been on the acceptance and rejection of novel foods (Martins, & Pliner, 2005) and the attractiveness of meat substitutes (Schösler, De Boer, & Boersema, 2012), which also comprise insect-based products.

Whereas the conducted studies have focused on similar research areas, the findings are not fully consistent but overlap to a certain degree. The following paragraphs present the most relevant determinants identified by the aforementioned studies.
Since insects are introduced to European societies as new foods which are not traditionally eaten nor accepted as food, they are considered as novel food. Generally speaking, these novel foods are confronted with a rather low consumer acceptance due to neophobia (Caparros Megido et al., 2014). Barrena and Sánchez (2012) found that neophobic consumers tend to eat what they already know and thus dissociate themselves from the consumption of unfamiliar food, which is also aligned with the aforementioned quotation of Shepherd and Raats (2006). Further, Martins and Pliner (2005) stated that neophobia, as well as the feeling of disgust, are generally stronger towards animal-based novel foods compared to non-animal-based novel foods, whereas Verbeke (2015) identified neophobia as the most determinant factor concerning the willingness to consume insects.

Regarding consumers’ acceptance towards edible insects, Tan et al. (2015) conducted a cross-cultural study by carrying out focus groups in the Netherlands, where insects are not generally perceived as food, and Thailand, where insects are part of the local food culture, to explore how cultural exposure and individual experience influence the evaluation of insects as food. The results of their study revealed that both cultural exposure and individual experience can increase the willingness to try edible insects (Tan et al., 2015). Regarding the influence of other individuals, Sogari (2015) identified that not only the culture a consumer is part of but also its friends and family influence the willingness to try insects. Further, Tan et al. (2015) explored that especially participants who have limited or no experience in consuming insects are willing to try them out of curiosity (Tan et al., 2015). Sogari (2015), Caparros Megido et al. (2014), and Myers and Pettigrew (2018) also identified curiosity as a factor which influences consumers’ willingness to try insect-based products and further found that the curiosity regarding entomophagy and the connected desire to try is reasoned by the interest the topic arises due to its novel characteristic in Western societies. However, it was also found that curious consumers who decided to try insect-based products tended to reject insects as food if their first consumption did not meet their expectations (Tan et al., 2015). Additionally, Tan et al. (2015) found that the taste of insect-based products depicts another determinant that influences consumers’ acceptance of entomophagy, which has also been identified by the studies of Lensvelt and Steenbekkers (2014) and Schösler et al. (2012). Further, House (2016) and Myers and Pettigrew (2018) were able to unveil
that taste plays an important role regarding the repeat consumption of insect-based products.

Another study conducted by Caparros Megido et al. (2014), investigated the acceptance of Belgian consumers towards entomophagy. Their study showed that younger individuals tended to know less about entomophagy than older ones (Caparros Megido et al., 2014). Furthermore, the large majority (80%) of the respondents of the study were willing to try insects (Caparros Megido et al., 2014). Since the majority of respondents expressing their willingness towards trying insects consisted of older age classes, the authors were able to justify the willingness to try by the available knowledge (Caparros Megido et al., 2014). However, the study also found the overall knowledge on entomophagy to be low, which is aligned with the findings of Myers and Pettigrew (2018).

Moreover, since the research of Caparros Megido et al. (2014) included various preparations of whole insects, the authors were also able to find that the texture of whole insect preparations has an influence on consumers’ willingness to try. Thereby, it was found that consumers prefer whole insects prepared in a way that leads to “cross” textures over “soggy” textures (Caparros Megido et al., 2014). Schösler et al. (2012), Martins and Pliner (2006), and Myers and Pettigrew (2018) also identified the texture of insect-based products to influence the acceptance and receptiveness of consumers. However, the latter studies differentiated between whole insects and processed insect preparations and consequently found that products including unprocessed, visible insects were less accepted whereas products including processed and unrecognizably incorporated insects were subject to a higher acceptance.

In addition to the aforementioned determinants, Hoek (2010) and Siegrist (2008) found that the price of novel food products has an influence on consumers’ acceptance of these products. Further, Lensvelt and Steenbekkers (2014) identified that this is also the case for novel food products containing insects.

Lastly, House (2016) and Shelomi (2015) found that consumers’ acceptance of insect-based products is impacted by their availability. Moreover, the aforementioned studies were able to identify that the extremely limited availability of insect-based products not only impedes consumers to consume them but further leads to a passive rejection.
Nonetheless, as of today, no research concerning consumers’ purchase intentions towards insect-based products is available, which underlines this study's aim to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards entomophagy.

However, in order to conduct a research within the field of entomophagy, it is crucial to gain more insights about the topic. Therefore, the following section provides information about the benefits of entomophagy.

2.2.2 Benefits of Entomophagy

The overall benefits of the consumption of insects are thoroughly presented in the available literature. In general, there are various reasons supporting the fact that insects are a valuable choice of food. Van Huis et al. (2013) stated that insects can be promoted as food due to health-, environmental-, and livelihood-related aspects.

Although the nutritional value of insects varies greatly between different species and development stages, edible insect species are generally considered to be a healthy source of food (Mlcek et al., 2014; van Huis et al., 2013; Rumpold, & Schlüter, 2013; Verkerk et al., 2007). According to Mlcek et al. (2014), insects represent a valuable, energy efficient source of protein for humans. This is because insect-based protein is of high quality, contains essential amino acids, and is further highly digestible (Ramos Elorduy, 1997). Moreover, the fat content of edible insects shows a higher amount of essential, good quality fatty acids (especially Omega-3 fatty acids) compared to other animal fats (Chen, Feng, & Chen, 2009; Yang, Siriamornpun, & Li, 2006) and the overall amount of carbohydrates, mainly formed by the chitin included in insect’s exoskeleton, is rather low (Mlcek et al., 2014). In addition, edible insects are also rich in mineral elements (Mlcek et al., 2014). Even though the vitamin content of insects is extremely dependent on the species, development stage, and diet of the insects, it can be said that edible insects are a rich source of vitamins (especially B-vitamins) (Akinnawo, & Ketiku, 2000; Mlcek et al., 2014).

Another health benefit of insects lies in their taxonomic distance from humans. Intensive high-density productions of animals represent the initiating factor for many significant health issues since zoonotic diseases (infections or infestations shared by humans and
animals) can be transmitted through the consumption of livestock products (van Huis et al., 2013). Examples of these are Ebola and bovine spongiform encephalopathy (BSE). Considering the fact that “(...) insects are taxonomically much more different from humans than conventional livestock, the risk of zoonotic infections is expected to be low” (van Huis et al., 2013, p. 66). However, it needs to be acknowledged that more research in this field is needed and that the breeding and consumption of insects could bring other health-related risks such as allergies (van Huis et al., 2013). Therefore, food safety including hygiene standards and appropriate processing methods have to be developed and implemented to reduce these risks (Rumpold, & Schlüter, 2013).

Due to the fact that agriculture nowadays represents the leading cause of anthropogenic-evoked climate change (Sachs, 2010) and the FAO’s (2009) prediction stating that the global demand of livestock protein-based products is expected to more than double until 2050, it is obvious that new sources of protein have to be taken into consideration to meet this future demand in a more environmentally friendly way. The breeding of edible insects depicts a way to achieve this goal since it shows higher efficiencies in terms of feed, water, and space compared to the breeding of traditional livestock (Rumpold, & Schlüter, 2013; van Huis et al., 2013).

As the global demand for livestock-based protein rises, so too does the amount of feeds necessary for production (van Huis et al., 2013). Therefore, it is important to take into account the feed-conversion efficiency of bred animals which indicates “(...) an animal’s capacity to convert feed mass into increased body mass (...)” (van Huis et al., 2013, p. 59). According to Smil (2002), chicken requires 2.5 kg of feed to gain 1 kg of live animal weight, whereas pigs require 5 kg and cattle 10 kg to achieve the same increase in weight. In comparison to this, insects require far less feed and additionally can be fed on organic side streams such as organic waste (van Huis, 2013). The production of 1 kg of crickets, for example, only requires 1.7 kg of feed (Collavo, Glew, Huang, Chuang, Bosse, & Paoletti, 2005). This advantage becomes even more relevant when taking into account the degree to which an entire animal can be eaten. According to Nakagaki and DeFoliart (1991), 80% of a cricket is edible and digestible whereas this is only the case for 55% of both chickens and pigs and 40% for cattle. The reason behind insects rather low food intake is that insects are cold-blooded and consequently do not require feed to maintain their body temperature (van Huis et al., 2013). Further, this characteristic also reduces the
required water intake of insects and thus leads to a drastic reduction of their virtual water use (Chapagain, & Hoekstra, 2003; Rumpold, & Schlüter, 2013). Regarding the space needed for breeding, insects also require much less compared to conventional livestock. According to van Huis et al. (2013), the production of chicken- and pork protein requires about three times as much space as the similar production of mealworm-based protein, whereas the production of beef protein would even require ten times as much space. Table 1 summarizes the available findings concerning resource efficiencies.

**Table 1: Comparison: Insect Rearing vs. Traditional Livestock Breeding**

<table>
<thead>
<tr>
<th></th>
<th>Protein/kg edible weight</th>
<th>Percentage edible</th>
<th>Feed-to-meat conversion*</th>
<th>Feed-to-edible meat conversion**</th>
<th>Virtual water use***</th>
<th>Space use factor</th>
<th>GHG &amp; ammonia emission/kg of mass gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mealworms</td>
<td>-</td>
<td>100%</td>
<td>-</td>
<td>Considerably low</td>
<td>1</td>
<td>0 g</td>
<td></td>
</tr>
<tr>
<td>Crickets (adult)</td>
<td>205 g</td>
<td>80%</td>
<td>1.7 kg</td>
<td>2.1 kg</td>
<td>Considerably low</td>
<td>-</td>
<td>0 g</td>
</tr>
<tr>
<td>Poultry</td>
<td>200 g</td>
<td>55%</td>
<td>2.5 kg</td>
<td>4.5 kg</td>
<td>2,300 l</td>
<td>2.3-5</td>
<td>-</td>
</tr>
<tr>
<td>Pork</td>
<td>150 g</td>
<td>55%</td>
<td>5 kg</td>
<td>9 kg</td>
<td>3,500 l</td>
<td>2.3-5</td>
<td>1,100 g</td>
</tr>
<tr>
<td>Beef</td>
<td>190 g</td>
<td>40%</td>
<td>10 kg</td>
<td>25 kg</td>
<td>22,000 l</td>
<td>10</td>
<td>2,800 g</td>
</tr>
</tbody>
</table>

* kg feed needed to gain 1 kg of body mass  
** kg feed needed to gain 1 kg of edible meat  
*** required water to gain 1 kg of animal protein (incl. water required for feed production)

In addition to the resource efficiency benefits of insects, Oonincx et al. (2010) found that the greenhouse gas (GHG) and ammonia emissions of edible insects are considerably low compared to conventional livestock. Another factor which represents a benefit of insect rearing is their fecundity. Since insects’ fecundity is much higher compared to traditional livestock, this results in a considerably higher reproduction rate, which facilitates the process of rearing (Rumpold, & Schlüter, 2013). Nonetheless, life cycle assessments of insect breeding have to be made to confirm all of the abovementioned benefits (van Huis, 2013; van Huis et al., 2013).

According to van Huis et al (2013), the third major benefit of entomophagy is substantiated by its opportunities for improving livelihood. Since insect cultivation is considered a low-tech as well as low-investment breeding option which is manageable rather easy, and due to the aforementioned benefits concerning the use of space, required
amount of feed and water, and high reproduction rates, the rearing of insects can be carried out in rural areas and therefore represents valuable livelihood opportunities for the poorer sections of the world’s societies (Oonincx, & de Boer, 2012; van Huis et al., 2013).

