UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Master Degree Project in Innovation and Industrial Management

Customer Integration in Product Design via Mass Customization Toolkits:

A field experiment

Ilias Demiris

Supervisor: Evangelos Bourelos
Master Degree Project No. 2014:32
Graduate School

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A Field Experiment

By
Ilias Demiris
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Graduate School – School of Business, Economics and Law, University of Gothenburg
Vasagatan 1, P.O. Box 600, SE 405 30 Gothenburg, Sweden
ilias.demiris@gmail.com

Supervised by:

Evangelos Bourelos, Ph.D.
Post-doc Researcher
Institute for Innovation and Entrepreneurship
School of Business, Economics and Law – University of Gothenburg

Anagnosti John Choukalas
Head of Sustainability
APIVITA SA

Abstract

Toolkits for user innovation is one of the ways that customers can be involved in corporate innovation process. The most common type of user innovation toolkits is the *Mass Customization Toolkits*, an online interface where users customize the offering product according to their wants. *Demand* for customized products is the cornerstone for the successful adoption of such strategy. Previous studies have provided evidence of demand increase for mass-customized products in different product categories. This thesis is the first to study whether demand increases for mass customized *cosmetics* in comparison to mass-produced ones. Additionally, this paper is the first to research whether customization of *packaging* can yield similar positive effect on demand. In order to provide valid evidence on these issues, a field experiment was held at APIVITA Experience Store complimented with a survey-based hypothesis. Initial interviews were conducted in order to assure valid operationalization. The results provide evidence that the so-called *codesign process value* is adequate to increase demand for mass-customized cosmetics. The current study also shows increase in demand for customized packages. Further research shall be done on demand increase for mass customized cosmetics driven by the *mass-customized product value* and driven by both values collectively (mass-customized & codesign process values). Finally, an issue for further research is the packaging customization in an experimental study.

***Keywords**: Toolkits for user innovation, Mass customization, Packaging, Purchase Intention, Willingness to pay, Cosmetics*

Acknowledgement

I am grateful to my internal tutor at the *Institute for Innovation and Entrepreneurship*, ***Evangelos Bourelos***, who was always genuinely helpful when I was in a need. His contractive feedbacks were crucial for all phases of this research.

I am also thankful to my external tutor at *APIVITA SA*, ***Anagnosti John Choukalas***, who believed in this project and me personally. His contribution was vital for the ideation, coordination and execution of this thesis. Additionally, I offer my regards to ***all employees*** at *APIVITA Experience Store* for their warm hosting during the data collection phase of the research.

Panos Skarlas, the IT developer who devoted approximately 60 hours in the development of the MC toolkit, is another person I am grateful to. His kind intention to get involved in such a time-consuming project was crucial.

Last but not least, a special thanks goes to ***Sophia Triantou***, the *APIVITA* Pharmacist and *Personal* product line saleswoman, for sharing her knowledge with me and for devoting her time to this research and to me personally.

Thank you all for your unique contribution.

Ilias Demiris
May 2014, Athens, Greece

List of Abbreviations

CPVT:	Customer Perceived Value Tool
MC:	Mass Customization
PI:	Purchase Intention
WTP:	Willingness to Pay

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1. Introduction

There has been a long discussion of whether companies should establish a closed or open innovation process (Dodgson, Gann & Salter 2008; von Hippel 2005; Chesbrough, 2003). Chesbrough (2003:38) – the father of open innovation – suggests among others that when a company implements an open innovation practice espouses the belief that: *"If we make the best use of internal and external ideas, we will win."* Furthermore, Suppliers, Individuals, Universities, Research Laboratories, Government & Foundations or Other Organizations can be external sources of ideas for innovation (Dodgson, Gann & Salter 2008). A specific group of individuals that can be proved vital for the successful commercialization of innovations is the end-customers or users (von Hippel 2005; Seldan & MacMillan 2006; Dodgson, Gann & Salter 2008).

The author is highly interested in the ways customers can be involved in the innovation process. Therefore, the starting point for this research paper is the different methods in which users can be integrated in corporate innovation.

Additionally, the author's previous work experience at *APIVITA SA*, the first Greek Natural Cosmetics Company, was one more major factor for the ideation and execution of this study. *APIVITA* has been characterized as a *breakthrough innovator* by the researchers of *Worldwatch Institute Europe* (Niculae et al., 2013) as it leads the road of industry transformation through its innovative and sustainable business model. The company has a presence in 14 countries in 4 continents and has well-founded capabilities in cropping and beekeeping (raw materials for the final products), production, logistics, R&D, marketing, retail, branding and more. (More information about *APIVITA SA* can be found in Appendix 1)

1.1 Background

As mentioned earlier, research on user innovation techniques is the starting point of this paper. Eric von Hippel (2005), the guru of user innovation, argues that there are three major ways to integrate users in a corporate innovation process:

1. The Lead User Method,
2. Innovation Communities and
3. The Toolkits for User Innovation and Custom Design.

As far as the author is aware, Eric von Hippel was the first to introduce the concept of *User Innovation Toolkits* (von Hippel, 2001). The most common way to establish such corporate practice is the *Mass Customization (MC) Toolkit*, an online interface in which companies "outsource" some product design activities to customers, and thus the final user personalizes the offering product according to his/her wants (Thomke & von Hippel 2002).

MC toolkits enable customers to develop products that cover their needs completely and thus allow companies to set premium prices to the customized products, gain direct insight to market information and increase their loyalty base (Piller et al., 2004). Probably the most

important benefit is that companies can get generalizable insights about what customers want if they identify common patterns of customized products; and thus develop and commercialize a new product closer to the customers' needs. Finally, apart from the powerful marketing aspect, the practical implementation of a MC toolkit has explicit implications to the production and supply systems of a company. (Fogliatto et al.,2012)

Studies have indicated that customizing products through a MC toolkit increases demand in terms of purchase intention and willingness to pay, and this effect is not solely due to utilitarian reasons. Furthermore, other papers have proven positive effects on customer demand based on packaging attributes. Therefore, packaging customization is an issue for research in a MC setting.

1.2 Purpose

This paper focuses on the marketing aspect of MC toolkit implementation at *APIVITA SA*. Therefore, the main purpose of this thesis is to examine whether online selling of customized cosmetics via a MC toolkit would increase demand in comparison to online selling of mass production products. Furthermore, this study aims to provide the first known indicators of whether packaging customization would be a suitable strategy. Therefore, a business experiment held at *APIVITA Experience Store* is the main method used in this thesis, complemented by a survey and some qualitative techniques; thus aiming at exploring the potential of a real life implementation of a MC toolkit.

1.2.1 Research Question

The research question aims to assess whether the adoption of an MC toolkit would be an appropriate strategy for APIVITA, and is the following:

How does customization affect demand?

This research question is divided into sub-research questions:

- How does customization through a MC toolkit affect demand?
- How does customization through packaging choice affect demand?

1.3 Motivation on Topic

Except from the researcher's interest in user innovation techniques, the exciting challenge of bridging Master's level research with corporate practice played a central role to the crystallization of the research topic. Thus, since *APIVITA SA* had already established a customizable product line – *the Personal product line* – it was apparent to the researcher that MC toolkits is the most appropriate topic for this research. *APIVITA's Personal* products are currently sold only in *APIVITA's Experience Store.* Since, the company realizes the

megatrend of customization, this paper comprises an evidence-based, decision-making study of whether a MC toolkit would be a suitable strategy for the firm.

Additionally, the author views this project as a fascinating way to acquire knowledge on aspects of contemporary management to which he not exposed before. Some examples of new experiences include: website development, in depth data analysis and development of "*hard*" skills, observation of customer buying behaviour and direct communication with customers on the purchasing field.

1.4 Research Gap

Although the author has tried to find similar studies that prove relations between customized cosmetics through an MC toolkit and demand variables, none were found. However, in the cosmetics industry, Procter and Gamble had established a huge MC experiment running from 1999 until 2005 under the *Reflect* brand-name (Piller et al., 2004). P&G had established this business unit in order to acquire knowledge on the field of mass customization and eventually apply this knowledge in other well-established brands of the group. When P&G Spokeswoman Cheryl Hudgins was asked about the shutting down of Reflect she stated (Piller, 2005):

"What happened was, we learned what we needed to learn"[1].

Therefore, the identification of demand increase for customized cosmetics is a major aim of this research. Additionally, this paper consists the first known to the author attempt to explore whether packaging options could yield a positive effect on demand in a MC setting. Therefore, this thesis additionally aims at exploring whether packaging customization could be proven a field of research in the future.

1.5 Thesis Overview

Following this introductory chapter, ***Chapter 2*** of the paper presents the literature that was reviewed, the major influences for designing this thesis and finally concludes with the hypotheses that are tested with quantitative techniques. The ***3rd Chapter*** (Methodology & Data) describes the *mixed-methods* approach that is used in order to answer the research question. While the main methods used are quantitative, some initial qualitative techniques are used (qual→QUAN). Additionally, chapter 3 describes the operationalization of the variables and the data collection phase of the research. ***Chapter 4*** (Empirical Findings) illustrates the empirical findings through the conducted interviews and the questionnaire. Further, in chapter 4 the results from the data analysis are presented and interpreted. Finally, ***Chapter 5*** (Conclusions) draws the final conclusions of this research and suggests topics for further research.

[1] http://mass-customization.de/2005/08/reflectcom_clos.html

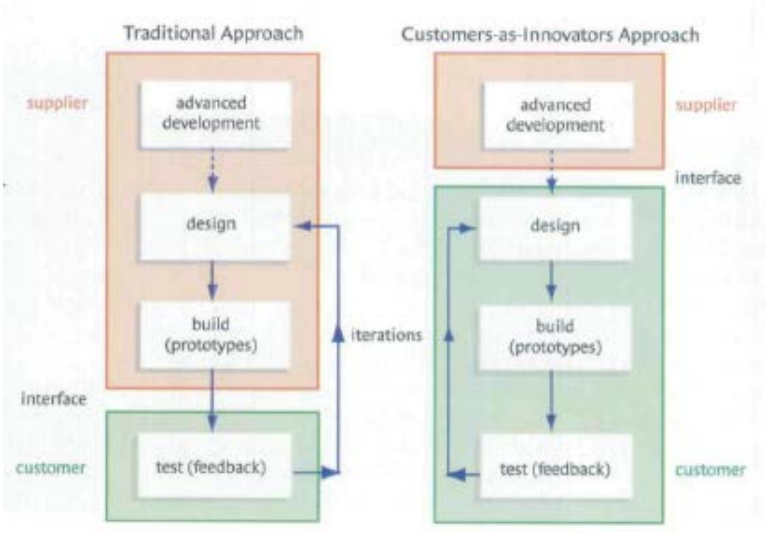
2. Literature Review and Hypothesis Building

This literature review *firstly* presents the background of toolkits for user innovation and *secondly* illustrates some major considerations regarding mass customization. In the *third* part of the literature review important findings in the demand side of mass customization are presented and Hypothesis 1 is built. Finally, the *fourth* sub-section discusses the implications of packaging in demand, and Hypothesis 2 is presented.

2.1 Toolkits for User Innovation

The customer integration in innovation process seems the *right choice* when market segments are decreasing and thus there is clear indication from the customers for customized products. Additionally, when customers complain about slow response to their needs (frequently meaning that customer loyalty is decreasing) or when competitors have developed customer web-based rapid prototyping techniques (an initial effort towards user toolkits); customer integration in innovation process is recommended (Thomke & von Hippel, 2002). The differences between the traditional product development approach and the one that toolkits facilitate are depicted in the following scheme:

Figure 1 – Traditional Vs Customer-as-Innovators Product Development Approaches (Thomke & von Hippel, 2002)



As can be seen from the previous figure, the Customer-as-Innovator Approach integrates the user to the development of the final product. However, in order this to be done effectively, user innovation with specific features must be developed. According to von Hippel (2001 & 2005) a high quality toolkit should combine the elements that are mentioned in the following page.

1. Include trial-and-error learning which will save time to the user and educate him/her,
2. Define an appropriate solution space that fulfils the customization expectations of the customer,
3. Be user-friendly meaning that users should not spend much time in order to effectively use the toolkit,
4. Provide libraries with the mostly used modules in order to facilitate the user's design efforts, and
5. Translate "sticky" information automatically from customer design to production language without requiring revisions by the manufacturer.

Since the first to introduce the concept of user innovation toolkits was Eric von Hippel, a definition provided in his book *"Democratizing innovation"* is provided below.

"Toolkits for user innovation and custom design … involves partitioning product-development and service-development projects into solution-information-intensive subtasks and need information-intensive subtasks. Need-intensive subtasks are then assigned to users along with a kit of tools that enable them to effectively execute the tasks assigned to them to the toolkit and so influences what they develop and how they develop it." (von Hippel, 2005:16)

In other words, a toolkit for user innovation is the interface that allows the accurate user-manufacturing interaction for product development.

2.2 Mass Customization (MC)

The first to introduce the concept of mass customization was Davis (1989). At that time, mass customization had conceptual meaning without practical adoption from companies. According to Fogliatto et al. (2012:15) the decade 2001-2010 favoured the evolution and adoption of MC as a business strategy due to important developments in web-based and manufacturing technologies. Probably the most well known example is that of Dell, who implemented a mass customization strategy back in early 2000's (Thomke & von Hippel, 2002).

Several studies have indicated that customers have heterogeneous needs and thus mass production and marketing cannot fulfil their expectations (von Hippel and Katz, 2002; Berger and Piller, 2003; Schreirer, 2006). While segmentation satisfies only the 50% of customers' wants (Franke and von Hippel, 2003), mass customization seems a reasonable strategy when the "*R&D problem*" *(how to design specialized products efficiently)* and the "*production problem*" *(how to manufacture them)* can be economically tackled (Thomke & von Hippel, 2002:81).