Wrapping up the second chapter of this study, the chapter introduced not only available and relevant literature regarding food consumption, the context of the present study, but also the chosen theoretical framework, insights about the behavior of the targeted population, as well as valuable information about entomophagy in order to build a theoretical base. However, after discussing the aforementioned topics, it is crucial to loop back to the proposed research purpose and research questions of this study.

<table>
<thead>
<tr>
<th>Purpose:</th>
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<tbody>
<tr>
<td>The purpose of this study is to explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards insect-based products.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>RQ1</strong>: Which factors impact the purchase intentions of Swedish university-attending Generation Y consumers towards insect-based products?</td>
</tr>
<tr>
<td>• <strong>RQ2</strong>: How do Swedish university-attending Generation Y consumers react when given the choice to try an insect-based product?</td>
</tr>
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The following chapter will concentrate on the methodological choices made in this study in order to fulfill its purpose and answer the proposed research questions.
3 Methodology

This chapter focuses on identifying an applicable research philosophy, research approach, research design, data collection method, and data analysis technique for the present study. The subsections of this chapter form a downward funnel, beginning with discussing high-level topics such as research philosophy and research approach, gradually narrowing down to reach the methods applied to answer the set research questions of this study and lastly reviewing considerations regarding its trustworthiness.

The general structure of this chapter follows the lines of an adaptation of Saunders, Lewis and Thornhill’s (2016) framework, known as the research onion. The illustration below (Figure 4) displays the adapted framework and furthermore visualizes a summary of the chosen methodology for this study.

Figure 4: Methodological choices of the study

Source: Own adaption based on Saunders et al. (2016).
3.1 Research Philosophy

The term research philosophy refers to a construct of beliefs and assumptions, which is crucial to enable researchers to develop knowledge in a specific field of research (Saunders et al., 2016). Since the research philosophy is presented in the outermost layer of the research onion by Saunders et al. (2016), it represents the most abstract layer, located seemingly distant from the practical considerations found at the onion’s core. However, a careful reflection of a study’s underlying philosophy, which acts as the foundation of the study and thus has a direct influence on its latter methodological steps, is of utmost importance in order to fulfill the research objectives (Easterby-Smith, Thorpe, & Jackson, 2012).

The following discussion about the research philosophy of this study will take into account both ontological as well as epistemological considerations. While the ontological considerations focus on objectivism and constructionism, the epistemological considerations include positivism and interpretivism (Bryman, & Bell, 2011). According to Saunders et al. (2016, p.127), ontology and epistemology can be defined as follows:

- **Ontology:** “(…) refers to assumptions about the nature of reality.”
- **Epistemology:** “(…) concerns assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge, and how we can communicate knowledge to others.”

Objectivism and constructionism are the two ontological core concepts which aim to answer the question about the nature of reality. The ontological position of objectivism asserts that the existence of social phenomena, as well as their attached meanings, do not depend on social actors (Bryman, & Bell, 2011). Therefore, objectivism constitutes an objective position which supposes that only a single, independent reality exists (Bryman, & Bell, 2011; Saunders et al., 2016). Constructionism, on the other hand, incorporates a subjective point of origin. Hence, constructionism puts forward that reality emerges from social interaction in which social actors create partially shared meanings (Saunders et al., 2016). Due to its subjective nature, this position further implies that social phenomena are in a constant state of revision and that multiple realities exist simultaneously (Bryman, & Bell, 2011).
Since the aim of this study was to explore factors affecting consumers’ purchase intentions, taking a subjective position was crucial when intending to investigate different opinions and narratives which account for different social realities of different social actors (Saunders et al., 2016). This means that it had to be assumed that various realities exist and that these realities origin from social interaction. Therefore, the ontological position of constructionism was chosen in order to achieve the predefined objective of the research.

When it comes to epistemological considerations, it needs to be differentiated between the two following positions of positivism and interpretivism. Positivism advocates the application of methods of the natural sciences, which are usually used to describe physical phenomena, to investigate social phenomena (Bryman, & Bell, 2011). Thus, positivism represents a position which asserts that only factual information confirmed by senses and interpreted through reason and logic can be considered as warranted knowledge (Bryman, & Bell, 2011). Consequently, the interpretation of information has to occur in an objective way in order to enable the emergence of knowledge. Interpretivism, on the other hand, emphasizes that social phenomena are different from physical phenomena due to their inherently subjective nature (Bryman, & Bell, 2011; Saunders et al., 2016). Hence, this epistemological position professes that it is necessary to respect the differences between humans and objects of the natural science and therefore requires researchers "(...) to grasp the subjective meaning of social action (...)" (Bryman, & Bell, 2011) to gain knowledge.

To reach the objective of the present study, it was considered vital to gather valuable human insights of meanings regarding related social phenomena in order to gain knowledge. Therefore, the epistemological position of interpretivism was chosen to enable the immersion into the social phenomena to subjectively investigate these meanings.

In summary, the research philosophy of this study adopted elements of constructionism and interpretivism since these subjective types of reasoning were aligned with the purpose of the research and thus enabled the authors to gain the intended insights.
3.2 Research Approach

According to Saunders et al. (2016), the second layer of the research onion consists of determining a suitable research approach. When following the lines of the aforementioned framework, there are two types of research approaches available, namely deduction and induction. Deductive reasoning is considered to be the most frequently applied approach when viewing the connection between theory and findings (Bryman, & Bell, 2011). Deduction refers to the process of moving from existing theory to a revised version of this theory by forming and testing of hypotheses. Inductive researchers, on the other hand, aim to create a new theory based on the collected data. In contrast to an inductive approach, deduction is often associated with objectivist philosophies and natural sciences, consisting of observable relationships and laws and thus more suitable within quantitative research (Saunders et al., 2016).

The aforementioned approaches tend to be one-dimensional and thus have a propensity to limit the research to some extent, which is why a third alternative research approach, known as abduction, can be applied (Alvesson, & Sköldberg, 2017). An abductive approach is considered a flexible approach that is characterized by elements of both deduction and induction. According to Bryman and Bell (2011), the reality is best captured through a back and forth dynamic between theory and empiricism within abductive reasoning.

This study has employed an abductive approach, which according to Saunders et al. (2016) is connected with hermeneutics, i.e. the theory of interpretation, which is a concept related to interpretivism (Patton, 2015). Hence the research approach is aligned with the research philosophy of interpretivism. The term hermeneutics has emerged from a term being historically associated with the interpretation of texts such as historical writings to cover the interpretation of any form of qualitative data. Furthermore, hermeneutic thinking emphasizes that an interpretation should always remain solely as an interpretation rather than be labeled as true or false (Patton, 2015). Moreover, the flexible approach of abduction allowed the authors to use an already established theory, the Theory of Planned Behavior, and go beyond the theory to explore underlying factors that have an impact on consumers’ purchase intentions towards insect-based products, which further confirmed the suitability of an abductive approach for this study.
3.3 Research Design

The role of a research design is to function as a roadmap that presents how the research is constructed, which is necessary in order to answer the set research questions (Saunders et al., 2016). There are two steps that should be considered when deciding on the research design. The first step is to decide whether the study is going to follow a quantitative or qualitative research nature. Whereas, the latter step is concerned with the purpose of the research design, which can be either exploratory or conclusive (Saunders et al., 2016).

When considering the nature of the research questions and the objectives of this study, the decision naturally fell under a qualitative research design with an exploratory purpose. Qualitative data tends to provide deeper understandings of a topic by emphasizing words rather than numerical figures, which is also linked with the earlier discussed philosophies of interpretivism and constructionism (Babin, & Zikmund, 2015; Saunders et al., 2016). Further, common features within qualitative research include describing behavior and explaining phenomena by answering questions about “why” and “how” as well as “what” and “which” (Saunders et al., 2016), which is aligned with the proposed research questions of this study.

Moreover, a qualitative research design was considered appropriate since the focus of this study was to unveil factors that influence consumers’ intentions and thus explore behavioral patterns rather than on collecting numerical data for statistical analysis. Additionally, due to the nature of the research topic, the suitability of a qualitative research design was confirmed by Creswell and Poth (2018) who claim that studies with novel research topics, such as entomophagy, should follow the lines of a qualitative research design.

As the name indicates, exploratory research aims to explore, understand and discover phenomena that are poorly understood and in this way gain insights about a topic of interest (Pride, & Ferrell, 2016). The motivation behind the choice for an exploratory purpose in this study is explained by the fact that the available knowledge regarding the research topic was limited. Hence, due to the aforementioned novelty of the research topic, an exploratory purpose allowed the authors to explore and further gain a detailed understanding of the underlying factors impacting consumers’ purchase intentions towards insect-based products. Moreover, an exploratory research is, according to Malhotra and Birks (2007), appropriate when interpreting opinions, which was in
congruence with the chosen research philosophy of interpretivism and thus further confirmed its suitability for this study.

Consequently, when taking into account the aforementioned considerations, it becomes clear that a qualitative research design with an exploratory purpose enabled the authors to uncover factors influencing consumers’ purchase intentions towards insect-based products.

After identifying a suitable research design, the next step was to determine an applicable data collection method, which is presented in the following section.

3.4 Data Collection

The following sections concentrate on thoroughly discussing the chosen data collection method of the present study. Moreover, the applied sampling techniques, chosen questions, and execution of the data collection are presented.

3.4.1 Focus Groups

A focus group is a moderated discussion, generally consisting of six to ten participants (Babin, & Zikmund, 2015). Aside from a flexible structure, a focus group encompasses an interactive communication among participants in order to understand why people feel the way they do. According to Krueger and Casey (2015) focus group interviews should be used when the purpose of a study is to uncover factors that influence opinions, behavior or motivation, which was aligned with the purpose of the present study. Focus group participants commonly tend to challenge each other’s views and argue with each other. This leaves the researchers with quite realistic accounts of what people think because they are commonly forced to revise and think about the participants’ views (Bryman & Bell, 2011).

In comparison to other qualitative data collection methods, focus groups commonly generate multiple perspectives and opinions and therefore richer data (Babin & Zikmund, 2015). Since the participants are influencing each other, a focus group can be considered a more natural environment compared to individual interviews. In order to justify the emergence of behavioral patterns, researchers are supposed to compare and contrast data
from multiple focus groups. However, it is essential to keep in mind that focus groups should be conducted until theoretical saturation is reached, i.e. the point where no new insights emerge (Krueger & Casey, 2015).

Taking into account the aforementioned considerations, focus groups were considered a suitable data collection method for this study as this method allowed the authors to explore consumers’ thoughts regarding entomophagy. Due to the vivacious discussions among the participants, the authors were able to identify up- and downsides of the topic and thus reveal various factors contributing to purchase intentions, both positive and negative. Further, the focus groups enabled the authors to explore how the participants responded to each other’s views and that way establish an understanding based on the interaction that took place within the group.

Nevertheless, it is important to be aware of possible drawbacks regarding the data collection through focus groups. It can be somewhat difficult to dig deeper into individual statements of participants due to the dynamics of a group discussion. Due to the small sample size and the qualitative nature, focus groups do not provide representative significance, which was not either the aim of this study (Babin & Zikmund, 2015). Instead, the focus groups relied on collecting a range of perspectives from individuals who were identified as parts of the target population in this study. Krueger and Casey (2015) claim that participants may make up answers if the focus group concerns a topic that participants have limited or no experience from. Thus it was vital to carefully select participants in order to gain relevant insights and therefore, the essential step of sample selection will be discussed in the following section.

3.4.2 Sample Selection

The next step after having decided upon a suitable method for collecting data is to compose a well thought out sample selection of participants in order to enable a realistic picture of the targeted population (Saunders et al., 2016). When choosing a sample, it is essential to focus on the sample’s quality and relevancy. Since the purpose of qualitative research is to investigate and analyze on a profound level, the selection of a smaller sample size can be justified (Patton, 2015).
As previously discussed, this study focused on investigating university-attending Swedish individuals who are part of Generation Y. This target population was chosen due to the fact that multiple studies revealed that young adults are notably open-minded towards new products (Eisner, 2005; Noble et al., 2009; Tulgan, & Martin, 2001) and because this demographic group represents an enormous spending power (Kennedy, 2001), leading to the conclusion that they have a large impact on the market development of insect-based products.

A combination of a self-selection sampling technique and convenience sampling technique was applied in this study to select the ideal sample for the focus groups. Saunders et al. (2016, p. 727) define self-selection sampling in the following manner: “(...) a non-probability sampling procedure in which the case, usually an individual, is allowed to identify their desire to be part of the sample.” This study followed the lines of self-selection sampling by making a public Facebook post to spread awareness about the study and to consequently allow potential participants to reach out to the authors if they were interested to participate. However, the topic of the research was not revealed before the focus groups took place in order to reduce response biases by ensuring that the participants represented their actual knowledge about the topic rather than prior to the focus groups recently acquired knowledge.

After self-selection sampling, the latter mentioned sampling technique of convenience sampling was conducted to select an applicable sample. Convenience sampling occurs when sample cases are selected without any clear principles of organization in relation to the set research questions but rather on their convenient availability (Bryman & Bell, 2011; Saunders et al., 2016). Therefore, the individuals who stated their interest to participate in the study were chosen as part of the sample based on their availability. Thereby, it should be noted that there is a potential risk of bias regarding the selection process since the participants were selected based on convenience (Neuman, 2006). However, taking into account the limited resources available in this study, namely time and money, the aforementioned sampling techniques qualified as appropriate techniques. Moreover, the fact that this study did not aim to generalize the results further reinforced the applicability of the chosen non-probability sampling techniques (Malhotra & Birks, 2007). *Table 2* summarizes the details of the chosen sampling.
3.4.3 Focus Group Discussion Guide

In order to ensure that a clear structure was maintained, a focus group discussion guide was used as a framework for the focus groups. Bryman and Bell (2011) define this guide as a list of specific areas that are supposed to be covered in a study. The focus group discussion guide functioned only as a supporting tool, meaning that every focus group brought up new questions based on the discussions that took place. However, it is essential that participants easily understand what is being asked and thus the questions used in this study were phrased and sequenced. Moreover, in order to conduct a successful focus group interview, it is recommended to formulate a focus group discussion guide containing different types of questions (Saunders et al., 2016). Therefore, the discussion guide of this study consisted of a combination of open questions, probing questions and specific questions. The use of open questions enabled the authors to gain comprehensive descriptions and were used for unveiling the participants' opinions. Probing questions, on the other hand, were incorporated in order to explore responses further, i.e. the questions were worded like open questions but request a particular direction or focus. Specific questions were used to obtain answers on specific and closed questions (Saunders et al., 2016). The combination of these three types allowed the authors to make comparisons to some extent while still maintaining an open and explorative nature of the study. Further, the focus group discussion guide was divided into five sections whereby the first section

### Table 2: Sampling Overview

<table>
<thead>
<tr>
<th>Sampling technique</th>
<th>Non-probability sampling:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>● Self-selection sampling</td>
</tr>
<tr>
<td></td>
<td>● Convenience sampling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Targeted Population</th>
<th>● Swedish citizens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>● University students</td>
</tr>
<tr>
<td></td>
<td>● 19-37 years old (Generation Y)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>● 19 participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>● 10 Male; 9 Female</td>
</tr>
</tbody>
</table>

Source: Own creation.
covered questions concerning food consumption in general and the following four sections were related to the components of attitude, subjective norm, perceived behavioral control, and purchase intention of the proposed research framework (see Appendix 1).

3.4.3.1 Pretest

A pretest was conducted in order to enable a successful empirical investigation and further determine the suitability of the chosen data collection method. According to Zikmund, Babin, Carr, and Griffin (2010, p. 65) a pretest is a “(…) small-scale study in which the results are only preliminary and intend to only assist in the design of a subsequent study”. Thereby, it is recommended that the pretest consists of the same target population as the participants that are part of the actual sample (Malhotra & Birks, 2007).

In order to gain insights regarding consumers’ purchase intentions towards insect-based products, the authors initially decided to conduct semi-structured in-depth interviews. Hence, the pretest consisted of two semi-structured in-depth interviews conducted with two participants who were part of the study’s targeted population.

The aim of the pre-test was to capture how the participants would perceive the pre-formulated interview questions and to test whether the questions were suitable and sufficient in unveiling the intended insights in order to fulfill the purpose of this study. During both interviews, some questions were perceived as somewhat unclear by the participants and therefore needed to be modified. However, the main issue of the interviews was not associated with the interview questions themselves but rather with the overall nature of the interviews, which resulted in quite short answers and thus poor data. Thereby, especially the entomophagy-related questions were subject to a halting conversational flow.

By taking into account the outcomes of the pretest, the authors decided to change the data collection method in order to improve the quality of the data. Consequently, it was decided to switch to focus group interviews to allow the emergence of discussions in-between participants in which they would be able to share their thoughts and opinions and thus improve the richness of the data. Further, the questions perceived as imprecise during the pretest got revised and integrated into the focus group discussion guide.
Additionally, it needs to be noted that the two participants that took part in the pretest were later excluded from the actual sample for this study.

3.4.4 Execution of the Focus Groups

There are four characteristics associated with the execution of focus groups. These characteristics include (1) a small group of people, (2) who possess certain characteristics, (3) and provide qualitative data, (4) by following the structure of a focused discussion (Krueger & Casey, 2015). In order to follow the lines of the aforementioned features, several aspects had to be taken into account:

Firstly, it is of utmost importance to consider the location where focus groups should take place. The authors followed the lines of Malhotra and Birks (2007) who state that participants are more likely to express their opinions when focus groups take place at a location with a relaxed atmosphere. Therefore, all focus groups were conducted at Jönköping International Business School at private study rooms, which allowed the participants to feel comfortable. This location was considered to be convenient since all participants were enrolled at Jönköping University. Further, the authors ensured that the atmosphere was as relaxed as possible by providing refreshments such as coffee and various snacks during the focus groups.

Regarding the size of the focus groups, the authors followed the recommendations of Blackburn and Stokes (2000) and Morgan (1997), who claim that groups with more than ten participants are challenging to manage and thus, the typical group size is between six to ten members. Hence, in this study, the focus groups consisted of six to seven participants. In addition, it is crucial to mention that three focus groups were conducted since the theoretical saturation was met after the third focus group, which indicated that no more data had to be collected.

All three focus groups started off with the moderators, i.e. the authors of this study introducing themselves, thanking everyone in the focus group for participating and briefly outlining the structure and the goals for the focus group. Since some participants had never participated in a focus group before it was crucial that the authors presented the general conventions of focus groups. The participants were also informed about the reasons for recording the interview and asked to fill in forms regarding basic socio-demographic information about themselves, including age and gender. Further, the
participants' anonymity regarding the use of data was mentioned at the beginning of the focus groups to create a sign of security and professionalism and thus ensure that the research was conducted in an ethically regardful manner (Malhotra & Birks, 2007). As previously discussed, in order to prevent participants from researching the topic prior to the focus groups and thus counteract possible biases, the topic was revealed for the first time during the focus groups.

Except for the regular focus group procedures, a taste test was included at the end of each focus group interview. A more detailed description of the taste test is presented in the following section.

3.4.4.1 Execution of the Taste Test

During the taste test, participants were given the chance to taste cookies made with insect flour. The cookies were made by replacing one-fourth of the flour in a recipe for chocolate chip cookies with insect flour that consisted of grounded buffalo worms.

Due to an extremely limited availability of insect-based products in Sweden, the authors wanted to provide the opportunity for all participants to try out insect-based products. The purpose of the taste test was to find out how the participants would react when confronted with an insect-based product. Furthermore, the taste test was conducted to find out if the participants would be willing to try the insect preparation and if their intention would be consistent with their behavior.

However, it needs to be taken into account that two factors, namely price and availability, were manipulated during the conducted taste test. By providing the insect-based cookies to the participants at no costs, the factor of price was eliminated. Further, the availability of the insect-based cookies was ensured by the authors.

In the first stage of the taste test, the participants were asked if they would like to try insect-based products in general. After all answers were collected, the authors revealed the insect-based chocolate chip cookies, which were previously stored at a location that did not allow the participants to see them. Subsequently, the participants were allowed to take and consume a cookie if they wanted to do so.
3.4.4.2 Sample Display

The qualitative data of this study has been collected through three focus groups which consisted of six to seven participants with a mean age of 22 years and lasted on average 80 minutes. In order to strike a balance of diverse opinions concerning the gender, nine females and ten males were selected as subjects for the focus groups. Table 3 displays an overview of the focus group compositions and durations while further presenting the code which has been assigned to each participant (P1-P19) in order to ensure the preservation of anonymity during the data analysis.

Table 3: Sample Display

<table>
<thead>
<tr>
<th>Focus Group Number</th>
<th>Duration</th>
<th>Code</th>
<th>Sex</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG1</td>
<td>92 min.</td>
<td>P1</td>
<td>Female</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P2</td>
<td>Female</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P3</td>
<td>Female</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P4</td>
<td>Female</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P5</td>
<td>Male</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P6</td>
<td>Male</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P7</td>
<td>Male</td>
<td>22</td>
</tr>
<tr>
<td>FG2</td>
<td>68 min.</td>
<td>P8</td>
<td>Female</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P9</td>
<td>Female</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P10</td>
<td>Female</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P11</td>
<td>Male</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P12</td>
<td>Male</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P13</td>
<td>Male</td>
<td>22</td>
</tr>
<tr>
<td>FG3</td>
<td>79 min.</td>
<td>P14</td>
<td>Female</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P15</td>
<td>Female</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P16</td>
<td>Male</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P17</td>
<td>Male</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P18</td>
<td>Male</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P19</td>
<td>Male</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Own creation.

3.5 Data Analysis & Interpretation

Qualitative data is due to its nature considerably complex and the data becomes ponderous quite quickly (Saunders et al., 2016). The collected data had to be properly analyzed in order for the authors to be able to draw sufficient conclusions from the data set. Thus, the focus of the following section lies on discussing the chosen data analysis technique. Generally, focus group interviews are audio-recorded and transcribed, which allows researchers to find out not only what the participants said but also the way they said it (Bryman & Bell, 2011). Therefore, after conducting the audio-recorded focus groups, the first step of the data analysis included transcribing the focus group interviews. The
transcription was followed by interpretation of the data in which the analytical technique of a content analysis was applied. This analytical technique is presented in more detail in the next section.

3.5.1 Content Analysis

Deploying a content analysis has been considered a suitable analytical technique for this study since it allowed qualitative data to be coded and categorized in order to analyze it (Saunders et al., 2016). Bryman and Bell (2011, p. 291) define a content analysis as follows: “An approach to the analysis of documents and texts that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner”.