There are several success factors and enablers that are crucial to the successful implementation of MC strategy (Fogliatto et al., 2012), which are summarized in the following page.

Figure 2 – Issues for a successful MC Adoption (Fogliatto et al., 2012)

MC Success Factors	MC Enablers
• Customer Demand • Market Structure • Appropriability of Value Chain • Information & Manufacturing Technologies • Customizable Offer • Knowledge Transfer	• Methodologies • Processes • Order Elicitation • Design-Postponement • Design-Product Platform • Manufacturing • Supply Chain Coordination • Manufacturing Technologies • Information Technologies

The total corporate commitment toward such strategy is evident from the table above. A company that is considering an MC approach should identify such customer demand and market suitability, implement a MC system that allows the right customizable offer and coordinate the IT, manufacturing, supply and distribution techniques with such practice.

Kaplan and Haenlein (2006) suggest that mass customization occurs in the operational activities of a company. According to their study, there are two distinct types of mass customization; the traditional mass customization and the Electronic mass customization. The traditional mass customization can have a "*visionary definition*" (when customization is held at the design phase of operations) or a "*working definition*" (when customization is held at the fabrication/assembly phase). Their definitions follow:

*"**Traditional MC – working definition**: Mass customization is a strategy that creates value by some form of company-customer interaction at the fabrication/assembly stage of the operations level to create customized products with production cost and monetary price similar to those of mass-produces products."* (Kaplan & Haenlein, 2006:176-177)

*"**Traditional MC – visionary definition**: Mass customization is a strategy that creates value by some form of company-customer interaction at the design stage of the operations level to create customized products, following a hybrid strategy combining cost leadership and differentiation"* (Kaplan & Haenlein, 2006:177)

*"**eMC – Definition**: Electronic mass customization is a strategy that creates value by some form of company-customer interaction at the fabrication/assembly stage of the operations level to create customized products with production cost and monetary price similar to those of mass-produced products, where at least one of the market dimentions – player, product and process[2] – is digital."* (Kaplan & Haenlein, 2006:178)

It is important to note though that Kaplan and Haenlei (2006) discriminate mass customization and User Innovation as two different practices. The basis of this argument is

[2] Players: any stakeholder interested in the MC, Product: the commodities being subject to market exchange, Processes: the interactions between market players

that in a mass customization context, users are sure that the product that they designed will be produced and delivered, while in a user innovation context, customers send a blueprint to the manufacturer. However, the manufacturer does not promise that product described in the blueprint will be produced or delivered.

In contradiction to Kaplan and Haenlei's (2006) stance that mass customization is another practice than toolkits for user innovation, Thomke and von Hippel (2002) present mass customization as a strategy in which toolkits are the interface of user-manufacturing interaction. Similarly, a series of studies (Schreier, 2006; Franke & Piller, 2004; Franke et al., 2010) base their analysis on the concept of toolkits for user innovation as developed by Eric von Hippel (2001), and argue that mass customization occurs through a toolkit for user innovation. Thus, these studies dispute the major difference that Kaplan and Haenlei (2006) point out – that in a user innovation setting the user is not sure that the product will not be manufactured.

To conclude, ***the interface that allows product customization is referred as a Mass Customization (MC) toolkit***. Finally, if mass customization toolkits should be matched in a Kaplan and Haenlei's (2006) definition, the most suitable is that on Electronic Mass Customization (eMC) since the pre-mentioned studies deal with internet-based interfaces.

2.3 Demand and MC Toolkits

Earlier was mentioned that customer demand is one of mass customization success factors (Fogliatto et al., 2012). Aligned with such finding, Franke and Piller (2004:404) state that the implementation of MC toolkits is a steadily increasing strategy both in B2B and in B2C settings. However, the demand for customized products could heavily vary depending on the toolkit itself and the customization options offered (Franke et al., 2010), the product category (Schreier, 2006; Piller et al., 2004) and the market structure (Fogliatto et al., 2012). However, what is demand?

According to Oxford University Press Dictionary of Marketing (Doyle, 2013) demand is:

"The stimulations that lead to the acquisition of new customers, keeping existing customers, and growing the overall demand of each customer for the company or organization's products and services. This may also include increasing demand by taking an innovative approach to the way in which traditional products and services are delivered to customers, which has the effect of expanding demand…"

"…The assessment of demand is also crucial, particularly in terms of strategy and pricing…"

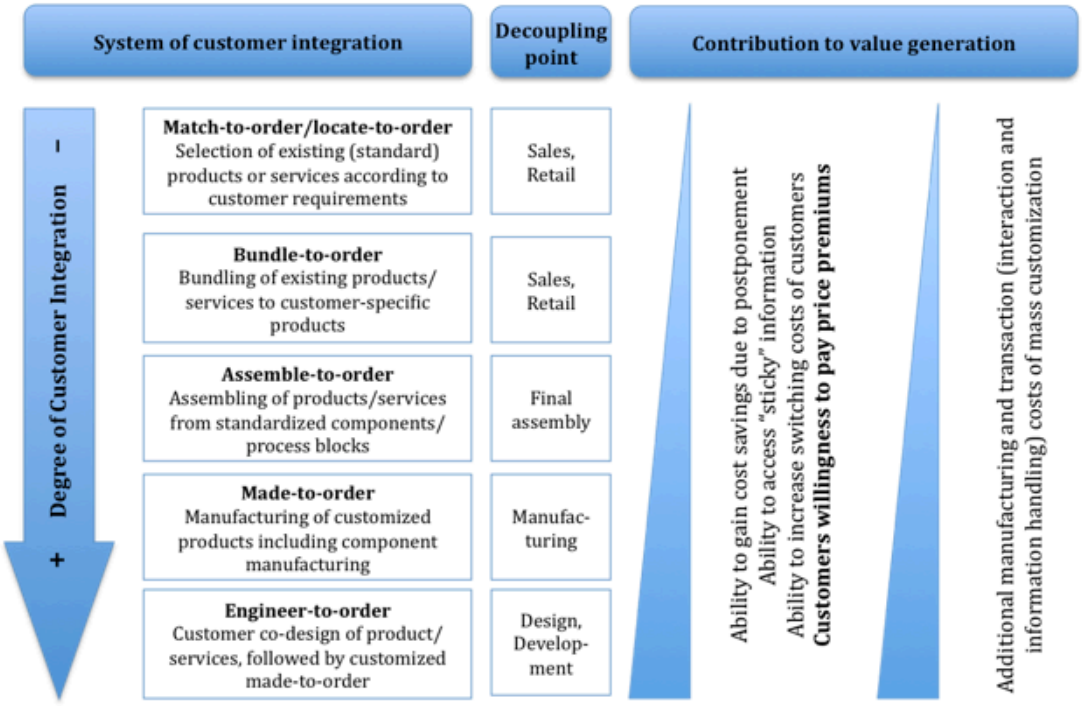
"…an innovative new product or service will have no historical demand data or trends, and the marketer must therefore use other techniques—including guesswork, hope, and instinct."

There are clear indications that customized products stimulate demand. On the one hand, Piller et al. (2004) reported a price difference of customized NIKE shoes through NIKEiD (the company's MC toolkit) of ***5%*** in comparison to mass-produced NIKE shoes. On the other

hand, Schreier (2006) documented an increase in customers' ***Willingness to Pay*** (WTP) of ***207%*** for customized mobile phone covers in comparison to standard products, an increase of ***113%*** in the case of customized t-shirts and an increase of ***106%*** in the case of customized scarves.

Piller et al. (2004) studied 14 corporate mass customization practices in different industries (Fashion shoes, PCs, Men's formal wear, Jeans, Comics, Sport shoes, Cosmetics and body care, Women's footwear, Vitamin products and Bags & luggage) and concluded in the following archetypes of mass customization.

Figure 3 – Archetypes of Mass Customization (Piller et al., 2004:443)



As illustrated in the previous scheme, customers are willing to pay higher prices when their integration in product design is higher, indicating higher demand. However, the manufacturing and transaction costs are higher when customers are more involved in the product development process. Therefore companies need to assess the potential of customers' willingness to pay along with the costs involved in the customization process.

Furthermore, Schreier (2006) argues that customers customizing a product through a MC toolkit perceive a 4-dimensional value, which results in higher ***willingness to pay*** in comparison to online buying of the most suitable mass-production product. The four customer benefits received by such activity include: *functional benefit, perceived uniqueness, process benefit* and *"pride of authorship"*.

The ***functional benefit*** occurs due to the product higher utility that customers derive from customized products in comparison to mass-produced ones. The functional benefit is considered as the major driver behind the higher purchase intention because the utility of the customized product is closer to their needs (von Hippel, 2001). ***Perceived uniqueness***

reflects the customers' want to feel different from others. Additionally, ***process benefit of self-design*** occurs by the enjoyment of creating something. This is evident in a mass customization setting and willingness to pay is negatively affected by the difficulty of using the MC toolkit and positively affected by the perceived enjoyment (Schreier, 2006). Finally, the "***pride of authorship"*** is stated as a perceived benefit, which can be clearly noted in a meal setting where only the cook can be proud of his meal. Such indication is apparent in corporate mass customization as well. Companies point out the "ego" aspect of mass-customized products through the names of their MC toolkits (i.e. Dell 4 ME, My Adidas and My Yahoo) (Liechty et al., 2001).

Similarly to this logic, Merle et al. (2008 & 2010) developed and validated measuring items for the perceived value a customer is receiving when going through the process of customization via a toolkit; the Customer Perceived Value Tool (CPVT). The CPVT is very similar to the benefits Schreier (2006) described and incorporates 5 districted values a mass customization toolkit yields:

1. Utilitarian value
2. Uniqueness value
3. Self expressive value
4. Hedonic value
5. Creative achievement value

These 5 distinct values are categorized to mass-customized product value (1 to 3) and to Codesign process value (4 and 5) according to Merle et al. (2010) factor analysis. The figure that follows in the next page, states the definition of each customer perceived value as mentioned by the authors.

Figure 4 – Definitions of Benefits from MC Toolkit (Merle et al., 2010)

Perceived benefit	Definition
Mass-customized product value	
Utilitarian value	Value acquired from the closeness of fit between product characteristics and individual preferences
Uniqueness value	Value acquired from the opportunity to assert personal uniqueness using the customized product
Self-expressiveness value	Value derived from the opportunity to possess a product that is a reflection of personality
Codesign process value*	
Hedonic value	Value acquired from the experience's capacity to meet needs related to enjoyment, fun, or pleasure
Creative achievement value	Value acquired from the feeling of accomplishment related to the creative task of codesigning

*For mass customization strategies that imply an elicitation process using a configuration tool.

In a previous study, Merle et al.'s (2008) found positive relations between the overall value of MC that customers receive through an MC toolkit and ***purchase intention***. This suggests similarities with other findings that point out that the quality of the MC toolkit plays an important role in customer's ***willingness to pay*** (Schreier, 2006; Franke et al., 2010).

An experimental study on the topic of mass customization shows positive effects that different levels of customization yield in ***willingness to pay***, ***attitude towards the product*** and ***purchase intention*** in newspapers (Franke et al., 2009). In this study generalization across other markets is proved, by testing two levels of customization and willingness to pay in 4 product categories (fountain pen, kitchen, skis and breakfast cereals). The generalization section of this article is considered important because the markets that this is done are highly heterogeneous.

Furthermore, Franke, et al. (2010) suggest three main drivers of customer demand in regards MC toolkits. The ***preference fit*** of the customized product with the customer needs, which should be as high as possible, the ***design effort***, which should be as low as possible, and what they named ***"I designed it myself"*** effect. In their study, they showed that this effect creates high value for customers independently from the other two drivers, measured in terms of ***willingness to pay***. Additionally, the authors point out the tradeoffs between preference fit and design effort, and wonder whether the "I designed it myself" effect is applicable to customized *utilitarian* products. Finally, the authors suggest labels and certificates as a possible way to emphasize the role of the customer as a creator. Especially they recommend (Franke et al., 2010:138): *"…(e.g., "Original design by [your name here], 2009, all rights reserved")"* as a possible text for emphasizing the "I designed it myself" effect and point out the need of further research in this aspect of MC toolkits.

Nevertheless the above-mentioned studies show positive effects between customization and demand (purchase intention & willingness to pay). Therefore the following hypothesis is built:

Hypothesis 1: Demand will increase for the customers who customized the offering product.

Hypothesis 1a: Purchase intention will increase for the customers who customized the offering product.

Hypothesis 1b: Willingness to pay will increase for the customers who customized the offering product.

2.4 Demand and Packaging

Packaging has received a lot of attention for many years now. It is considered as a means of corporate brand identity building and product communication (Kotler, 2007).

According to Srinivasan et al. (2012) companies should create products whose functionality, aesthetics and meaning corresponds to customers' expectations in order to be successful. In

such context, packaging should be considered as a means to create the product coherence in the mind of the customer, which will create a successful customer experience.

The four top attention grabbers for packaging design according to Klimchuk & Krasovec (2006) are the colour, the physical structure or shape, the symbols and numbers and the typography. Additionally, packaging should be culturally appropriate, linguistically accurate, visually logical and competitively designed.

Such indications are apparent in mass marketing (Kotler & Pfoertsch 2010) but have not been documented in a mass customization setting. However the researcher has tried to find studies that indicate the dynamics of packaging customization in a mass customization context, his efforts did not prove fruitful.