This aforementioned analytical technique was implemented in order to place elements that influence consumers’ purchase intentions regarding insect-based products into meaningful categories. However, there are three different approaches that can be applied when conducting a content analysis, namely conventional, directed and summative (Hsieh & Shannon, 2005). These three approaches mainly differ in their coding schemes, origins of codes and threats to trustworthiness. A directed approach was incorporated in this study since it allowed the authors to use an existing theory as a framework when identifying coding categories. The authors followed the lines of a directed content analysis by using the predetermined codes first, which were derived from the TPB. However, the authors noticed that some data could not immediately be coded in the existing categories. Thus this data was reviewed and analyzed in later stages in order to ascertain whether the data represented a new category or a subcategory of an existing code. Hence, the conduction of a directed content analysis allowed the emergence of not only existing theory-related, but also additional clusters from the gathered data itself (Scanlan, Ravizza, & Stein, 1989; McCracken, 1988). Additionally, it should be noted that since this study was conducted by two authors, the empirical findings were first analyzed independently by conducting a directed content analysis and then later transferred into one united analysis.

There are some limitations associated with a directed content analysis that should be kept in mind. Firstly, there is a risk of bias since the authors used existing theory and were thereby informed when they approached the data. Hence, this might have made the authors more likely to come across findings that were supportive rather than unsupportive of the chosen theoretical framework. Another challenge is a potential overemphasis on
theory which might blind researchers to circumstantial aspects of the phenomenon. In order to avoid researcher bias, the authors reviewed and clustered the data independently before jointly discussing the clusters (Glaser, & Strauss, 1967).

Since it is of utmost importance to ensure an ethical conduction when engaging in research, the following section presents the ethical considerations which have been taken into account in this study.

3.6 Ethical Considerations

When conducting a study which involves participants, it is necessary to take into account multiple criteria in order to ensure an ethical conduction of the research (Malhotra, & Birks, 2007). In order to guarantee that the study was conducted in an ethical manner, the authors followed the Marketing Research Society’s (MRS) Code of Conduct, which entails a number of clearly set standards (MRS, 2014). Hence, the authors considered whether there was harm to participants, lack of informed consent, and invasion of privacy, which will be further discussed in the following paragraphs (Bryman and Bell, 2011; MRS, 2014).

It was ensured that no harm to the participants took place during the focus group interviews by following the MRS Code of Conduct. Thereby, the authors took into account relevant precautions in order to ensure that the participants were not harmed in any way when participating in this study. All participants voluntarily participated in the focus groups and were given the opportunity to withdraw at any time without giving reason. In addition, the participants’ anonymity was preserved during the analyzation and presentation of the empirical findings by assigning a code to every participant.

Furthermore, the criterion of informed consent was fulfilled in this study since the participants got informed about the purpose of the data collection and the recording of the focus group interviews at the beginning of the focus groups and consequently independently agreed to participate. In addition, the participants received information about who will have access to the records of the focus groups and the final study. Lastly, the participants got familiarized with the estimated duration of the focus groups. Appendix 2 presents the consent form that got handed out and signed by every participant prior to the data collection.
The third aspect regarding ethical considerations refers to the extent of *invasion of privacy* that can be condoned (Bryman & Bell, 2011; MRS, 2014). This aspect is linked to the aforementioned *informed consent* since the participants were given sufficient information about their involvement which ensured their right to privacy. Moreover, the authors emphasized in treating every participant sensitively and giving a genuine opportunity for all participants to withdraw at any time.

By taking into account the aforementioned procedures, it can be said that the present study was conducted in an ethically considerate manner.

### 3.7 Quality Assessment

Whether a research project is quantitative or qualitative, the quality of the research should always be assessed. Reliability and validity are essential criteria when assessing the quality of quantitative research, whereas trustworthiness is identified as the primary criteria for assessing the quality in a qualitative study. Due to the nature of this thesis being qualitative, the discussion in this section is focused on the aforementioned criterion of trustworthiness. Guba and Lincoln (1994) further divide trustworthiness into four criteria (*credibility*, *transferability*, *dependability*, and *confirmability*), which will be described in further detail:

- **Credibility**: Refers to the extent to which the findings reflect reality. While there are various accounts that can be used for explaining social reality, the determining factor is the credibility of the account that will decide its acceptability to others (Bryman & Bell, 2011). According to Guba and Lincoln (1994) ensuring credibility is one of the most important factors when maintaining trustworthiness in research. In order to establish credibility of the findings in the present study, the research was carried out according to the precepts of good practice and by providing the participants the opportunity to take a look at the findings and thereby obtain respondent validation (Bryman & Bell, 2011).

- **Transferability**: Refers to how the findings of this study can be applied to another context. Graneheim and Lundman (2003) point out that it is harder to ensure the transferability within qualitative research compared to quantitative research due to an often small and specific sample. Data were collected through focus groups in order to gain multiple perspectives and this way fend off challenges of
transferability. The sample consisted of both female and male participants which further enhanced the transferability of the empirical findings. Moreover, the literature review consisted of various studies regarding entomophagy which allowed the reader to gain a thorough picture of the present study. A full description of the research questions, design, context, findings and interpretations were provided in this study in order to ensure transferability. It is then up to the reader to judge the transferability of this study to another setting in which the reader is interested to research in (Saunders et al., 2016).

- **Dependability:** In interpretive research, the research focus is often modified as the research progresses and thereby it is vital to ensure dependability by recording all of the changes in order for others to understand the study (Saunders et al., 2016). Following the recommendations made by Bryman and Bell (2011) the dependability in this study has been ensured by keeping records of things such as the problem statement, selection of research participants, focus group transcripts and decisions regarding data analysis.

- **Confirmability:** Confirmability is concerned with ensuring that the research has been conducted with little to no bias, meaning that personal values are not allowed to sway the conduction of the research and its empirical findings. It should be noted that complete objectivity cannot be obtained within qualitative research since the data collection is generally conducted by human beings who might naturally not be able to act completely unbiased (Shenton, 2004). By independently conducting the data analysis and further constantly bilaterally cross-checking, the authors ensured a high degree of confirmability in this study.

In summary, the application of the aforementioned criteria of credibility, transferability, dependability, and confirmability show that trustworthiness was ensured in this study and therefore contributed to the quality of the research.
4 Empirical Findings & Analysis

This chapter addresses and explains the empirical findings gained through the conduction of a content analysis based on the data collected from three focus groups. Further, the findings are analyzed by taking into account relevant literature. The chapter starts off with an overview of the findings, followed by general findings regarding the awareness of and experiences with entomophagy before aligning with the structure of the theoretical framework of this study. Hence, the findings are presented in regard to the components of the Theory of Planned Behavior, starting with attitude-related findings followed by subjective norm, perceived behavioral control, and finally purchase intention-related findings. Subsequently, the last section of this chapter presents the findings of the conducted taste test.

4.1 Overview of the Empirical Findings & Analysis

Overall, eleven relevant themes concerning the purchase intentions of the target population regarding insect-based food products have been identified through the data analysis. Thereby, the conducted directed content analysis allowed the authors to link ten out of these themes to the components of attitude, subjective norm, or perceived behavioral control of the study’s theoretical framework. Additionally, one theme was found to not be directly related to the aforementioned components but contributing to the purchasing intention. Figure 5 visualizes the aforementioned findings.
However, even though the study was able to relate the emerged themes to the components of the TPB, it was also found that interplays among themes of different components exist.

After listing the findings regarding the awareness and the experiences with entomophagy, the following sections thoroughly present each theme and further analyze the themes. Thereby, existing literature regarding entomophagy, but also food consumption in general, which depicts the broader context of this study, is taken into account.

4.2 Awareness and Experiences with Entomophagy

In order to gain insights about the participants’ current state of awareness and experiences with entomophagy, the topic, which has not been revealed to the participants prior to the focus groups, got addressed in the focus groups.
Overall, none of the 19 participants knew what the word entomophagy means, which resulted in the fact that no one was able to define the word. Therefore, their reactions and answers were mostly characterized by confusion and uncertainty:

\[ P10: \text{“Never heard of it.”} \]
\[ P6: \text{“Is that even a word?”} \]
\[ P12: \text{“Did you just make this word up?”} \]

Due to the fact that all of the participants of this study are part of Generation Y, and thus rather young, the lack of knowledge regarding the word entomophagy can be linked to Casparros Megido et al.’s (2014) research, which found that the knowledge of entomophagy increases with age. Further, it was noticed by the authors that mostly scientific articles refer to the word entomophagy whereas other information regarding the topic, such as newspaper articles and TV reports available to consumers, do not link to the technical word, which also indicates why the participants were not aware of the meaning of the word entomophagy itself.

After providing a definition of entomophagy, all participants stated that they are aware that a variety of insects are edible and included in diets in other (non-Western) parts of the world. Further, they described different ways in which they got in contact with the topic, with media being the most frequently mentioned:

\[ P16: \text{“I have seen documentaries about it.”} \]
\[ P9: \text{“They showed it in a program on TV.”} \]

This finding is aligned with Myers and Pettigrew (2018), who found that media, especially documentaries, reality television programs, news reports, and books, are the most common ways consumers gain knowledge about entomophagy.

Other frequently mentioned ways in which the participants had come into contact with entomophagy were through traveling to and living in other countries, as well as through family members and friends who spent time abroad, which is also reinforced by Myers and Pettigrew (2018) findings:

\[ P13: \text{“I traveled to Thailand once – there they do it [eat insects].”} \]
\[ P3: \text{“A friend who was volunteering in South America told me she had a grasshopper or something.”} \]
Overall, more than one-third of the participants stated that they have consumed insects before. All of these participants had been given the opportunity to eat insects during stays in foreign countries and consequently consumed them:

P7: “I had a roasted ant. I think it was in Colombia.”

P8: “Yea I had one. I think it was a chocolate covered spider or something. I do not really remember where but it was somewhere abroad.”

This finding is also aligned with Myers and Pettigrew (2018), who found that one of the most frequent ways in which Western consumers consume insects is connected to experiences they gained abroad. Additionally, the finding can further be linked to Cohen and Aveli’s (2004) study which found that consumers are more likely to consume local foods they perceived as rather unconventional and not aligned with their cultural eating habits when being abroad. However, the participants who stated that they have tried insects already admitted that their one-time consumption did not take place in order to ingest food but rather to try out something they are not familiar with. Consequently, they mentioned that they have not continued to consume insects after their initial try and that they have not considered to include insects in their diets.

4.3 Attitude-related Findings

The following section concentrates on presenting and analyzing the findings related to attitudes, the first component of the TPB. The conducted content analysis revealed five themes and four subthemes which arose from the statements of the participants regarding attitude-related discussions. Hence, it is assumed that the participants’ attitudes were formed based on these themes. However, it needs to be taken into account that the themes were valued differently by the participants, indicating that some of the themes were subject to less acknowledgment regarding the specific participant’s attitude than others. Consequently, the attitudes of the participants can be seen as a result of the interplay of the identified themes.

The following section presents the identified themes and subthemes regarding attitudes and further links them to available research.
Knowledge

Regarding food consumption in general, all participants stated that it is important for them to have knowledge about food prior to the consumption and that this knowledge affects their attitude towards the food:

P5: “For me, I would say, I want to have a lot of knowledge about food before I eat it. I want to know about where it comes from, the producers, and how it has been produced before I actually eat it.”

This finding can be linked to the studies of Aertsens et al. (2011) and Zhu and Xie (2015), who revealed that consumers’ attitudes towards foods are related to their knowledge concerning these foods. Further, the finding reinforces the studies of Bellisle (2006) and Kearney et al. (2000) regarding the influence of an individual’s knowledge on its food consumption behavior.

However, the occurred discussions revealed multiple knowledge-related subthemes which were emphasized differently by the participants.

Overall, this study found the participants’ knowledge of entomophagy regarding all identified subthemes to be low, which reinforces the findings of Caparros Megido et al. (2014) and Myers and Pettigrew (2018). The following sections present these subthemes while establishing links to existing literature.