Two studies were found showing causal relations among packaging attributes and demand in the food industry. The first study examined the effects of chewing gum packaging design on customers' expectations and purchase intention (Rebollar et al., 2012). The study found that customers' ***purchase intention*** is related to the packaging format and colour. The study revealed that customers' purchase intention is more heavily affected by the colour of the package than the format. Finally, this study has high external validity, at least in the chewing gum market, due to its big sample (N = 390).

Similar findings were indicated in another study (Ares & Deliza, 2010), in which colour seemed to have a highly significant effect on ***purchase intention***; whilst the shape of the package did not have a significant effect. The research was dealing with milk dessert products and pointed out that customers evaluate shape and colour independently.

Although there was no documented effect of packaging customization to mass customization strategies, this is an interesting topic for research. As mentioned before, Schreier (2006) identifies 4 benefits a customer perceives through the mass customization while Merle et al. (2008 & 2010) identify 5. Only one out of these values refers to utility (*functional benefit* and *utilitarian value* respectively) thus the customization of a package could yield increase in demand and especially in purchase intention as indicated by the studies proving causation. Therefore, the following hypothesis is built:

Hypothesis 2: Demand will increase when customers choose the package of the product they customized.

Hypothesis 2a: Purchase intention will increase when customers choose the package of the product they customized.

Hypothesis 2b: Willingness to pay will increase when customers choose the package of the product they customized.

3. Methodology & Data

The starting point for designing the most appropriate research strategy and design, should be the research question (Bryman and Bell, 2007). The research area of this study was influenced by APIVITA's practical considerations, the areas that the researcher is interested at as well as his personal values regarding business research. The research question that defined the overall research strategy and methods is:

How does customization affect demand?

This research question is divided into sub-research questions:

- How does customization through a MC toolkit affect demand?
- How does customization through packaging choice affect demand?

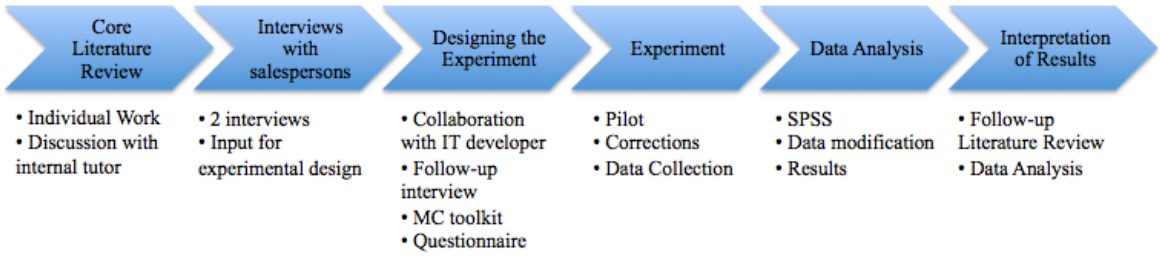
3.1 Research Design & Research Methods

At an early stage of the research formulation, it was decided that the best research strategy to use in order to answer this question would be mainly based on a deductive logic and quantitative techniques. Therefore, the literature review followed and two distinct hypotheses with two sub-hypotheses each are built (see Literature Review Chapter) in order to facilitate the method for answering the two sub-research questions

Hypothesis 1 is tested in a field experiment setting aiming at causal findings. Hypothesis 2 is tested in a survey setting thus, limiting the validity of the findings (Bryman & Bell, 2007). Although, quantitative methods were the dominant, the research is complemented with additional qualitative techniques in order to facilitate alignment of the theoretical findings and APIVITA's practice. Therefore the final research design incorporated both qualitative and quantitative techniques forming the final mixed-method research design. The author concluded in such research design because he espouses the beliefs that qualitative research can effectively facilitate the hypothesis building phase of quantitative research. Therefore, the applied mixed-method approach can be briefly written in the following way according to Bryman & Bell (2007:632): **qual→QUAN**

A more descriptive illustration of the established mixed method can be seen in the following figure.

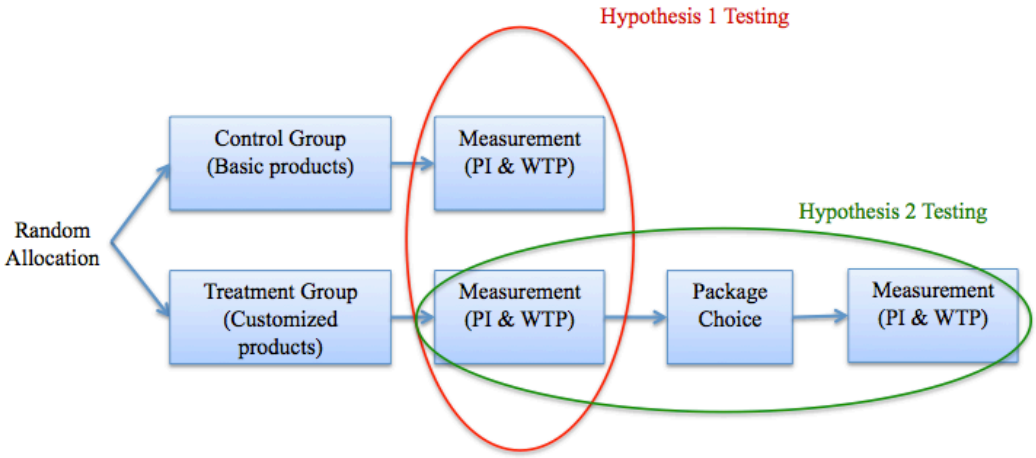
Figure 5 – Overview of Research Design



Additionally, in order to ensure the quality of the experimental design the book "*How to Design and Report Experiments*" by Andy Field and Graham Hole (2003) SAGE Publications Ltd, is used as a guide. Further, experimental studies found in academic journals dealing with the specific research topic were used as a major input for the operationalization of the experiment.

The treatment group of the experiment is used as the sample that hypothesis 2 was tested. A scheme illustrating the experimental design as well as where each hypotheses is tested follows:

Figure 6 – Overview of Experimental Design & Hypothesis 2 Testing



3.2 Dependent Variables - Demand

3.2.1 Operationalization of Demand

In an experimental study dealing with user communities and product development (Fuchs et al., 2010); demand was operationalized with two distinct variables: willingness to pay and purchase intention. Therefore this logic (demand measured in terms of WTP and PI) is used in this study, since those variables have been studied in MC toolkit researches as illustrated in the literature review (Schreier, 2006; Franke et al., 2009; Merle et al. 2008).

Additionally, experimental studies dealing with packaging attributes have examined purchase intention as the dependent variable (Rebollar et al., 2012; Ares & Deliza, 2010). Thus, the addition of willingness to pay as a variable in hypothesis 2b has an exploration aim.

3.2.2 Purchase Intention

Purchase intention was measured according to Franke et al.'s (2009) 5-point scale (1 = completely disagree; and 5 = completely agree), which is a modification of Juster's (1966)

11-point probability scale. Due to the adjustment of existing scales for this variable, the external ***validity*** of the measurement is considered high. Further, in order to ensure the measurement and observation's ***reliability*** three items, modified from Juster's (1966) study, were used (Chronbach's α = .896)[3]. Finally, the purchase intention was measures by computing the mean of those three observations.

3.2.3 Willingness to Pay

Similar experimental studies indicate that the Vickey auction is the best way to measure willingness to pay (Schreier, 2006; Franke & Schreier 2008). This was not feasible in this study and thus, the participants were asked to indicate their willingness to pay in an open ended question (stated in Euros) as this was done by Franke et al. (2008). However, in order to directly control for the stated willingness to pay and obtain a more ***valid*** observation, one key-question is included in the questionnaire to measure the product category involvement; similar to Franke et al. (2008). The question was providing the picture of APIVITA's mass-produced After Sun and was asking the subjects to choose for which out of 5 prices (retail price, retail price ± 15% and retail price ± 30%) they would buy these products.

Therefore the willingness to pay was measured with the proxy illustrated in the following formula:

WTP = (Stated WTP / After Sun Price Indicated)*10

Note: When a participant's Stated WTP was "from 10 untill 12 Euros" (which was not rare since the question was open-ended) the mean "11 Euros" was considered as the stated WTP.

3.3 Independent Variables

3.3.1 Customization

Operationalization of Customization – the MC Toolkit
(Independent Variable for Hypothesis 1, Manipulation for the Experiment)

For the ***treatment group*** (customization via MC toolkit), the "make-it-on-your-own" website www.wix.com was used in order to develop APIVITA's MC toolkit. However the researcher was able to contribute in great extent through wix.com to the development of the interface, the help of an IT developer proved vital in order to include interaction between the website and the user, by adding HTML codes. The close collaboration of the author and the IT developer lasted for 3 weeks, during which approximately 200 hours were devoted to the development of the MC toolkit from both sides collectively. This operationalization phase

[3] The Chronbach's α indicated above illustrates the reliability of the measures as this was given from SPSS for the reliable and valid observations as these are described in the Method & Sample for Quantitative Data sub-section on this chapter.

resulted to a database of 450 product bundles. Each product bundle represented a possible customized body-moisturizing product that customers could create on the MC toolkit.

The MC toolkit provided two options to the customer, either to create a product according to the *aroma* (smell) they wanted or to create a product according to the *complementary desired outcome* following APIVITA's current customization process (for APIVITA's current customization process see the next chapter). The following figures illustrate the customization options provided in the MC toolkit.

Figure 7 – Customizable Product Attributes & Levels in *Aroma* Customization Section of APIVITA's Toolkit

Product Attributes	Texture	Type of Skin	Aroma (Essential oils)	Aroma Volume
Levels	2 levels (body cream & body milk)	3 levels (dry, normal & oily)	24 levels (all essential oils & no aroma)	3 levels (weak, distinct & strong)

Figure 8 – Customizable Product Attributes & Levels in *Complementary Desired Outcome* Customization Section of APIVITA's Toolkit

Product Attributes	Texture	Type of Skin	Complementary desired outcome
Levels	2 levels (body cream & body milk)	3 levels (dry, normal & oily)	5 levels (euphoria, relaxation etc)

Further, except from the appropriate solution space (product attributes and levels) that was operationalized according to the recommendations of the interviewees, in order to increase the quality of the toolkit (von Hippel, 2001) module libraries were included in the toolkit. Additionally, during the pilot participants were asked for extended feedback in order to increase its user friendliness.

For screenshots taken from APIVITA's MC toolkit visit Appendix 2.

The subjects that participated as the ***control group*** (no customization) were asked to surf online on APIVITA's website in the body-moisturizing product category page and asked to identify the product that best meet their needs, then the questionnaire was provided for obtaining the measurements. The questionnaires are the same for both groups with the only two differences being (see next page):

1. Some phrases like *"…the body moisturizing product that you chose"* for the control group is replaced by *"…the PERSONAL product that you created"* in treatment group's questionnaire.
2. Some additional questions for testing hypothesis 2 are included in treatment group's questionnaire.

Participants in both groups completed the questionnaire (which was created through www.qualtrics.com) directly on the PC in order to avoid the extra effort of digitalization of data. For the full questionnaire please visit Appendix 3. Finally, the whole operationalization of the experiment was based on Schreier (2006) and Franke et al. (2008) operationalizations, where participants of the control group identified the mass-produced product that best meets their needs in a e-commerce setting while the treatment group customized the a product through an MC toolkit.

3.3.2 Packaging Choice

Operationalization of Packaging Choice
(Independent Variable for Hypothesis 2, Included in the questionnaire)

The major influence to conclude on which is be the most relevant package option to operationalize the packaging choice, was the interviews with the saleswomen (see Qualitative Empirics sub-section of the following chapter). Since the shape of the package is consider as the major attention grabber for APIVITA Personal customers according to the interviewees, the three different shapes that APIVITA packs its body-moisturizing products were shown in the questionnaire and customers were asked to state their PI and WTP after they chose the package of their choice (See questions 8 – 10 in Appendix 3).

3.4 Data Collection

3.4.1 Method & Sample for Qualitative Data

Two ***semi-structured interviews*** were conducted with two APIVITA salespersons. The external tutor at APIVITA recommended those interviewees as the best suited people to interview regarding the *Personal* product line. Later a follow-up interview was conducted with Interviewee 1 after the decision of which product will be used on the experiment was made.

The major aim of the interviews was to identify the links between MC theory, APIVITA's current Personal product line practice and customers' buying behaviour. Additionally, the results of the interviews where used as the main influence of how to design the MC toolkit (i.e. which product to make customizable through the toolkit and which product attributes to include in the toolkit, thus meeting the requirement set by von Hippel (2001) to *define an appropriate solution space*). Finally, questions regarding the importance of packaging and whether customers have ever asked for a specific package were included in order to find out

whether the packaging options would be a suitable hypothesis in the research. Both interviews where conducted the same day (February 14 2014) and lasted half an hour. The interview guide for both interviews can be found in Appendix 4, however not all questions were asked to both interviewees. In Appendix 5 the transcription of interview 1 can be found and in Appendix 6 the transcription of interview 2.

3.4.2 Method & Sample for Quantitative Data

The researcher collected the raw quantitative data in APIVITA Experience Store. Customers who were entering the store were ***randomly*** asked whether they wanted to participate in the study. Randomization occurred by asking all possible customers to participate, meaning that whenever the researcher was not busy with another customer or with some other activity; each customer that was visiting the store was asked to participate. Further, during the pilot, it was apparent that the data collection would not be an easy task. The biggest problem were the strikes held in central Athens at the same period the data collection phase was taking place. Therefore, a third hypothesis (which would yield 3 three levels of customization instead of two) was dropped in order to obtain a sufficient number of observations. Additionally, the time that the researcher was spending daily in the store was extended, as well as the time period of data collection. The data collection lasted for four weeks (instead of 3 which was planned) from 10th March 2014 until 5th April 2014. ***In total 241 people were asked to participate and 102 finally participated***.

Because all the conditions were the same for all the participants and they were randomly assigned to each group the ***validity*** of the observations is considered high. All people asked to participate, were introduced with the phrase "*Hi! Do you want to participate in a research for my thesis?"* then they were located in front of a laptop and were given guidelines to either choose the body moisturizing product from APIVITA's website that best fulfils their needs, or they were asked to create their Personal body moisturizing product through the developed MC toolkit. Additionally, the independence of observation is evident in this study.

Regarding internal ***reliability***, the questionnaire included 4 distinct internal reliability checks, and 1 additional for the treatment group in order to control internal reliability once more for hypothesis 2. The very first question was a manipulation check in order to ensure that the treatment was effective. Thus in this question subjects were ask to indicate what they just did (created a Personal product or chose an APIVITA product). Two more internal reliability checks were asking 3 times their purchase intention and their product perceived uniqueness. The forth internal reliability check was asking the subjects income in different pages of the questionnaire, assuring the ***stability*** of the observation. Finally, regarding the packaging hypothesis, an additional reliability check was included in the purchase intention with three items; after the subjects chose the package they preferred.

An observation was considered reliable and valid when all internal reliability checks were successfully passed. The rule of thumb used to pass the repeated questions of the same variables was whether all answers were neutral and/or positive, or neutral and/or negative.

Therefore out of 102 gathered observations, 85 are considered valid, reliable and stable; thus usable.

The formula for calculating the response rate (Bryman & Bell, 2007:189) is:

Response rate = number of usable observations/(total sample - unsuitable observations)

Therefore, the response rate of this study is 37,94%.

Although the sample is ***random***, control questions (demographics) were included in the questionnaire in order to examine any *bias* occurred during the data collection process or during the classification of the observations as *usable* (see above). The general statistics of the most important control variables for all people who accepted to participate (N=102) and for those who were classified as reliable (N=85) were reviewed (Appendix 7 & Appendix 8) and no bias seemed to have occurred throughout the reliability checks.

It is evident though, from both samples, that participants were young in age (for N = 85, Age = 34, Cumulative Percentage = 50.6; for N = 102, Age = 34, Cumulative Percentage = 51.5). This can be explained due to the requirement of using a laptop during the participation. From those 139 who were asked to participate and finally did not participate, 11.5% (16) indicated that did not know how to use a computer as a reason for not participating. All of them were of older age. However, mass customization generally targets young fairly adept persons who are familiar with the Internet (Fiore et al., 2004) and was such bias was expected.

Finally the randomization of participants' allocation to control or treatment group, was practically held by making the allocation decision before asking each of them to participate. The laptop setting (APIVITA's corporate site & control's group questionnaire or the developed MC toolkit & treatment's group questionnaire) was changing 3 times per day in order to assure randomization and thus eliminate bias occurred by the allocation to groups.

3.5 The Pilot

The pilot was run for 2 days and 12 people participated. At that time, the experimental design had an additional level. The indications that the data collection was not going according to the plan were evident and thus the third hypothesis was dropped in order to get sufficient amount of observations. Additionally, the pilot helped the research modify some elements of the MC toolkit. The guidelines included in the website were changed as well as its whole logic according to the pilot participants' recommendations. Before the pilot, the toolkit's logic was like a process (step 1, step 2 etc), but then it was changed to a more story-telling interface. Further, mistakes and omissions in questionnaire were identified and corrected. Finally, the pilot changed the way the data were collected. During the pilot the researcher was standing on the first flour next to the juice bar but after that he was at the ground level in order to increase the number of people who were asked to participate.

3.6 Analysis

3.6.1 Considerations for Qualitative Techniques

When most of the literature review was done, the interviews were conduced. As mentioned earlier an interview guide was created, thus providing the coding according to the literature's suggestions (Appendix 4). The qualitative data break down was a relatively easy task to perform since the coding was partially done in the interview guide.

3.6.2 Considerations for Quantitative Techniques

Hypothesis 1:

The best way to examine the data obtained of such experimental design (between subjects) is the Multivariate Analysis of Variance (MANOVA) since two distinct dependent variables are involved (Pallant, 2007). However, in order to use a MANOVA analysis specific assumptions tests have to be done. The data were examined and found to violate two important MANOVA assumptions. Firstly, outliers were identified in WTP (willingness to pay) both when the two groups were tested collectively and separately (see Appendix 9). However, MANOVA is sensitive to outliers (Pallant, 2007), the examination of the assumptions continued. The correlation of the dependent variables PI and WTP (purchase intention and willingness to pay) were investigated using Pearson Correlation in order to test the Multicollinearity and Singularity assumption. No significant result were found $r = .108$, $n = 85$, $p > 0.05$ (See Appendix 10). Since the assumptions of MANOVA are violated ***two independent-samples t-tests are used for testing hypothesis 1*** (Pallant, 2007). ***This test is called the main technique for testing hypothesis 1.***

Additionally, an ANOVA analysis for testing the homogeneity of groups was held in order to facilitate the comparability of the treatment and the control group. Finally, in order to interpret the main effects found through the main technique for testing hypothesis 1, some more techniques are used:

Multiple regressions with ***purchase intention*** as dependent variable and CPVT values as independent variables are used (for both groups collectively and separately). This technique is used in order to predict the contribution of each CPVT value to the effect obtained through the main technique used for hypothesis 1 testing. It is crucial to state that the sample is very small for such technique (N = 85 for both groups, N = 45 for control group and N = 40 for treatment group) and therefore possible significant results obtained should be carefully interpret in terms of external validity. ***Multiple regressions*** with ***willingness to pay*** as dependent variable and CPVT values as independent variables are used (for both groups samples collectively and separately); following the reasoning described above.

Additional independent sample t-tests with the CPVT (Merle et al., 2010) (utilitarian, perceived uniqueness, self expressive, hedonic and creative achievement) observations are used. Possible significant results between the means of those values can explain how these

values contributed to the effect of willingness to pay and purchase intention obtained through the main technique for hypothesis 1 testing.

Note: In the next chapter only results that provided added-value (statistically significant results) are elaborated for readers' convenience. No significant results are just mentioned.

Hypothesis 2:

The main techniques used for hypothesis 2 testing are two paired samples t-test. The measurements obtained (PI and WTP) before participants chose the package they preferred and the measurements obtained after they chose the package, are the inputs for the technique.

For the interpretation of the results found by the main technique for testing hypothesis 2, additional techniques were examined. ***Multiple Regressions*** were run with ΔPI and ΔWTP as dependent variables (Δ meaning the difference of PI and WTP before and after the package choice) and with independent variables the demographic characteristics and/or CPVT observations, but no significant model occurred. Further, a ***logistic regression*** was run with the dichotomous variable changed (whether people chose another package than the one shown in the toolkit) and the same independent variables (demographics and/or CPVT). Again no significant model was obtained. ***The most possible reason for such insignificant findings could be explained due to the small sample (N= 40) of observation.*** Additionally, ***independent sample t-tests*** were run in SPSS using the dichotomous changed variable as a grouping variable and ΔPI and ΔWTP as testing variables. Unfortunately, no significantly different results were found.

Since the collected data did not facilitate any of the above-mentioned techniques, less complicated techniques are used for the interpretation of the results obtained through the main technique for hypothesis 2 testing and include: ***descriptive statistics*** and ***frequencies***.

Note: The software used for the quantitative data analysis is SPSS. Excel was used for data modification, when this was needed.

3.7 Criticism & Drawbacks

The major drawback of this thesis is that the second hypothesis is not tested in an experimental setting. The research design was not crafted in that way because an additional experimental study would require a bigger sample. Additionally, the sample needs were even higher at the beginning of the research. Initially a third hypothesis was present; aiming at examining the *"I designed it myself"* effect in a utilitarian product (body moisturizing cream) as this was recommended by Franke, et al. (2010). A third level of customization (the highest) was the meaning of the third hypothesis on the experimental design. The developed MC toolkit was able to perform such function, and the *"I designed it myself effect"* was operationalized by giving the option to the customers to write their text on the package. The inclusion of the two extreme levels of customization would most probably show higher effects in demand. However, due to delays occurred during the data collection phase of the

research as mentioned earlier, the highest level was decided to be dropped. This decision was made because such experimental design would prove the effect of customized products and the *"I designed it myself"* effect collectively and not separately.

4. Empirical Findings

This chapter presents and analyses firstly the qualitative data obtained through the interviews and secondly the quantitative data obtained through the questionnaires. Schemes, tables and graphs are used for readers' convenience.

4.1 Qualitative Empirics

4.1.1 Interview 1 – Pharmacist/saleswoman

Interviewee 1 is a person who is working for APIVITA the last 17 years. For all these years the interviewee has been selling the Personal product line (even before this was named "Personal"). She has received education and work experience from the UK, Greece and Malta as a Pharmacist, focusing on Hippocrates's holistic approach to medical treatments, aromatherapy and homeopathy. Interviewee 1 is considered ***the expert*** to discuss with when it comes to APIVITA's customized offerings.

Interviewee 1 pointed out that the most important product attributes that customer is considering when making a Personal product is smell and texture. Additionally, she stated that Personal customers are mainly women and that they understand the product itself in a great extend. In regards to Merle et al.'s (2010) 5-dimentional value that customers receive through a MC toolkit, the interviewee pointed the Uniqueness value and the Codesign process value (without clear distinction of whether this is considered hedonic and/or creative achievement value by the interviewee). Moreover, interviewee 1 stated that packaging is very important and especially its shape due to usage convenience and the feeling that the package is giving to the user. Additionally she mentioned the colour of the package and what is written on it as important elements. Interviewee 1 pointed out that choosing the package is something that she has been asked by customers and that such option could have a positive effect. The interviewee recommended the Personal Face Day Cream with SPF as the most suitable product to run the experiment and gave the researcher a booklet with Personal line description and recipes (product bundles). However, the customization process that the saleswoman goes through when creating a Personal product is not strict or linear, it can be coded in the following 5 steps:

APIVITA's Customization Process

Step 1: Definition of product category in question (i.e. body moisturizing)
Step 2: Decision on product (i.e. body milk, body cream or oil)
Step 3: Discussion on complementary effects that the customer wants to incorporate in the product by its use (i.e. stimulation, relaxation)
Step 4: Definition of skin type & needs (i.e. oily, normal, dry)
Step 5: Customer's preferred smell

4.1.2 Interview 2 – Saleswoman

The person who recommended ***interviewee 2*** (APIVITA tutor) characterized her as ***the best saleswoman*** of the company. She has a Bachelor degree in Cosmetology, has worked in the R&D department of APIVITA and in sales in other cosmetics companies. Her employment with APIVITA accounts 5 years, some of which she has been selling the Personal product line. Finally, the woman proved to have deep understanding of the corporate brand identity, product coherence, customer behaviour as well as strong communication skills.

Interviewee 2 stated that there is no particular product attribute that customers' value mostly but instead she implied a total feeling of need fulfilment when making the purchase decision and that trust to the brand is very important. For the packaging of the products she stated that colours are important for mass produced products and that packaging is also dependent on product coherence. Additionally, she mentioned that the most important characteristic of Personal customers is that they care a lot for the product itself and that packaging is not as important as in mass-production products. However, according to interviewee 2 if a packaging attribute should be characterized as the most important in the case of Personal's customers that would be the shape due to functionality reasons. Moreover, interviewee 2 emphasized that customers who participate in the customization process wish to gain all potential side benefits that each possible additional ingredient yields to the product – something that is not feasible. Further, when talking for personal customers she pointed out the importance of smell and texture like interviewee 1. In regards to Merle et al.'s (2010) CPVT interviewee 2 pointed out the utilitarian value and the codesign process value. Finally, she recommended the body cream as the most appropriate product to conduct the experiment due to the e-commerce setting that this will be based on. She stated:

"Someone more easily "invests" on body products. It is easier to buy a body product and I believe that people would take this risk more easily for a body cream than for a face cream. In the face you definitely want to see the texture of the product on the face."

4.1.3 Follow-up Interview with Pharmacist

After the two interviews were done the development of the MC toolkit started. However, in order to ensure that its development is following the right reasoning a follow-up interview was conducted with Interviewee 1. The development of the toolkit was based on a booklet that was given to the author and contains recipes (product bundles) for Personal products. Therefore, the reasoning of the toolkit was presented to the pharmacist and the researcher asked for comments. It was evident that the development of the toolkit was following the wrong direction at that time. The most important attributes that the pharmacist insisted to apply (due to time restrictions) was smell and smell volume. Therefore, the development of the toolkit followed her advice in order to define an appropriate solution space (von Hippel, 2001).

4.1.4 Conclusions from the Interviews

Decision on product category, products & attributes to operationalize

The product category to involve in the experiment was decided the ***body moisturizing***. This was due to the fact that customers would have the ability to customize the ***texture*** of the product by choosing ***body milk*** or ***body cream*** – two different products. Additionally, the smell of the product was indicated as the most important product attribute; thus ***aroma*** (smell) and ***aroma volume*** were two additional attributes that the customers could customize through the MC toolkit. Finally, the ***skin type*** was an additional option offered in the toolkit indirectly implying an extra customization feeling on the ***texture*** of the product. Finally, during the process of customization the Pharmacists considers the ***complementary effects*** that the customer wants the product to yield thus; another option for customization was the ***desired outcome***. More on this issue are described in the previous chapter in the independent variable customization sub-section.

Decision on packaging operationalization

Since both interviewees pointed out that the shape of the package is the most important for Personal customers, this was the customization choice that was provided to the customers through the questionnaire. Therefore, the three different packaging shapes that the company currently has (tube, vase and applicator bottle) were used.