Knowledge of the Context of Usability

The first subtheme of knowledge that has been identified by this study concerns the context of usability of insect-based products. During the discussions regarding how to use insect-based products, all participants stated that they would not know how to prepare and consume insect-based food. Hence, it got mentioned that this gap of knowledge would contribute to their attitudes and consequently purchase intentions negatively:

P6: “Before you buy it [insect-based food] you would have to know what to do with it. And I do not know this – not at this point.”

P11: “I would never go out and buy something if I would not know how to prepare it”

When the participants discussed how this uncertainty could be overcome, they commonly agreed that they “would need some guidance in the beginning” (P17) in order to
familiarize themselves with the preparation of insect-based food. Thereby, it got stated that recipes and individuals who already have experience with the preparation of insect-based food could help them to engage in entomophagy and hence positively influence their attitudes and intentions to buy insect-based food:

P18: “I would have to see it [insect-based food] in a context: like ok you can use it in a salad, you can fry it, you can do this and that with it. Recipes would definitely help. Yea, then it would be easier to buy and consume it.”

P2: “If somebody else who has done it [prepared insect-based food] before would show me how to cook it [insect-based food] or cook with me then I would not see a problem with it.”

Consequently, it was found that the participants’ uncertainty concerning the preparation of insect-based food contributes to their attitudes towards insect-based products negatively and that they would perceive an increase of their preparational knowledge as influencing their attitudes positively.

Knowledge of the Country of Origin

The second subtheme related to knowledge that emerged from the conducted content analysis concerns the country of origin of food products:

P19: “Of course I am looking at which country it [food] is from.”

P12: “When I go grocery shopping I want to know where the food is from”

In relation to this, it got stated that the country of origin is perceived as especially important by the participants when it comes to meat-based products, which is aligned with Hoffmann’s (2000) study which revealed that especially Swedish consumers perceive the country of origin of meat products as a reliable quality cue:

P17: “This [country of origin] is most important for me when it comes to meat. I only eat Swedish meat.”

According to the statements of the participants, the country of origin of insect-based products would also be important to them. It got mentioned that locally produced products would be more appreciated by the participants than products imported from overseas since the locality would imply them the compliance with certain quality standards:
P9: “Where would they [insect-based products] come from? Asia? Africa? I would not like to eat them if they would not at least be produced in Europe because only this would show me that the production is somehow overseen.”

P13: “I would only eat insects that have been produced in Sweden. That would open my eyes up more towards eating insects. I believe that here it would be the case that they are somehow sanitized and of course also regulated in general.”

Knowledge about the Production

The third subtheme of knowledge that has been identified by this study concerns consumers’ knowledge about the production of insect-based products. During the conducted focus groups, the participants revealed concerns regarding how food is made and thereby expressed the importance of having knowledge about the way food is produced:

P4: “I personally would say that I am mostly worried about how the food is made. Of course, we do not always know that. There are many different ways in which food can be produced.”

Further, multiple statements indicated that the perception of food as produced in a sustainable way contributes positively to the participants’ attitudes towards the food:

P9: “I am looking for food that has been produced in a sustainable way. I just think it is better. And I also think everyone should care about this.”

P17: “When I have the choice, I always go for the more sustainable product.”

Multiple conducted studies have shown that the perception of food as sustainable affects consumers’ attitudes towards the food positively and consequently increases their willingness to purchase the product (Pelletier et al., 2013; Vermeir, & Verbeke, 2006). Consequently, this finding is aligned with the outcomes of the aforementioned studies.

Concerning entomophagy, five of the participants of this study stated that they perceive insect-based products as sustainable, which indicates that these participants were more educated about insect-based food than the other participants. Further, they expressed that they would prefer insect-based products over other products due to their sustainable characteristics if other factors would be consistent:
P2: “If soy meat and insect meat is kind of the same price but with eating insects I would help the environment even more, then I would, of course, go for the insects.”

This finding reinforces the findings of House (2016), Myers and Pettigrew’s (2018), and Tan et al. (2015) who found that perceived environmental benefits can motivate consumers to consume insects. Additionally, Verbeke (2015) found that studies conducted with consumers that have been explicitly informed about the sustainable benefits of entomophagy beforehand were subject to higher degrees of interest as well as willingness to try, which further indicates that the perception of insect-based food as sustainable relies on the knowledge consumers are able to retrieve regarding entomophagy.

However, the present study found that the knowledge about the production of insect-based products is rather low, which indicates that the majority of the participants were not educated about the sustainable characteristics of entomophagy.

Knowledge about the Nutritional Composition

The fourth subtheme regarding knowledge that was identified through the conducted content analysis concerns the nutritional composition of food. The majority of the participants stated that for them it is important to have knowledge about the nutritional composition of the food they consume:

P8: “I am very concerned about what my food contains – the ingredients.”

P18: “Okay so I think it is very important to have knowledge about what you eat. I am about eating healthy so I have to know about the, for example, fat and calories that are included in my food.”

This finding can be linked to Crites and Aikman (2005), who found that the nutritional knowledge of consumers influences their attitudes towards food products and thus also has an influence on their food selection.

Regarding entomophagy, about one-third of the participants of the present study expressed knowledge about the nutritional composition of insect-based products by mostly referring to the protein richness of the products:

P7: “What I know about insects is that they are full of healthy proteins.”
Hence, the study found the overall knowledge of the participants regarding the nutritional composition of insect-based products to be rather low and that an increase of this knowledge would contribute to the consumers’ attitudes positively.

**Taste**

Seventeen of the participants stated that taste is a theme they consider to be of utmost importance regarding their attitude towards entomophagy:

\[ P12: \text{“It depends on of course how it [insect-based food] tastes.”} \]

\[ P1: \text{“It [eating insects] does not sound good but if it tastes good then I would be cool with it”} \]

\[ P17: \text{“It [insect-based product] has to taste really good.”} \]

Thereby it is crucial to mention that the two participants who did not agree with this statements followed the practices of veganism (P14) and vegetarianism (P15) and thus mentioned that they would not eat insects at all because “it [insect] is still an animal” (P14), which results in the fact that the taste simply cannot have an effect on their attitude towards the topic due to the avoidance of the overall consumption.

The emergence of the theme of taste in this study reinforces the studies of Bellisle (2006), Glanz (1998), McCrickerd and Forde (2016), Neumark-Sztainer et al. (1999), Pilgrim (1957), Steenkamp (1993), and Traill (1999) concerning the contribution of the biological determinant of taste on consumers’ food consumption behavior. In addition, the perceived importance of taste of insect-based products revealed in this study is aligned with the previously mentioned entomophagy-related studies of Casparros Megido et al.’s (2014), Lensvelt and Steenbekkers (2014), Schösler et al.’s (2012). Further, House (2016) and Myers and Pettigrew (2018) found that taste is a crucial influential factor regarding the repeat consumption of insects, which has also been indicated by the participants of this study:

\[ P13: \text{“It depends on how it tastes like. For me, I guess, my first impression and the first bite counts. If I do not feel that it tastes good, I might just drop the whole idea of eating insects forever.”} \]
P2: “Bad taste would lead to the fact that I would not do it [eat insects] again. Of course, I would not repeat it if it would taste bad.”

Sogari (2015) found the factor of taste to be less influential on the willingness to consume insects in the future than the factors of nutritional benefits, and environmental benefits, which was only supported by the assertions of two participants of the present study who indicated that other themes would be able to overrule the taste for them:

P7: “I am really about eating stuff that is good for me. So for me, the taste would not be that important as long as I know that it is healthy.”

Nonetheless, the statements of the large majority of the participants contradicted to the finding of Sogari (2015) since it got mentioned that for these consumers “taste comes first” (P13).

However, the participants also mentioned that they are not able to evaluate the taste of insect-based products due to their limited or even non-existing experiences with entomophagy and that they would consequently have to try insect-based products first in order to evaluate their taste.

Texture & Appearance

The conducted content analysis revealed that the large majority of the participants perceived food texture as an important factor influencing their attitudes towards insect-based food. Since entomophagy includes both, the consumption of insects as a whole as well as the consumption of products which include insects that have been processed and thus unrecognizably incorporated into other food products, multiple discussions about the participants’ preferred texture and appearance of insect-based food arose. The acknowledgment of food texture, as well as its appearance, by the participants can thereby be linked to Logue, Ophir, and Strauss (1981), who found that both factors have a close relationship and further influence consumers’ attitudes towards and their acceptance of the food. In addition, the emerged theme reinforces multiple studies regarding the influence of biological determinants, such as texture and appearance, on consumers’ food consumption behavior (Bellisle, 2006; Glanz et al., 1998; McCrickerd, & Forde, 2016; Neumark-Sztainer et al., 1999; Pilgrim, 1957; Steenkamp; 1993; Traill, 1999).
When the participants started to discuss what kind of insect-based products they would prefer to consume (whole insects or processed and incorporated insects), they commonly agreed that products which consist of whole insects would influence their attitudes towards entomophagy negatively:

\[ P10: \text{"If it would actually look like a bug it would be less appealing."} \]

\[ P3: \text{"If you would grind them [insects] up and mix them with other things so that I do not know what it is basically, then I do not have to see it and I do not have to see the crunchiness and that kind of thing. Then I could eat it – sure!"} \]

This finding is aligned with Schösler et al.'s (2012) research, which found that food products containing whole insects are less accepted whereas products including processed and unrecognizably incorporated insects are subject to a higher acceptance. On the other hand, Caparros Megido et al. (2014) and Myers and Pettigrew (2018), whose studies concentrated on eating insects as a whole, revealed that “crunchy” textures are preferred over “soggy” textures. However, the participants of this study clearly dissociated themselves from the thought of eating insects as a whole due to the appearance of insects and stated that they would generally prefer insect-based products that do not include whole insects, which reinforces Martins and Pliner’s (2006) study that found that consumers tend to not consume whole insects due to their aversive textural properties:

\[ P1: \text{"I do not want to see it! Not the crunchy part! Just imagine the little legs and things – ugh. Just do something with it. I do not want to eat it as it is!"} \]

\[ P7: \text{"I am assuming that there is going to be like a minced something [insect]. I have not really thought about eating them as a whole."} \]

An evaluation regarding the preferred textures of insects as a whole did not take place during the focus groups since the participants clearly dissociated themselves from the consumption of whole insects. Consequently, a statement regarding the alignment or contradiction of the findings to Caparros Megido et al. (2014) and Myers and Pettigrew (2018) findings concerning the preferred texture of whole insects cannot be provided.


**Disgust**

Thirteen out of the 19 participants of the present study stated that they generally perceive insects as disgusting, indicating that this perception would contribute to their attitude negatively:

*P2:* “It sounds disgusting - do not like!”

*P11:* “I just think it is gross in general.”

Thereby, most of these participants mentioned that their perception of disgust is based on their view of insects as dirty and harmful:

*P1:* “They [insects] are living on the floor. And the floor is dirty... most of the time. So when I drop my food on the floor I throw it away. So why should you eat things that actually live that close to the floor?”

*P18:* “Well insects transmit diseases like malaria and they also attack crops and make them inedible.”