Matching of APIVITA's customization practice and literature

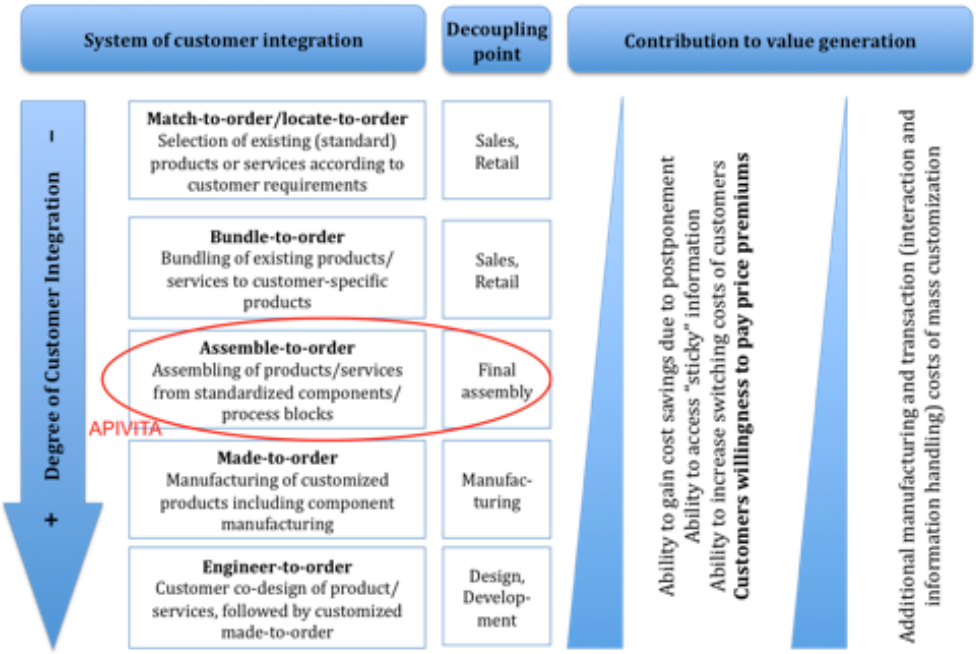
The interviews helped the researcher understand the APIVITA's customization practice and place it in accordance to literature reviewed. Therefore the following figure shows which benefits interviewees stated that customers perceive through APIVITA's customization practice identified also by Merle et al. (2010).

Figure 9 – Matching Personal's Customers Perceived Benefit with CPVT

CPVT (Merle et al., 2010) & **APIVITA's customers perceived value**
Mass-customized product value - Utilitarian value (✔) - Uniqueness value (✔) - Self-expressive value **(not mentioned)**
Co-design process value (✔) - Hedonic value **(not specified)** - Creative achievement **(not specified)**

Moreover, if APIVITA's practice would be offered in an e-commerce setting it would be placed to the Assemble-to-Order Archetype of Mass Customization (Piller et al., 2004). See Figure 10 in the following page.

Figure 10 – APIVITA's Customization Practice Placed MC Archetype



Finally the 4 packaging attention grabbers (Klimchuk & Krasovec, 2006) are ranked as APIVITA's Personal customers value them mostly according to the interviewees:

1. Shape
2. Colour
3. Symbols
4. Typography

4.1.5 Qualitative Empirics through the Collection of Quantitative Data

All APIVITA customers that competed the questionnaire were asked for feedback. A lot of them were highly dissatisfied with the question which was asking for their income, and some of them answered with words such as: *"I don't want"*. However, is worth noting that all the participants who passed the internal reliability checks (See previous chapter) had indicated their income. Additionally, some subjects of the control group thought that the research was aiming at pricing strategies and were asking for further details about the study after they were done with the questionnaire. Finally, from the data collection it was evident to the author not only that customers have heterogeneous needs but also, that the their buying behaviour is highly heterogeneous. Some participants mentioned that would definitely buy Personal products online while others indicated that they need to see and test such product live before purchasing. Some quote examples are:

"…I would not buy such products online. I only buy gadgets through the Internet. When it comes to cloths and cosmetics I want to have a live interaction with the product before buying it."

"…I would definitely buy the Personal products online. It is much easier than coming here."

"…I don't think exclusivity and uniqueness is what APIVITA's customers want. They want APIVITA's knowledge on already commercialized products."

"…The whole Personal line is very important to me! I think it is cool because it matches individual needs… I would buy Personal creams online."

4.2 Quantitative Empirics

4.2.1 Hypothesis 1 Testing

As mentioned earlier SPSS was used in order to analyze the data. Since the Multivariate Analysis of Variance (MANOVA) was not feasible due to assumptions violations, two distinct independent-samples t-tests were used.

For all the control variables (demographics) that were gathered through the questionnaire an ANOVA analysis was carried. As can be seen in Appendix 11, all control variables are not statistically significant between the two groups indicating homogeneity. Therefore, the results provided by the independent-samples t-tests are considered valid, reliable and generalizable among APIVITA customers. Furthermore, the following table illustrates the results obtained through the main techniques for hypothesis 1 testing (independent samples t-tests). Following this table the results are formally described for each sub-hypothesis separately.

Figure 11 – Summary of main results found for Hypothesis 1

Variable tested	Mean Control Group	Mean Treatment Group	p-value	Eta squared
Purchase intention (PI)	3.77	3.60	n.s.	-
Willingness to pay (WTP)	10.98	12.54	< .05	.062

Hypothesis 1a: Purchase Intention will increase for the customers who customized the offering product.

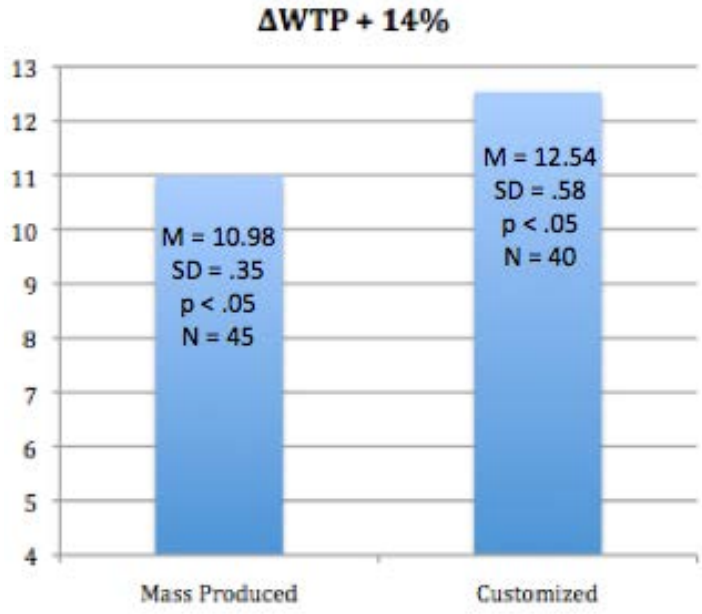
Hypothesis 1a is rejected according to the results obtained from SPSS (See Appendix 12). However the mean purchase intention of the treatment group is smaller than the mean purchase intention of the control group, the results are not statistically significant at 95% confidence level. Therefore, the obtained means can be due to error. Formally: An independent-samples t-test was conducted to compare the purchase intention for APIVITA customers who selected one from the mass produced body-moisturizing product (control

group) and for those who customized their product (treatment group). There was no significant difference in scores for the control (M = 3.77, SD = .70) and the treatment group (M = 3.60, SD = .64) t (85) = 1.17, p = 2.44 (two-tailed). The magnitude of the differences in the means (mean difference = .17, 95% CI: -.12 to .46) was small (eta squared = .016).

Hypothesis 1b: Willingness to pay will increase for the customers who customized the offering product.

Hypothesis 1b is supported according to independent-samples t-test results (See Appendix 13). WTP for participants in the treatment group is 14,17% higher than the WTP for participants in the control group. The developed MC toolkit (treatment) can explain 6,2% of the results (eta squared = .062), which is considered a moderate effect. Graphically:

Figure 12 – ΔWTP Between Mass Produced and Customized Products



Formally:
An independent-samples t-test was conducted to compare the willingness to pay for APIVITA customers who selected one from the mass produced body-moisturizing product (control group) and for those who customized their product (treatment group). There was a significant difference in scores for the control (M = 10.98, SD = .35) and the treatment group (M = 12.54, SD = .58) t (85) = -2.34, p = .02 (two-tailed). The magnitude of the differences in the means (mean difference = -1.56, 95% CI: -2.88 to -.24) was moderate (eta squared = .062).

4.2.2 Further Analysis for Interpretation of Hypothesis 1 Results

Regressions were run in order to identify significant predictors for purchase intention and willingness to pay, in control and treatment groups collectively and separately. Two sets of predictors were used; the CPVT values and demographics. Demographics did not yield any

significant regression model, whilst CPVT values did. For the complete SPSS output of the multiple regressions please visit Appendix 14. The most interesting findings can be found in the following figure.

Figure 13 – Multiple Regressions Results for PI as Dependent Variable

Predictors	Control Group			Treatment Group		
	Beta	p-value	r	Beta	p-value	r
*Utilitarian**	*.61*	*< .05*	*.21*	*.12*	*n.s.*	-
Uniqueness	.03	n.s.	-	.24	n.s.	-
*Self Expressive**	*-.5*	*< .05*	*.14*	*.30*	*n.s.*	-
*Hedonic**	*.09*	*n.s.*	-	*.38*	*< .05*	*.13*
Creative Achievement	-.03	n.s.	-	-.15	n.s.	-

** Significant predictors in one of the two groups*

Formally:
When purchase intention of the ***control group*** was predicted it was found that ***utilitarian value*** (Beta = .61, p < .005) uniquely explained 21% of the total R squared (r = .21), ***self expressive value*** (Beta = -.5, p < .05) uniquely explained 14% of the total R squared (r = .14) and it was found that both were significant predictors. Uniqueness value (Beta = .03, n.s.), hedonic value (Beta = .09, n.s.) and creative achievement value (Beta = -.03, n.s.) were not significant predictors. The total variance explained by the model was 18% (adjusted R squared = .18, p < .05). However, when purchase intention of the ***treatment group*** was predicted it was found that ***hedonic value*** (Beta = .38, p < .05) was the only significant predictor and uniquely explained 13% of the total R squared (r = .13). Utilitarian value (Beta = .12, n.s.), uniqueness value (Beta = .24, n.s.), self expressive value (Beta = .30, n.s.) and creative achievement value (Beta = .15, n.s.) were not significant predictors. The total variance explained by the model was 20 % (adjusted R squared = .20, p < .05).

Although the small sample (N = 45 for control group), the fact that it is random provides evidence that all APIVITA customers who buy mass-produced products place product utility as a determinant, which is logical. Additionally, a possible explanation of the negative significant effect of self expressive value can be explained by the words of a customer who stated that exclusivity is not what APIVITA customers want, but rather its knowledge. However, it is important to note that CPVT values are appropriate for the purchase intention of mass-customized products and not mass-produced. The significant effect of hedonic value in the treatment group's (N = 40) purchase intention, is aligned with the interviewees statements that Personal customers experience codesign process value.

The same logic for multiple regressions was followed with willingness to buy as the dependent variable and no statistically significant regression model occurred. Since the results obtained from the multiple regressions above suffer from some external validity due

to the small sample, the CPVT were tested through 5 independent-samples t-tests (Appendix 15), since this techniques needs less observations in order to generalize (minimum N =30 according to Pallant, 2007). The key findings of these tests follow.

Figure 14 – Summary of CPVT Mean Differences between Groups

Variable tested	Mean Control Group	Mean Treatment Group	p-value	Eta squared
Utilitarian Value	3.69	3.78	n.s.	-
Uniqueness Value	2.44	2.80	n.s.	-
Self Expressive Value	3.71	3.63	n.s.	-
Hedonic Value	3.73	4.08	< .05	.05
Creative Achievement Value	3.16	3.73	< .05	.11

Formally:
Five distinct independent-samples t-tests were conducted to compare the utilitarian, uniqueness, self expressive, hedonic and creative achievement values (CPVT) that the control and the treatment group received. There was a significant difference in ***hedonic value*** scores for the control group (M = 3.73, SD = .84) and the treatment group (M = 4.08, SD = .66) t (85) = -2.07, p = .04 (two-tailed). The magnitude of the difference in the means (mean difference = - .34, 95% CI: - .67 to - .01) was low (eta squared = .05). Additionally, there was a significant difference in ***creative achievement value*** scores for the control group (M = 3.16, SD = .98) and the treatment group (M = 3.73, SD = .68) t (85) = -3.15, p = .002 (two-tailed). The magnitude of the difference in the means (mean difference = - .57, 95% CI: - .93 to - .21) was moderate (eta squared = .11). The rest of the customer perceived values (CPVT) did not yield any significant results through the independent-samples t-test.

Interestingly, the results obtained through the independent-samples t-tests do not contradict with those obtained through the multiple regressions. The means of hedonic and creative achievement values are statistically different between control and treatment group. Both these values contribute uniquely to the codesign process value (Merle et al., 2010) thus the findings of the independent samples t-tests show that the ***codesign process value is the moderator of the increase of willingness to pay obtained through the main technique for testing hypothesis 1***.

Finally, a question was included in the questionnaire asking participants to indicate whether they would buy *Personal* products online. From the total observations obtained for both groups collectively, 57.6% stated a positive answer (Appendix 16). When the answers were separately examined the percentage of the subjects in the control group that stated a positive answer was 51.1% and that of the treatment group 65%. These numbers suggest high heterogeneity of buying behaviour, which is aligned with the qualitative findings

obtained through the data collection, but indicate an increase of purchase intention between the people who received the treatment and those who did not. Intuitively this means that when APIVITA customers experience the process of customization, they are more willing to buy *Personal* products through a MC toolkit.

4.2.3 Hypothesis 2 Testing

The following table illustrates the results obtained through the main technique for hypothesis 2 testing (paired-samples t-tests for each dependent variable). Following this table the results are formally described for each sub-hypothesis separately.

Figure 15 – Summary of main results found for Hypothesis 2

Variable tested	Mean Before Package Choice	Mean After Package Choice	p-value	Eta squared
Purchase intention (PI)	3.6	3.82	< .05	.20
Willingness to pay (WTP)	12.54	13.43	< .05	.15

Hypothesis 2a: Purchase Intention will increase when customers choose the package of the product they customized.

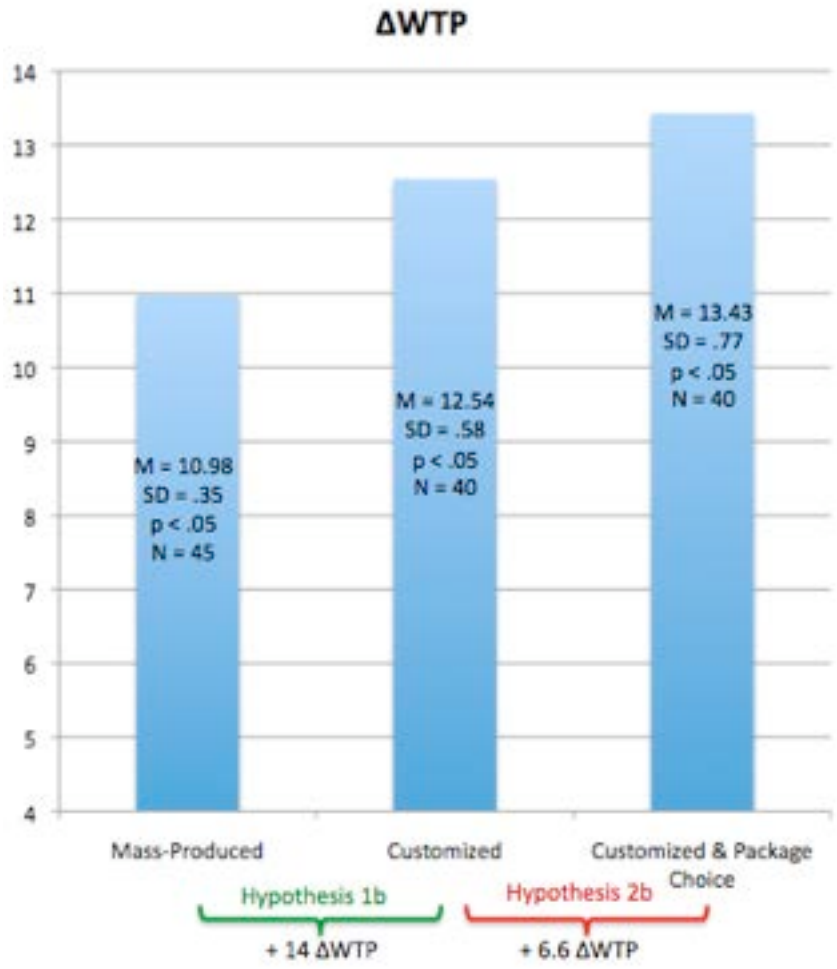
According to paired-samples t-test hypothesis 2a is supported (See Appendix 17). The provision of packaging choices significantly increased the purchase intention of the customers who created their Personal product. Formally: A paired-samples t-test was conducted to evaluate the impact of packaging choices on APIVITA's customers', who created a customized product, purchase intention. There was a statistically significant increase in purchase intention from time 1 (M = 3.6, SD = .10) to time 2 (M =3.82, SD = 0.8). The mean increase in purchase intention was - .23 with a 95% confidence interval ranging from -.37 to - .079. The eta squared statistic (.20) indicated a large effect size.

Hypothesis 2b: Willingness to pay increased when customers chose the package of the product they customized.

Paired-samples t-test indicate that hypothesis 2b is supported (See Appendix 18). WTP increases 6,57% when customers choose the package of the customized product. Formally: A paired-samples t-test was conducted to evaluate the impact of packaging choices on APIVITA's customers', who created a customized product, willingness to pay. There was a statistically significant increase in willingness to pay from time 1 (M = 12.54, SD = .58) to time 2 (M = 13.43, SD = .77). The mean increase in purchase intention was - .88 with a 95% confidence interval ranging from -1.55 to - .21. The eta squared statistic (.15) indicated a

large effect size. The visualization of the difference between mass-produced, customized and customized products & package choice follows.

Figure 16 – ΔWTP (Results for Hypothesis 1b & 2b)



The mean of WTP is increasing as can be seen from the graph above, but also the standard deviation is increasing. While the chosen techniques for hypotheses testing are valid (Pallant, 2007) and results are reported according to Pallant's (2007) guidelines, the standard deviation increase suggests that results obtained through the main technique should be further examined (see the following sub-section).

4.2.4 Further Analysis for Interpretation of Hypothesis 2 Results

However the researchers effort to identify common predictors and statistically significant differences with several ways, none was found as indicated in the Methodology and Data Chapter. Therefore the interpretation of the results obtained by the main technique for hypothesis 2 testing are based on descriptive statistics. The most interesting results are presented in the following two figures, which can be seen in the following page.

Figure 17 – Descriptives of Participants who Chose the Package

	Chose Another Package	Chose Same Package
N *(Percent)*	19 *(47,5%)*	21 *(52.5%)*
Age Mean *(SD)*	33.89 *(9.57)*	40.52 *(12.38)*

Figure 18 – Key Frequency Percentages of ΔPI and ΔWTP

	ΔPI	ΔWTP
Negative Change	5%	2.5%
Stable Observations	47.5%	67.5%
Positive Change	47.5%	30%

As can be seen from the full descriptive statistics tables (Appendix 19) 21 (52.5%) out of 40 people stated that the package they would choose was the same as the one they were shown in the toolkit. The descriptive statistics show that the people who preferred another package than the one shown in the toolkit were of a ***younger age*** (M = 33.89, SD = 9.57) in comparison to those who chose the same (M = 40.52, SD = 12.38).

Further, 5% indicated lower purchase intention when chose their package (negative ΔPI), 47.5% stated the same purchase intention between time 1 and time 2, whilst 47.5% indicated higher PI (positive ΔPI). Additionally, only one (2.5%) recorded observation of willingness to pay after the package choice was lower, while a sticking 67.5% of the observations remained stable between time 1 and time 2. ***Therefore the ΔWTP = + 6.6 % obtained through the main technique used for hypothesis 2 testing is due to the willingness to pay increase indicated from the 30 % of the participants.*** For frequency tables regarding ΔPI and ΔWTP please visit Appendix 20.

5. Conclusions

The current study provides evidence that mass customization through a toolkit for User Innovation is a suitable strategy for the cosmetics industry, since it was able to capture increases in demand. Additionally this paper also provides evidence that package customization can also be a strategy to consider in cosmetics, and especially for target groups of a younger age.

5.1 Discussion

The experiment conducted was operationalized according to previous experimental designs (Schreier, 2006; Franke et al., 2008) and according to the conclusions from the interviews. The results obtained through the experiment show that APIVITA's customers ***willingness to pay*** increases by + 14% for customized body-moisturizing products (at least through the specific MC toolkit). However, ***purchase intention*** for customized products did not record any statistically significant change between control and treatment group. This could be due to the MC toolkit itself (Franke et al., 2010; Merle et al., 2008) and the fact that this was developed in a very short period of time, thus limiting its effectiveness.

Additional quantitative techniques (multiple regressions and independent samples t-tests) were run in order to interpret those findings and showed that participants of the control group (mass-produced products) place ***product utility*** as a determinant for purchase intention. Product utility is considered as the major driver behind the higher purchase intention and willingness to pay for mass-customized products (von Hippel, 2001). Aligned with this point are the findings from the interviewees that customers of Personal product line benefit both by ***utilitarian*** value and ***uniqueness*** value. However, quantitative results did not show any significant effect of those two values via the use of the developed MC toolkit. Therefore, insignificant results of ***purchase intention*** could be either due to ***utilitarian*** reasons, lack of ***uniqueness***, or due to error. On the contrary, the significant mean difference of ***codesign value*** – hedonic value and creative achievement value (Merle et al., 2010) – played a role in the increase of ***willingness to pay***. Thus, the effect of the treatment (+14 % ΔWTP) between control and treatment group is moderated by the ***codesign process value***. Nevertheless, this study was able to isolate and *"monetize"* the codesign value, and pose the question of whether the effect of ***mass-customized product value*** (utilitarian, uniqueness and self expressive values) in cosmetics would yield much larger ΔWTP (i.e. +207% +113% and +106%) that has been found in other product categories (Schreier, 2006).

Moreover, the decision of how to operationalize ***packaging choices*** was made according to qualitative findings from the interviews. Those suggested that the most important package attribute for Personal's customers is the ***shape***. Therefore all three different packages that APIVITA offers were depicted in the questionnaire and customers were asked to choose in which one they would like their customized body-moisturizing product to be placed. Then ***purchase intention*** and ***willingness to pay*** measurements were taken. The results obtained in this paper are aligned with other studies that show increase of purchase intention regarding specific packaging attributes (Rebollar et al., 2012; Ares & Deliza, 2010). Additionally, this study provides the first known to the author indications that packaging

customization through package choice increases customers' willingness to pay. The difference in willingness to pay between customized products and customized products inside the preferred package, that is found here is ***+ 6% ΔWTP***. It is important however to note that these results do not prove causation since they were not obtained in an experimental setting.

Further statistical techniques were used in order to interpret those results and showed that the increase (+ 6% ΔWTP) was driven by ***30%*** of the customers whose willingness to pay was increased after they chose the package they prefer. Additionally, the difference of purchase intention (***ΔPI***) showed a more normal distribution since ***47,5%*** of the customers stated increased purchase intention between time 1 (before package choice) and time 2 (after package choice). Moreover, people who chose another package than the one shown in the toolkit were of ***younger age*** (M = 33.89, SD = 9.57) than those who chose the same (M = 40.52, SD = 12.38). However regressions were run in order to explore predictors (demographics) that yield an effect on ΔWTP and ΔPI, no significant results were found; most probably due to the small sample size (N = 40). The insignificant results in those regressions might also be due to the large heterogeneity of APIVITA's customers' needs and purchasing decisions that was observed during the quantitative data collection through customers' oral feedback. Finally, while the technique used for testing this hypothesis suffers from limited internal validity (meaning that increase in purchase intention and willingness to pay could be overestimated), intuitively, packaging customization of top attention grabbers (shape, colour, symbols and typography, Klimchuk & Krasovec; 2006) – and not just packaging choice of top grabber – would yield a similar result.

5.2 Further Research

As described above, this study provides "monetized" evidence for the isolated effect of codesign process value. Therefore, the isolated effect of mass-customized product value is an area that should be further researched since studies that have recorded increases of willingness to pay for customized products did not isolate each of the customer perceived values as described by Merle et al. (2010). Additionally, further research on demand increase for customized cosmetics through MC toolkits should be done. Descendant researchers should be able to observe the holistic effect of demand increase in the cosmetics industry and not just the one occurred by the codesign process value. Moreover, further research can be done towards the exploration of packaging customization. Although this paper provides the first evidence that packaging customization yields increases in demand in a mass customization setting, more research should be done on the field by providing packaging attributes as customizable choices to subjects. Ideally this should be done in an experimental setting aiming at causal findings; thus increasing generalizability.

5.3 Recommendations for APIVITA

Despite the lack of mass-customized product value, APIVITA customers are willing to pay higher prices (+14% ΔWTP) for customized body-moisturizing products due to the

psychological effect of codesign. This provides strong evidence that if APIVITA establishes a MC toolkit that is able to effectively yield increases in utilitarian and uniqueness values, customers would be willing to pay even higher prices and at the same time increasing their purchase intention. The combined results of qualitative empirics through the data collection (oral feedback from customers), the quantitative findings and the literature review suggest that trial-and-error functions are essential for the effective increase of utilitarian and uniqueness values. It is important to note that this is the only determinant of high quality toolkits (von Hippel, 2001) that was not present in the developed MC toolkit due to resource limitations.

During the development of the toolkit the author along with the IT developer were reflecting on what the necessary recourses for the development of a high quality toolkit in which customers would be able to customize all APIVITA Personal products would be. The conclusion was that the basic resources needed are the full time employment for 6 months of 2 IT developers and a project manager to coordinate the process.

51.1% of the total sample indicated that they would buy Personal products online in a real life setting. APIVITA should expect that 50% of the customers of the target group of a MC toolkit (young and fairly keen on using the Internet) would buy Personal cosmetics through the toolkit. Therefore, another experiment, similar to the one Procter and Gamble conducted, is recommended for APIVITA in order to assess the real life potential of Personal product line.

The proposed experiment requires the development of a MC toolkit as it was described above, and would actually sell customized Personal products via the Internet. Since this will be a pilot trial, the greater Athens area is recommended to be the geographical region of delivery. In order to minimize delivery costs, existing local partner pharmacies are recommended as the picking point of the products and not home delivery. Further, in order to avoid production restructuring, the established way of production is recommended. Therefore, another pharmacist might be needed in order to assure production effectiveness. Finally, since packaging customization would yield a big increase on the production costs, it is not recommended at the current state.

Except from the typical ***first-mover advantages*** that such strategy would mean for APIVITA in the Greek market; other advantages include:

1. Direct market knowledge on customers' wants and conjoint analyses,
2. Brand equity building and
3. Personal product line repositioning.