This finding can be linked to multiple studies regarding entomophagy which found that Western consumers view insects as dirty, disgusting and dangerous (Looy et al., 2014; Ramos Eloduy, 1997; Rozin, & Fallon, 1987; Tommaseo Ponzetta, & Paoletti, 1997; Vane-Wright, 1991; van Huis et al., 2013; Yen, 2009; Yen, 2010). Further, DeFoliart (1999), Cerriotos (2009), van Huis et al. (2013), and Yen (2010) argue that this perception of insects led to the rise of an attitudinal barrier towards entomophagy in Western societies. However, the participants of this study differentiated between the consumption of whole insects and processed and incorporated insects. Thereby, the participants indicated that their perception of insects as disgusting would hinder them to consume insects as a whole, which reinforces the findings of DeFoliart (1999), Cerriotos (2009), van Huis et al. (2013), and Yen (2010) regarding the existence of an attitudinal barrier. Nevertheless, the majority of the participants of this study stated that they would not perceive insect-based products which include processed and unrecognizably incorporated insects as disgusting. In this context, it got mentioned that the textural alteration of the insects caused by the processing would allow the participants to perceive them differently than whole insects. For instance, *P5* mentioned “I do not like the thought of eating whole insects because I think that would be gross. But if they would be processed I think I would be ok with it, because then I do not have to think about any gross bugs or grubs when
eating it because it would not look like insects anymore”. Consequently, the statements of the participants indicated that products including processed insects would be perceived as less disgusting than products consisting of whole insects, which underlines the previously mentioned finding regarding their dissociation from the thought of eating insects as a whole. Further, this finding indicates an interrelation of the themes of appearance and texture and disgust and therefore contradicts with the findings of DeFoliart (1999), Cerritos (2009), van Huis et al. (2013), and Yen (2010) regarding the existence of an attitudinal barrier towards entomophagy, who did not differentiate between the consumption of insects as a whole and the consumption of processed insects. Conclusively, the present study found that insect-based products consisting of whole insects would be perceived as disgusting whereas products containing processed insects would not trigger the feeling of disgust to the same degree.

Curiosity

Regarding the theme of curiosity, ten participants stated that they would be curious to consume insects:

P12: “I would really like to try – I have never tried!”

P4: “I would for sure try it out. I wonder how it is?”

Sogari (2015) identified the factor of curiosity and further found it to be one of the most influential factors regarding the decision to consume insects. However, due to the qualitative nature of this study, an evaluation of the degree of influence of the identified theme cannot be provided. Additionally, the factor of curiosity has been established by the findings of Caparros Megido et al. (2014), Myers and Pettigrew (2018), and Tan et al. (2015). According to these studies, the curiosity regarding entomophagy and the connected desire to try is reasoned by the interest the topic arises due to its novel characteristic to Western consumers.

Nonetheless, some of the participants also stated that it would actually be the novelty that would affect their curiosity negatively, which indicated that they tend to dissociate themselves from the consumption of unfamiliar food, such as insect-based food:

P1: “I just do not like trying out new stuff [food] that I have not had before”
Hence, the statements of these participants were characterized by neophobia towards entomophagy. Multiple studies concerning the consumption of insects have also identified that neophobia influences consumers’ behavior (Barrena, & Sánchez, 2012; Caparros Megido et al., 2014; Martins, & Pliner, 2005; Verbeke, 2015). However, the content analysis conducted in this study identified the number of the participants who indicated curiosity towards entomophagy to prevail the number of participants who expressed neophobia, which reinforces the findings of Noble et al. (2009), Eisner (2005), and Tulgan and Martin (2001) regarding Generation Y consumers’ open-mindedness towards new products.

In addition, it got mentioned that the curiosity towards entomophagy would most likely affect the participants to try insect-based food for the first time, whereas the factor’s importance would decrease after this initial try:

\[ \text{P4: “Of course I would like to try it [eat insects] – at least once. But then it all comes down to how it looks like, if it is appealing, the price, and how it tastes”} \]

Consequently, this finding shows that the curiosity of consumers can drive them to try insect-based food for the first time and thereby enable them to evaluate if the food meets their expectations concerning other themes such as taste, texture and appearance, and price which would then influence their decisions regarding a repeat consumption. Hence, this further underlines the interrelation of the identified themes.

4.4 Subjective norm-related Findings

After listing the findings related to the TPB component of attitude, the following sections concentrate on presenting and analyzing the findings concerning the theoretical framework’s component of subjective norm. Overall, three themes related to the TPB component of subjective norm have been identified through the conducted content analysis. Hence, these findings reinforce the studies of Anderson et al. (1998), Bellisle (2006), Berkman (1995), Devine et al. (2003), Feunekes et al. (1998), Lennernäs et al. (1997), Pollard et al. (2002), Prescott et al. (2002), and Sorensen et al. (1998) regarding the influence of social and cultural determinants on consumers’ food consumption behavior.
Culture

The large majority of the participants of the present study indicated that they perceive the culture they are a part of, namely the Swedish culture, as a contributing factor regarding their purchase intention towards insect-based food. Thereby, they stated that they perceive entomophagy as not being widely accepted in this culture and that an increase of the acceptance would influence their intentions to buy insect-based food positively:

P10: “I think it is about what you are used to – what is part of your culture. I would say that when eating insects would be a part of our culture, then I would, of course, do it as well. But it is not. At least not now.”

P19: “Culture would play a huge role I think – and it [entomophagy] simply is not part of ours. We mostly eat meat. If we would eat insects instead I think everyone would do it.”

The influence of culture on consumers’ overall food choices has been found by multiple studies (Lennernäs et al., 1997; Pollard et al., 2002; Prescott et al., 2002). Regarding the specific case of entomophagy, Tan et al. (2015) found that cultural exposure has an influence on consumers’ willingness to try insects, which can be linked to this study that found that the perception of insect-based food as not accepted in the Swedish culture influences the target population’s purchase intention negatively.

Even though the majority of the participants stated that they perceive entomophagy to not be accepted in their culture today, seven participants indicated that they are aware of changes regarding the food acceptance of their culture in the past:

P14: “When you look at Sweden, I do not know exactly but I think about 200 years ago, people did not eat shellfish because it was the food of the poor and people thought it is gross. And now it is the fanciest thing to have the whole animal with everything, like legs and stuff, still attached. I still would not eat it but people love it. And it is seen as a delicacy.”

P5: “Well there are things that change. Things that have not been accepted in our culture but are by now. Take sushi. Not too many years ago no one would have even considered eating raw fish. But now we all do it. So I think this could happen to eating insects as well.”
Consequently, this showed that these participants see a potential that entomophagy could become more accepted in the Swedish culture in the future due to the changes regarding cultural food acceptance that occurred in the past.

**Social Media**

The majority of the focus group participants stated that social media has an influence on their purchase intentions regarding food in general.

Eight participants indicated that they actively use social media channels to seek inspiration regarding food consumption and preparation:

*P5: “I literally read food blogs every day. There are so many good blogs that inspire me.”*

*P18: “I am following these vegan athletes who post about what they eat and how they work out because I think it is important to have the right nutrition when working out. So it happens quite often that I go out and buy the stuff they eat.”*

On the other hand, six participants stated that they do not use social media for food-related inquiries but upon encountering food-related content while browsing through different social media networks influences their food choices:

*P10: “Of course I get inspired by peoples’ posts about food. Everyone is posting the food they have. So if I see it and I feel like it looks good then I might try it out.”*

Regarding the consumption of insect-based products, the majority of the participants agreed that if the social media accounts they perceive as relevant would engage in the practice of entomophagy, it would be likely that they would do so as well. Thereby, these participants indicated that an increase of entomophagy-related posts on these channels would contribute to their intention to buy insect-based products:

*P18: “If these athletes would start eating insects and post about it then I would do it as well. At least try it.”*

*P4: “Well I am pretty sure that if those influencers on Instagram would post that they eat insects a lot of people would also consider it. Including me.”*

Consequently, the study found that the target population puts emphasis on aligning their food choices with social media accounts they perceive as relevant, which reinforces the
findings of Noble et al. (2009) regarding Generation Y consumers’ behavioral adaptation to align with groups and individuals they perceived as relevant in order to blend in. Further, Bolton et al. (2013) found that Generation Y consumers value others’ opinions on social media to a large extent, which has also been identified by this study.

**Family & Friends**

During the focus group discussions, five participants stated that what food they purchase and consequently consume today is influenced by their families’ food choices during their childhood:

P16: “I think I was influenced by my family when I grew up because we used to eat ecological and locally produced food. And this is actually what I am still doing.”

Thereby, these participants mentioned that they have not undergone major changes regarding the food they consume. On the other hand, eleven participants indicated that they felt influenced by their families’ food choices in the past, but are not influenced by them to a high degree anymore since they chose to change their food consumption. In connection to this, the mostly mentioned factor that led to their change was related to the starting of an own household:

P4: “I was mostly influenced by my parents. Because they were cooking, so when I was a kid I never had to cook. But since I moved out I have to cook for myself and this, of course, had an influence on what I eat now.”

The latter finding can be linked to Noble et al.’s (2009) research which found that the factor of socialization issues influence Generation Y consumers’ behavior. Hence, these consumers aim to gain freedom by taking key decisions, in this case regarding their food consumption, on their own while backing away from parental influences to further find and define themselves through the consumption of certain products (Noble et al., 2009).

However, all participants stated that insects have never been, and still are not, part of their families’ diets. Consequently, the participants who indicated that their food choices are still aligned with their families’ food choices mentioned that they perceive that their families would not endorse the consumption of insects, which would impact them to not do so as well and consequently contribute to their purchase intention negatively. On the
other hand, these participants mentioned that if their families would consume insects, they would do so as well:

P5: “Well if my parents would have done it [consumed insects] when I was a child I would do so for sure.”

This indicates that these participants’ food choices are influenced by a certain perceived pressure of being aligned with what food their families consume, which can be seen as contradicting to Noble et al.’s (2009) finding concerning the role of socializing issues of Generation Y consumers regarding their behavior.

Additionally, the majority of the participants stated that their friends’ opinions and reactions towards entomophagy would influence them:

P11: “Image I would go to uni and then pull out my lunch box and as soon as I open it my friends look at me weird because there are bugs inside. I’m actually pretty sure that they would do that, so this is something that would not make me do it [consume insects].”

P3: “If my friends would tell me that it [insect-based food] is so good and that I should try it then I would try it.”

Overall, the statements of ten participants indicated that their friends would perceive the consumption of insect-based food negatively, which would consequently contribute to their own intention to buy these products in a negative way. Noble et al. (2009) also found that Generation Y consumers emphasize to align their behavior with the behavior of groups they perceive as relevant to them, such as their friends. However, they also identified that these consumers pursue different degrees regarding how they aim to fit (blend in) or stand out of these relevant groups through their behavior depending on their aspired degree of attention (Noble et al., 2009). Two participants of the present study also mentioned that they would perceive it as an appealing chance to stand out by consuming insect-based food and consequently attract attention among their friends:

P17: “I would be like: “Hey guys, look at this bug burger I got!” I think that would actually be pretty cool. I mean, no one has done this so far. So if the taste is good and I like it then I would even offer them to try it to convince them.”

Summarizing, this study found that both the family and the friends of the participants were perceived as influential on their buying intentions towards insect-based products.
This finding can be linked to Sogari (2015), who found that the opinions towards entomophagy of family members and friends influence consumers’ behavior regarding the integration of insects in their diets. Further, the majority of the respondents of Sogari’s (2015) study indicated that the practice of consuming insect-based food would not be approved and supported by their families and friends, which is aligned with the findings of this study. However, while the latter study did not differentiate between the degree of influence of family members and friends on consumers’ behavior towards the consumption of insect-based food, the present study found that the opinions towards and perception of entomophagy of friends were perceived as more influential on the sample than their families’.

4.5 Perceived Behavioral Control-related Findings

So far, this chapter has presented the identified themes regarding the TPB components of attitude and subjective norm. The following sections concentrate on the findings related to the third component of the theoretical framework of this study, the perceived behavioral control. Overall, two perceived behavior control-related themes emerged from the collected data which will be presented and analyzed in the following sections.