The high restructuring costs that a mass customization strategy incorporates is the major reason for recommending another experiment for APIVITA. While innovative activities require risk taking, our turbulent times oblige companies to proceed with caution in new business activities.

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Appendix

Appendix 1 – APIVITA SA

APIVITA is the first Greek company to produce natural, effective and holistic products. The company's name derives from the Latin words ***bee*** (APIS) and life (VITA) illustrating both the main source of inspiration and its commitment to sustainability. ***Hippocratic*** holistic approach to health and beauty and the Greek ***biodiversity*** are sources of inspiration that provide the basis of APIVTA's culture and products. APIVITA is highly vertically integrated and it owns herb farms (APIVITA FARM) and apicultures (APIGEA) that provide raw material for its products. The rest of APIVITA's suppliers are ***small-scale Greek farmers and beekeepers***, who conform to the high quality and environmental standards set by the company.

Further, the company produces the cosmetics in its ***2013-built bioclimatic factory*** outside Athens, completely owns its ***subsidiaries*** in Spain and Japan, while in total has presence in 14 countries. APIVITA has different business model in each country; from totally own subsidiaries (see above) to simple exporter without strong involvement in distribution and sales (i.e. Benelux, Romania, Ukraine). In the United Kingdom APIVITA sells through ***Marks & Spencer's retail network*** and in Singapore & Honk Kong APIVITA has established a strategic alliance with ***IMAGINEX GROUP***, in order to gain market knowledge and strong presence in retail.

Corporate Excellence (Recent Awards):

- ***"Sustainability Pioneer"***. The award was received at the Sustainability Cosmetics Summit 2013 in Paris, which is organized annually by Organic Monitor.
- ***Applied Research and Innovation Competition "Greece Innovates 2013"***. The second prize was awarded to APIVITA for the innovative extraction method of Greek Propolis.
- ***"Innovative Store"***. Gold Award for APIVITA and APIVITA Experience Store at Sales Excellence Awards 2014 organized by Greek Institute of Sales.
- ***"Sustainable Business"*** & ***"Bioclimatic Building Upgrading"*** awards on Greek Environmental Awards 2014.
- Two ***"EUROPEAN DESIGN AWARDS 2010"*** for the packaging of Express product line and the Personal product line.

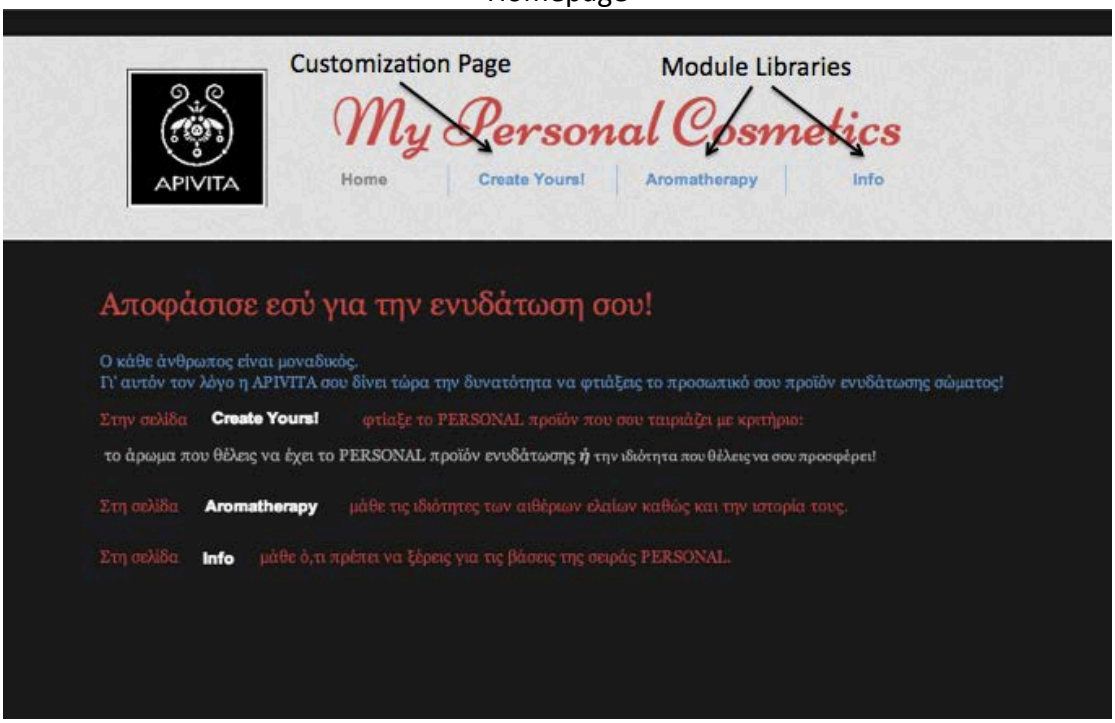
APIVITA in Numbers:

Revenues 2013:	34 Million
Exports 2013:	15 Million
Employees in HQ:	200 (approximately)

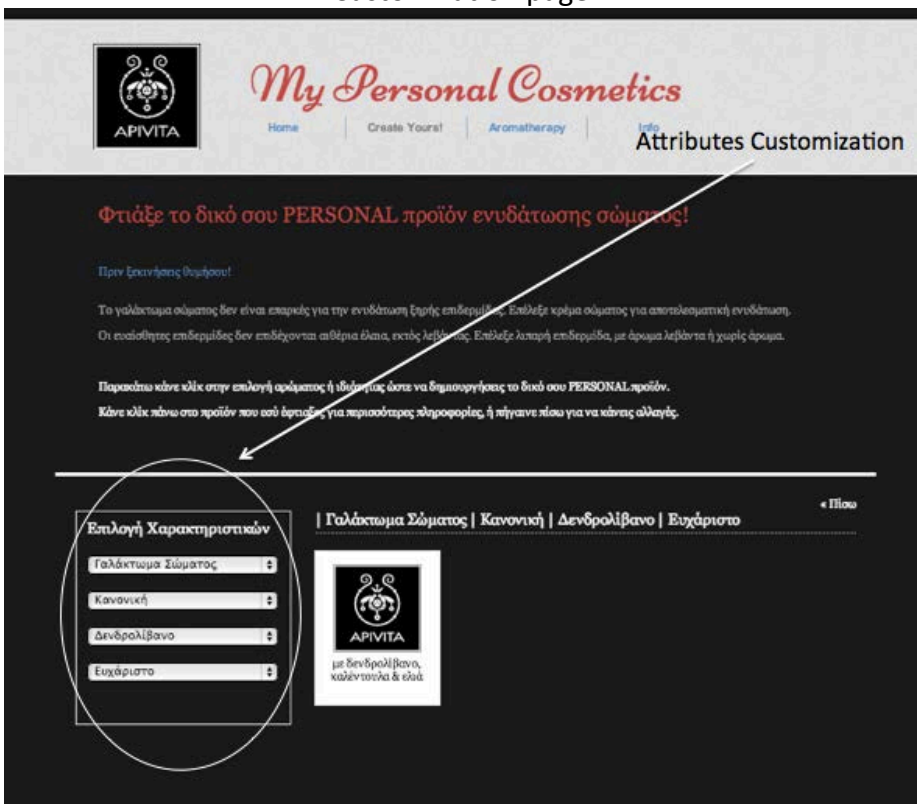
For more information visit: www.apivita.com

Appendix 2 – Screenshots from MC Toolkit

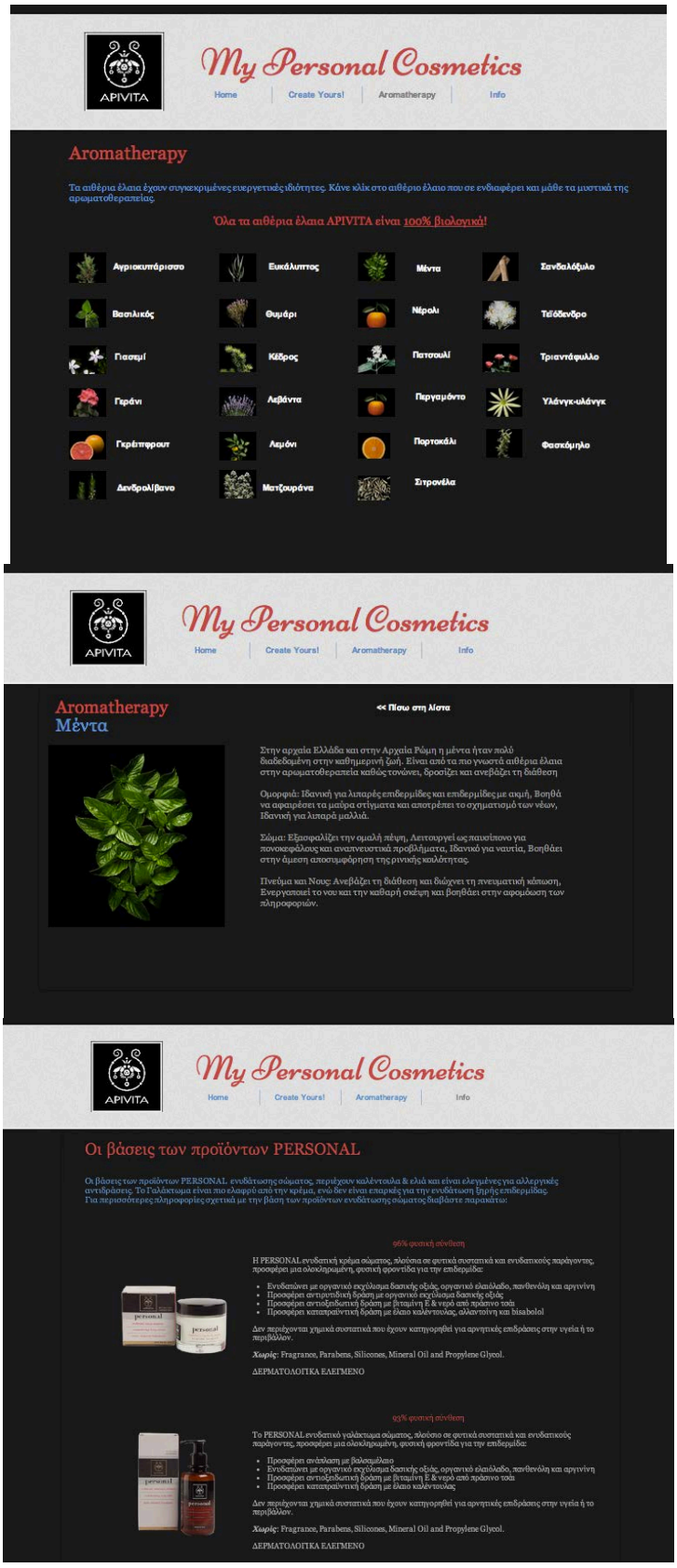
Homepage



Customization page



Module Libraries



Final Page with customized product description

Appendix 3 – Questionnaire

The questionnaire provided to the subjects in the treatment group is the following:

Page 1.

The biggest part of this research is now finished. This research aims at exploring the purchase intention of customized products through the Internet.

Your responses are anonymous and your data will be treated with confidentiality.

You just created your PERSONAL product for body moisturizing that fits your expectations the best. Please provide more **5 minutes** of your time and fill in this questionnaire with ATTENTION. Your participation is very important for this research.

Please stay concentrated.

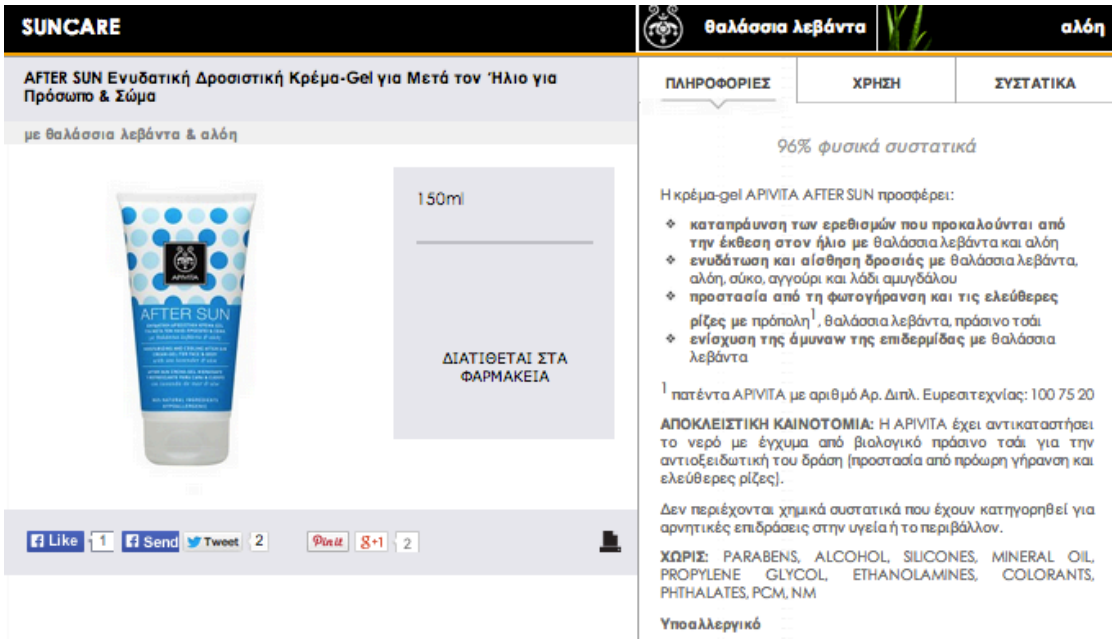
Thank you for your time!