Availability

The conducted content analysis revealed that the large majority of the participants found the availability of insect-based products to contribute to their purchase intention, which reinforces Bellisle’s (2006) and Shepherd and Raats’ (2006) studies regarding the influence of physical determinants on consumers’ food consumption behavior. Thereby, the participants mentioned that they would not be able to purchase insect-based food during their routinized grocery shopping, indicating that the merchants they visit to buy their food do not stock insect-based products:

P16: “Well to be honest I would not know where to get them [insect-based products]. I go grocery shopping at least once a week but I have never seen any insect products.”

P8: “Here [in Sweden] I have no idea where I could buy it. I mean if you actually want to buy some bugs – I actually have no idea.”
Consequently, these participants stated that the lack of availability concerning insect-based products negatively contributes to their purchase intention. This finding can be linked to Shelomi (2015) and House (2016), who found that the extremely limited availability of insect-based food impedes consumers to purchase them and further leads to a passive rejection.

However, six participants agreed that they would be confident to find a way to buy insects if they would intend to, as can be illustrated by the following statement:

P7: “Well we are living in the 21st century so I am pretty sure that you could order them [insect-based products] online. You can buy everything online!”

Nonetheless, these participants stated that they would perceive it as inconvenient to order insect-based products online, which consequently would influence their purchase intentions in a negative way.

Overall, the participants who expressed the contribution of availability on their purchase intention agreed that they would expect insect-based products to be conveniently available and that, if this would not be the case, it would have a negative influence on their purchase intention. On the other hand, when the participants were asked to make the assumption that these products would be available at their preferred merchants, they stated that this increased availability would positively contribute to their purchase intentions. However, they also mentioned that it would not only be the availability, but also additional themes that would add to the formulation of their purchase intentions:

P18: “When it is convenient to get, like if it is in every store and easy to get for a reasonable price then why not try it and see what happens.”

P1: “Ok so if it [insect-based product] would be available... Well, I could buy it then, but I guess I still would not buy it because I do not know anything about how it tastes like. It would actually also depend on the price. When it would be cheap enough to let me try it without spending too much then I would consider to buy it.”

Price

The large majority of the participants of the present study indicated that they would perceive the price of insect-based products as affecting their purchase intentions. Since
the theme of price can be categorized as an economic determinant, it underlines the influence of these determinants on food consumption behavior and thus can be linked to the findings of Bellisle (2006), Glanz et al. (1998), Traill (1999), and De Irala-Estevez et al. (2000). However, the attributed importance of the price was inconsistent and further varied greatly among the participants.

Overall, five participants indicated that for them, the price of food products generally represents the most influential factor regarding their purchase decisions:

P11: “In the end, it all comes down to the price, no matter what food I am buying.”

Concerning insect-based products, these participants stated that if the prices of these products would be higher than the prices of substitutional products, they would not intend to buy them:

P19: “To be honest, if the insect stuff [insect-based food] would be more expensive than, I do not know, meat or soy for example, then I would, of course, go for the cheaper alternatives.”

Opposing to this, eleven participants stated that they would not perceive the price of insect-based products as the most influential factor on their buying intention. These consumers’ expressed that as long as a higher price would be justified by and in relation to other characteristics of the products, they would be willing to spend more:

P7: “I love the nutritional facts. So the price is the only thing that could be an issue but otherwise, I would start eating it [insect-based products] tomorrow – if it would be available. I think I would pay more because of the good proteins I would get, but I guess if they would be twice as expensive as regular protein products that would be too much for me.”

P10: “Well it depends on the quality of the [insect-based] product. If it’s good for me and good for the environment, then I think I would be willing to spend more.”

This finding indicates that most of the participants identified the importance of price to be related to the perceived value insect-based products would deliver them and further underlines the interconnection of attitude-related themes and perceived behavioral control-related themes. Consequently, it can be derived from this finding that trade-offs between the importance of price and the perceived quality of the products would take place and have an impact on the consumers’ purchasing intention. This finding can be
linked to Noble et al.’s (2009) study which found that Generation Y consumers’ behavior is influenced by value-seeking, which refers to their focus on finding the best price/quality relationship in their purchases.

Hoek (2010) and Siegrist (2008) also identified that it is important to consumers that novel food products are of good quality and reasonably priced. Regarding the specific case of insect-based novel food, De-Magistris, Pascucci, & Mitsopoulos (2015) found that consumers are willing to pay a higher price for products which are offered as nutritional and healthy, which is in line with the aforementioned statements of P7 and P10. Further, Lensvelt and Steenbekkers’ (2014) study identified that both price and quality of insect-based products are significantly important to consumers regarding their acceptance of these products.

However, the focus group discussion revealed that the participants had no knowledge about the actual prices of insect-based products, which most likely is reasoned in the fact that the consumers have never encountered such products in Sweden due to their novelty and extremely limited availability. Consequently, the assertions of the participants were based on assumptions only.

4.6 Additional Purchase Intention-related Findings

The conducted focus group interviews revealed that themes related to the theoretical framework’s components of attitude, subjective norm, and perceived behavioral control were perceived as influencing the purchase intentions of the participants. However, it became apparent that one additional theme is contributing to their intentions to buy insect-based products, namely the product name. This additionally identified purchase intention-related theme will be described and discussed in the following section.

**Product Name**

More than half of the focus group participants of the present study mentioned that the name under which an insect-based product would be offered on the market would influence their intention to purchase the certain product. Thereby, these participants indicated that they would prefer to buy insect-based food products which product names would not directly refer to the ingredient insect:
P18: “They [marketers] would have to name it [insect-based food] something fancy. If it would just be called “insect meat” or “grounded insects” then I would not buy it. It just sounds weird and people would probably look at me weird while shopping.”

The discussions regarding the naming of insect-based products further revealed that the participants would prefer to purchase insect-based products which names would not directly be connected to the ingredient of insects because the word “insect” would evoke feelings of disgust not only for the purchasing consumer itself but also for other consumers. Consequently, this finding can be linked to the findings of the study regarding the theme of disgust. Furthermore, the statements of the participants also indicated that they believe that other consumers which they would encounter during their shopping trips could perceive them as “weird” (P12) and “not normal” (P4) if they would decide to purchase a product which name would indicate that it includes insects, which would consequently contribute to their purchase intentions negatively. Ergo, this underlines the relevance of the findings of this thesis concerning the influence of culture on the participants’ buying intention.

When the participants discussed how an insect-based product should be named, five participants mentioned the food product named “Oumph!”, which is a soybean-based and thus vegan and protein-rich meat substitute invented and marketed by the company Food for Progress Scandinavia AB (Food For Progress Scandinavia AB, 2018), to be a good example of how to name novel food products in an appealing way without actually referring to their ingredients:

P10: “Yes, like you said, Oumph! is soybeans but the name of the product does not say it. It makes it more interesting and exciting. I guess they could have named it soy-meat stripes or something as well but to be honest that would not sound appealing to me. So you should name it [insect-based food] something else to make it appealing to the people.”

However, some participants also expressed concerns regarding an ornamental naming of insect-based products since the name could mislead them and hence make them consume insects unknowingly:

P15: “I am okay with fancy names but in the end, I still have to know what it is. I would never eat insects so I would be pretty angry if I would go out and buy a product that is
called “super-healthy-proteins” or anything else and then I would have to realize that it is made out of insects.”

As a result of the discussions, the participants agreed that they would perceive product names excluding the word “insect” as more appealing and hence positively contributing to their purchase intentions. Nevertheless, they further agreed that the marketers of the products would have to provide them with additional and accurate information regarding the ingredients of the products to avoid misinterpretations and consequently drive them to buy the products, which underlines that the participants perceive knowledge regarding the food they consume as an important factor regarding their intention to buy.

4.7 Findings of the conducted Taste Test

In addition to exploring the underlying factors that influence Swedish university-attending Generation Y students’ purchase intentions towards insect-based products, a taste test with insect-based chocolate chip cookies has been conducted during the focus groups in order to confront the participants with entomophagy and further investigate their reactions and willingness to try.

Before the insect preparations were presented to the participants, the question regarding their willingness to try insect-based products was posed. Consequently, 14 out of the 19 participants stated that they would be willing to try, indicating that it would be their curiosity towards entomophagy which would positively contribute to their attitude and thus drive them to try insect-based products. The five remaining participants who stated that they would not like to try insect-based products revealed different reasons for why they would not be willing to try. Thereby, three participants mentioned that they have a negative attitude towards entomophagy since they perceive it as disgusting to consume insect-based products whereas the remaining two participants mentioned that they would not try these products since they are pursuing the practices of vegetarianism and veganism, which would not allow them to consume products originating from animals.

After every participant stated if he or she would be willing to try, the insect-based chocolate chip cookies were presented and further made available to the participants. Subsequently, all of the 14 participants who indicated that they would be willing to try
took action by taking a cookie. On the other hand, all of the participants who stated to not be willing to try stuck to their intention and rejected to take the insect preparation.

However, before starting to consume the insect-based chocolate chip cookies, the participants started to have a detailed look at the products and stated that they will “(...) first have a look to make sure that there are no visible insect parts in there” (P7), which can be linked back to the aforementioned finding regarding the influence of texture and appearance on consumers’ intention. After assuring this criterion, the participants further started to test the smell of the insect-preparation. Thereafter, all 14 participants who tried agreed that the cookies smell “neutral” (P18) and that the smell does not remind them of insects, which they appreciated. Consequently, all of the 14 willing participants started consuming the insect-based products and began expressing their impressions of the taste of the insect-based cookies:

P3: “Tastes good! Like regular cookies.”

P18: “Fan va gott!” (English: Damn this is good!)

Overall, all participants who tried the insect preparation indicated that they liked the taste and that they would not be able to tell a difference between the perceived taste and the taste of regular chocolate chip cookies. Further, these participants attempted to convince the participants who rejected to try the cookies by directly addressing them that they perceived the taste as positive:

P7: “You should try it [insect-based cookie]. It tastes really good – no insect taste at all!”

However, the participants who stated that they were not willing to try the cookies were not convinced by these prompts and followed their initial intention of rejecting to try. This indicates that they were not affected by the pressure exerted upon them by the surrounding social setting.

Summarizing, the conducted taste test found that if the availability of food products that include processed and unrecognizably incorporated insects is ensured and the factor of price is eliminated, consumers are willing to try these products to a large degree. Thereby, curiosity was identified as the driving force behind consumers’ willingness to try. Further, all participants stuck to their initial intention and thus performed the indicated behavior by either trying or not trying the insect-based cookies. Moreover, it was found that the
taste of the offered insect preparations was perceived as good by all trying participants. However, the test also showed that the fact that the large majority of the participants were willing to and consequently tried the insect preparations had no influence on the intention of the participants who rejected to try, which indicates that no social pressure leading to a change of their intention was detected.


5 Discussion

The last chapter of this thesis concentrates on referring to the purpose of this study while also answering the proposed research questions on basis of the derived empirical findings. Subsequently, the findings are deployed in a managerial context in order to deliver insights about the development and marketing of insect-based products to marketers. Lastly, the societal implications, encountered limitations, and recommendations for future research are presented.

5.1 Conclusion

In general, it can be said that understanding consumer behavior is an intricate field of research which encompasses various determinants of different natures. Every individual consumer possesses a different mindset that contributes to its intention and behavior. Further, the interplay of determinants affecting a consumers’ intention and behavior varies in regard to the product or service being offered. However, it is of utmost importance for businesses to investigate and further understand consumers in order to develop and market products accordingly and thus contribute to successful operations on the market.

This study contributed important knowledge to consumer behavior concerning the context of entomophagy. Further, the visualized model derived from the findings (see Figure 5) displays the fulfillment of the purpose of the present study, which was to:

Explore the underlying factors affecting Swedish university-attending Generation Y consumers’ purchase intentions towards insect-based products.

Moreover, the authors were able to answer the proposed research questions:

RQ1: Which factors impact the purchase intentions of Swedish university-attending Generation Y consumers towards insect-based products?

As no available literature concerning entomophagy has concentrated on the factors which influence consumers’ purchase intentions, this research aimed to unveil affecting factors in order to clarify what contributes to the target population’s buying intentions towards insect-based products. The results of the present study showed that eleven factors impact
the purchase intentions of the target population towards insect-based products, which indicates that the pre-identified research gap has successfully been closed.

Further, the outcomes of this study showed that Swedish university-attending Generation Y consumers’ purchase intentions are formatted based on an interplay of the identified factors whereby some factors are subject to more acknowledgment than others, varying from individual to individual. Out of the unveiled factors, five were related to the TPB component of attitude (knowledge, taste, texture & appearance, disgust, and curiosity). In addition, three factors were related to the component of subjective norm (culture, social media, and family & friends) and two factors were found to be linked to the consumers’ perceived behavioral control (availability and price). Consequently, this showed that underlying factors of all three TPB components exist and thus reinforced the theory’s structure regarding the components’ contribution to consumers’ intentions in the present context. However, one identified factor (product name) had no direct link to the aforementioned components of the TPB. Nonetheless, this factor was found to also be contributing to the purchase intentions.

Overall, the authors were able to link nine of the emerged factors to existing literature regarding consumers’ receptiveness, acceptance, and readiness towards entomophagy, which showed that these factors also depict a relevance in the present context concerning purchase intentions towards insect-based products.

Moreover, the study uncovered two factors, namely social media and product name, which have not been mentioned in previous literature regarding entomophagy but have been identified to contribute to the purchase intentions of university-attending Generation Y consumers by this study.

**RQ2: How do Swedish university-attending Generation Y consumers react when given the choice to try an insect-based product?**

When given the opportunity to try an insect-based product, reasons for consumers’ unwillingness to try were either attributable to perceived disgust or the incompliance with personal nutritional preferences such as vegan or vegetarian lifestyles. If consumers were neither disgusted by consuming insect-based products nor in conflict with their nutritional lifestyles, their willingness to try was high. Thereby, the main driver for consumers’ willingness to try was identified to be curiosity. As presented in the findings, the large majority (14 out of 19) of the participants of this study were willing to try an insect-based
product. After being confronted with an insect-based product which contained processed and unrecognizably incorporated insects, consumers reacted by inspecting the product in great detail. Hereby factors such as texture and appearance and the smell of the product were found to be crucial. The more positive these factors were perceived and the more curious the consumers were, the more positive were their attitudes towards trying. In the case of this study, all 14 participants who indicated that they were willing to try showed a positive attitude and consequently followed their initial intention by performing the intended behavior of trying whereas those five participants who stated that they were not willing to try because of their negative attitudes towards entomophagy also stuck to their initial intention.

Hence, it was found that in the context of insect-based products containing processed and unrecognizably incorporated insects, consumers’ attitudes were consistent with their actually performed behavior, regarding both, the willingness and the unwillingness to try. Thereby, it further got acknowledged that social pressure exerted upon the consumers did not change the consistency of their behavior.

5.2 Managerial Implications

As this thesis concentrated on exploring the underlying factors affecting the target population’s purchase intentions towards the consumption of insects, the authors were able to present relevant insights and further draw valuable conclusions. The following section aims to provide marketers planning to develop and market insect-based products to the target audience with viable information and implications regarding their marketing mix.

Concerning product development, marketers should focus on products containing processed and unrecognizably incorporated insects rather than on products including whole insects in order to create foods which meet the target population’s preferred texture and appearance. Further, the products should feature a good taste, which can be achieved by aligning their tastes with flavors consumers are familiar with.

Moreover, it is recommended to marketers to concern themselves with the naming of insect-based products before introducing them to the market. Thereby, names which do not include the word “insect” should be chosen in order to counteract towards the general
tendency of perceiving insects as disgusting. However, it is of utmost importance that naming-related decisions are considered extensively to avoid misinterpretations and deceptions, which could heavily impair a brand’s reputation and would be difficult and resource intensive to revoke.

To positively improve consumers’ attitudes and hence counteract the attitudinal barrier towards entomophagy in Western societies, businesses should concentrate on developing marketing strategies which do not only focus on promoting insect-based products but further incorporate educational components to deliver knowledge to the targeted audience. Since Generation Y consumers are heavy internet and social media users, online marketing strategies should be executed. Thereby, content marketing strategies in form of online recipes or blog posts could be used to provide consumers with information about e.g. how to integrate insect-based products in dishes and the environmental and nutritional benefits of entomophagy while simultaneously increasing the awareness of entomophagy and further promoting the products.

When deciding upon online channels suitable to deploy these strategies on, social media channels such as Facebook, YouTube, and Instagram should be chosen in order to reach Generation Y consumers on their most frequently visited and trusted platforms. Due to the fact that these consumers’ value opinions of others on social media more than other age groups, it is further recommended to employ celebrity endorsement in social media advertising campaigns. Thereby, influential endorsers which are perceived as likeable and trustworthy by the targeted audience and further have a broad reach on social media channels should be chosen to support businesses to successfully market their insect-based products.

Regarding the positioning of brands planning to develop and market insect-based products, it is recommended to communicate entomophagy’s attributes of sustainability and environmental friendliness to create an appealing positioning on the market and in the target population’s minds and thereby clearly distinguish themselves from marketers offering other protein substitutes.

Since, as of today, insect-based products are subject to an extremely limited availability in Sweden, it is recommended to familiarize consumers with insect-based products containing processed and unrecognizably incorporated insects and to further enable them to evaluate the products’ tastes, textures, and appearances. Therefore, marketers should
provide free samples to shape consumers’ attitudes and consequently their purchasing intentions in furtherance of the consumption of insect-based products.

While developing and subsequently deploying strategies to generate demand for insect-based products, marketers should further focus on developing sustainable, reliable, and transparent supply chains. On the one hand, the transparency will thereby benefit businesses’ credibility in terms of sustainable farming and processing of insects. On the other hand, a well-organized and reliable supply chain will guarantee a high availability of insect-products and thereby enable consumers to purchase them conveniently. Since consumers are not willing to step out of their shopping routines in order to engage in entomophagy, insect-based products should be made available at their preferred points of purchase, such as common supermarket chains or local grocery stores.

Lastly, price levels which are justified by and in relation to the characteristics of the final products need to be established in order to drive sales.

5.3 Societal Implications

As mentioned in the first chapter of this thesis, humans will face a lack of nutritive resources in the near future due to the expected growth of the world’s population as well as its per capita income and urbanization (FAO, 2009). In the fact of this, the currently implied food system is expected to not be able to meet the anticipated future demand in a sustainable and environmentally friendly way since natural resources will become more and more scarce (FAO, 2009). Consequently, changes in the way food is produced are needed.

The present thesis provided valuable and expedient information to a society which is in need of changes.

Consumers will have to reconsider their food consumption habits to harmonize future demands with future supplies which should be based on alternative production methods. In order to achieve this, consumers will first have to become aware of the problems their kind is facing. Consequently, this thesis contributed to this process by providing thought-provoking information regarding the currently implied food system and a novel way of producing high quality proteins in a sustainable and environmental friendly way. After making available this knowledge, it is now up to the society to evaluate their current
attitudes towards entomophagy and further take action to decrease the food productions’
environmental footprint and hence allow future generations to live on a resourceful planet.

5.4 Limitations

Before listing the limitations of this study, it needs to be taken into account that this thesis
was conducted under two major constraints consisting of a limited timeframe and
financial limitations. However, during the research process, several additional limitations
were identified:

Firstly, the employment of a non-probability sampling method represents a limitation
since the resulting rather small sample does not allow the generalization of the findings.
Hence, the selected sample was generally too small to draw any statistical conclusions
regarding the targeted population. Further, notwithstanding the fact that all participants
were part of Generation Y, not all age groups within this generational demographic were
represented, which underlines that the sample was not statistically representing the target
population. Moreover, the sample only consisted of students enrolled at Jönköping
University, which might have limited the findings of the study. Although the sample
consisted of students only, different income levels might exist but were not taken into
account in this study.

Secondly, the study mainly focused on purchase intentions, which results in the fact that
the actual behavior of consumers was not investigated. Even though the conducted taste
test examined not only the intentions but also the actual behavior of consumers, it needs
to be acknowledged that the factors of availability and price were manipulated in this test.
Consequently, the findings of the taste test are not transferable to explain consumers’
behavior in real life. Therefore, the study only delivers results regarding how a behavior
could occur.

Lastly, linguistic differences might have limited the study. Since both, the authors and the
chosen sample were non-native English speakers, the focus groups conducted in English
might have been subject to linguistic barriers, which could have inhibited the sample’s
ability to accurately express opinions and beliefs.
5.5 Suggestions for Future Research

The first recommendation for future research comprises the verification of the emerged factors with a quantitative approach in order to gain generalizable results. Thereby, it can be of interest to identify the relationships among the factors as well as the degrees of influence each factor has on the components of the TPB to gain a deeper and multidimensional understanding. Furthermore, the emerged factor which was not linked to the components of attitude, subjective norm, or perceived behavioral control needs to be investigated more precisely in order to find the most appropriate categorization within the theory.

Moreover, another focus could lie on whether the willingness to try insect-based products changes in regard to the offered products. Thereby, multiple insect-based products containing different degrees of processed insects should be tested. In this context, it could be further investigated until which degree of processing (from completely unrecognizably processed insects to whole insects) consumers’ intention to try is in congruence with their actual behavior.

Since the present study did not investigate the actual behavior of consumers towards entomophagy due to the extremely limited availability of insect-based products in Sweden, it could be of interest to conduct a follow-up study when these products have been made available on the Swedish market to a considerable extent, which should then focus on examining consumers’ actual behavior.
References


Appendices

Appendix 1: Focus Group Discussion Guide

Section 1: Food Consumption-related Questions
Q1: Which factors do you believe to influence your food choices?
Q2: Do you care about sustainable food sources?
Q3: The consumption of proteins is important in order for our bodies to function. As of today, meat-based protein is the most common source of protein. Which additional sources of protein do you know?
Q4: Do you consume proteins originating from other sources than meat? If so, which?
Q5: Do you know what the word Entomophagy means? If so, can you explain it?

Providing the participants with the definition of Entomophagy: *Entomophagy is the consumption of insects by humans.*

Section 2: Attitude-related Questions
Q6: What do you think about the consumption of insects?
Q7: Why do you think this?

Section 3: Subjective Norm-related Questions
Q8: Has your food consumption changed over the past years? If so, how?
Q9: Are there people who have an influence on what food you consume? If so, who and how?
Q10: Do these people consume insects?
Q11: If these people would consume insects as food, would you do so as well?

Section 4: Perceived Behavioral Control-related Questions
Q12: What factors would make it easier for you to consume insects?
Q13: What would hinder the consumption of insects for you?

Section 5: Purchase Intention-related Questions
Q14: As of today, insect-based products are rather niche products in Western societies. If they would be available on the market to a larger extent, would you consider buying insect-based food?

Taste Test
Q15: Would you be willing to try insect-based food? Why/Why not?
Appendix 2: Consent Form

**Date:** DD/MM/YYYY  
**First Name of Participant:** __________________  
**Year of birth:** ________________

| I agree to participate in the focus group | Please initial box |
| I understand that my participation is voluntary and that I am free to withdraw at any time without giving reason | |
| I agree to the focus group being audio-recorded | |
| I agree to the use of anonymized quotes made by me in this thesis | |

**Participant’s signature:**
**Date:**

**Researcher’s signature:**
**Date:**