Page 2.

Q1. Before:
a) I chose a body moisturizing product from APIVITA's products
b) I created a PERSONAL body moisturizing product

Page 3.

The image below is from APIVITAs official website and contains information about the **AFTER SUN** with sea levanter & aloe:



Q2. Which from the following amounts of money would you pay for the **AFTER SUN** (150 ml) with sea levanter & aloe?

a) € 8,05
b) € 9,90
c) € 11,50
d) €13,20
e) € 14, 95

Page 4.

Q3. Please indicate your degree of agreement with the following sentences regarding the **PERSONAL product** that you created before: (1: Very low; 5: Very high)

The chance of buying the PERSONAL product that I created is:
My willingness to buy the PERSONAL product that I created is:
The probability of buying the PERSONAL product that I created is:

Q4. How much would you pay for the **PERSONAL product** (200ml) that you created; (amount in Euro) (open-ended)

Page 5.

Q5. Please indicate your degree of agreement with the following sentences: (1: totally disagree; 5:totally agree)

This PERSONAL product express me totally:
I found fun the process of creating this PERSONAL product:
During the creation process of this PERSONAL product, I felt creative:

Q6. Please indicate your degree of agreement with the following sentences: (1: totally disagree; 5:totally agree)

The creation process of this PERSONAL product, let me have exactly what I wanted:

Q7. Please indicate your degree of agreement with the following sentences: (1: totally disagree; 5:totally agree)

I will be the only one who will have this PERSONAL product:
With the creation process, I was able to create a body moisturizing product that others wont have:
With this product I differentiate from the others:

Page 6.
ALL PAGE 6 WAS NOT INCLUDED IN THE CONTROL'S GROUP QUESTIONNAIRE (Hypothesis 2 testing)

Q8. If you could choose the package of the PERSONAL product that you created, which of the following packages would you choose?

a) Applicator bottle

b) Tube

c) Vase

Q9. Please indicate your degree of agreement with the following sentences regarding the **PERSONAL product** that you created before **& chose the package**: (1: totally disagree; 5:totally agree)

The chance of buying the PERSONAL product that I created is:
My willingness to buy the PERSONAL product that I created is:
The probability of buying the PERSONAL product that I created is:

Q10. How much would you pay for the **PERSONAL product** (200ml) that you created; (amount in Euro) (open-ended)

Page 7.

Please fill in your personal data.

Q11. Gender:
a) Male
b) Female

Q12. Age: (open-ended)

Family status:
a) Married with children
b) Married
c) Not married

Q13. Job status:
a) Employed
b) Housewife
c) Unemployed
d) Unemployed, due to choice
e) Student
f) Pensioner

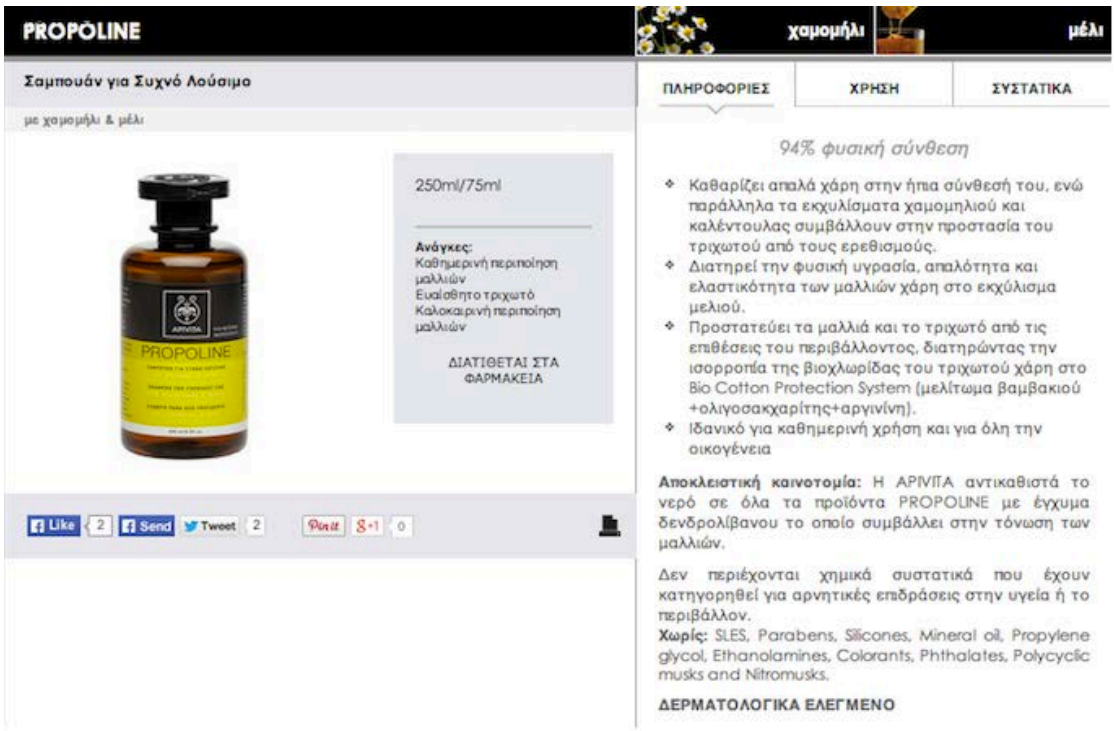
Q14. Monthly income: (open-ended)

Q15. How many times per month do you buy APIVITA products on average? (open-ended)

Q16. Do you shop online?
a) Yes
b) No

Page 8.

The image below is from APIVITAs official website and contains information about the PROPOLINE Shampoo with sea chamomile & honey:



Q17. Which from the following amounts of money would you pay for the PROPOLINE Shampoo with sea chamomile & honey?

a) € 7,55
b) € 9,20
c) €10,80
d) € 12,40
e) € 14,00

Q18. Please enter your monthly income. (Amount in Euros) (open-ended)

Page 9.

Q20. Would you buy APIVITA PERSONAL products via the Internet?
a) Yes
b) No

Page 10.

Thank you a lot for your time!
Your participation is very important!

Please click the button on the bottom right side so all your answers will be recorded.

Q21. In case you wish to receive an email with the results of this research, enter your email address below. If you do not wish, click the button on the bottom right of the page. (open-ended & optional)

Appendix 4 – Interview Guide

Introduce myself and the purpose of the study (broad description of the experiment)

CHARACTERISTICS OF INTERVIEWEE:

- Can you please narrate your professional story? who are you, your background and your relation with APIVITA.
    - Name, age, education
    - What is you current position?
    - What is your previous work experience before APIVITA?
    - How long have you been working for APIVITA?
    - How long have you been in this position?

CUSTOMER BEHAVIOUR:

- Which are in your opinion the main factors that influence the purchase decision of customers?
- Are in your opinion any factors that directly influence the willingness to pay?
- How do you think a package influences the purchasing decision?
- Which packaging attributes are the most important? (e.g. colour, shape, material, graphics on label, transparency of ingredients)
- In your opinion, if a customer could choose the package of a product from the generic product lines, what would be the result?
    a) Do you think that it would increase the probability of buying it?
    b) Do you think that it would increase their willingness to pay?

PERSONAL CUSTOMERS:

- Can you please describe a typical customer of the Personal line?
- The online offering of the Personal line would target people who are familiar with the internet and generally young people. Do you think that those customers would go online to buy the personal line?

PRODUCT, SOLUTION SPACE AND MC MODULE LIBRARIES:

- In your opinion, which product do you think is the most appropriate to run the experiment?
- Why?
- Please describe me in detail what product ingredients can customers customize.
    a) Essential oils?

b) Plant oils?
c) Active ingredients?
d) Texture?

TRIAL AND ERROR OF THE MC TOOLKIT:

- As Mr Choukalas told me before, some product ingredients exclude others due to allergy reasons and more. Please tell me what other reasons could create excludable conditions among ingredients.
- Please describe me in detail which product ingredients cannot match other product ingredients due to the pre-mentioned reasons.

CUSTOMERS' STICKY INFORMATION:

- To what extent do you think that customers understand the product?
- Have you noticed a gap between the vocabulary customers are using and APIVITA's vocabulary?
- If yes, can you provide me some examples?

DEMAND FOR FURTHER CUSTOMIZATION & PACKAGING:

- Do you have the impression that customers want to customize more ingredients or attributes of the product than the current customization offerings?
    a) If yes, why do you think so?
    b) …and which attributes?
- Has any customer ever mentioned that he/she wants to choose the package that the personalized product will be in? – is that common?
- Has any customer ever mentioned that he/she wants to customize the label?

EXPLORATION OF POSSIBLE MATCH WITH Merle et al.'s (2010) CPVT:

- Why do you think customers prefer to buy Personal's line products?
- CPVT values: Utilitarian, Uniqueness, Self expressive, hedonic, creative achievement

CLOSING

- In what language do you think I should design the experiment? Would English work?
- Can you please give me a rough estimation of the percentage of foreign customers that enter daily the store?
- Is there something that you would like to add?
- Especially for the experiment?

Appendix 5 – Transcription of Interview 1

Me: Good evening I am Ilias Demiris, I am 25 years old and I am studying in Sweden in Gothenburg the MSc in Innovation and Industrial Management. The purpose of this interview is to help me a little bit with my thesis, which is about the Personal line. More specifically I would like you to tell me a few things about the customer behaviour and whether you have experienced some issues that I have found in the literature and what product you would recommend me to use for my thesis. To say a few things for my thesis: it will be based on a small-scale website where customers would be able to create their own cosmetic – just one product – and afterwards I will be comparing the willingness to pay and to buy for a customized product in comparison to generic products..
Sophia: Nice
Me: Was I clear enough? - Do you have any question in regards my thesis?
Sophia: I understand

Me: Ok nice. Do you want to tell me a few things about yourself? Who are you? Your professional past and your relation with APIVITA?
Sophia: I am working 17 years here, I began from Mrs Niki's pharmacy in Psychico, during those years there was the PROPOLINE and AROMATHERAPY – we where creating the cosmetics there with 45 essential oils, 5 mixtures and basically it was a big Personal. Later the pharmacists did not have a lot of time and we started producing ready-made creams. I have taken courses in London on essential oils and after that I did my internship in Malta.. In London I attended courses on Aromatherapy and on Hippocrates's philosophy in regards to herbs and nutrition. Before that, here, I finished a private school as a Pharmacist assistant and then I attended courses on homeopathy and more courses on essential oils, but basically 17 years I am here.
Me: Nice.
Sophia: I had a small break due to my pregnancy for a few time..
Me: Ok, I see… Can you please tell me your age? I am sorry for that but I have to ask..
Sophia: 39
Me: 39. Ok, thank you. In your opinion, which are the most important factors that influence the purchasing decision of customers? And now I am not talking about personal but in general for the rest of the products.
Sophia: The smell and the texture.
Me: The smell and the texture… And do you think that this is the case both in the first and in the second time that someone will decide to buy it? Do you think that it changes from the first to the second time?
Sophia: No it does not change. If they don't like the texture and the smell, they will not buy it ever again, but f they like it they will buy it again and again – and I believe that they will not easily change it.
Me: Ok. Which do you think are the most important packaging attributes for the customers? ..I could give you some examples but I would first like to hear your opinion and what you think.
Sophia: … Hmmmm… Packaging attributes…
Me: Is packaging important?
Sophia: It is very important!! The easiness of the user is very important! Some women prefer applicator bottles, some others prefer vases, because with the vase they feel that they take all the quantity of the cream…The color is also important, what is written down: is it anti-wrinkling? Is it firming? Is it for the eyes? … This is very important as well…
Me: When you say applicator bottle. You mean tube?
Sophia: No I mean applicator bottle. Some creams are inside applicator bottles. Like the First Line for the eyes.
Me: Like the body milk with aloe and fig right?
Sophia: Yes, this one also.
Me: Ok, nice. In your opinion if a customer could customize the packaging of a product, would that have an effect on his attitude?
Sophia: Excuse me, if what?
Me: If for instance a customer could choose the bottle.
Sophia: Yes of course. There would be a positive effect!
Me: ok, thank you. In regards the Personal customers, you have been working with them for so many years. Can you please describe me a typical Personal customer? – or there is no such thing? ("typical")

Sophia: No there is! It is a woman, it is her who says: "I buy for many years the wine elixir, since it was launched and I am bored and I want to change to something new, but the others are not suitable for me and I want to create something that it is similar to wine elixir but a bit different also at the same time". Further, other typical customers are those who have oily skin. They are looking for the **hope**!! to find a cream that is as thin as they want it to be – something they do not find in generic creams anywhere, in no company - there is no such product just yet.
Me: I see. Can you please tell me the age, the education level or anything more specific about typical Personal customers?
Sophia: Women of course, the ages are between 45 and 55, when there are skin damages and the skin and the customers ask and demand more things. Those customers are aware of the creams and very much interested.
Me: So young girls do not come to personalize creams?
Sophia: Young girls come for the acne – the oily skin
Me: I understand. Any men? No men?
Sophia: Some men come for the massage oil, which they customize, but they are definitely not a typical customer of personal.
Me: Perfect. The online offering of personal, would mainly target people who are familiar with the internet and generally young people. Do you think that those people would go online to buy a personal product?
Sophia: Of course they would do it! They like it a lot! Hmmm…
Me: What do you think they like?
Sophia: I think they like the fact that they create their own smell.. In face creams.. Basically I think that they mainly like the personalization of the smell.
Me: Ok, I see.
Sophia: Because they cannot customize the texture. For example when they come and they make a cream with jasmine smell, that's what they like – their favourite smell.
Me: When the customers are here, what do you think that makes them buy the personal instead of other creams?
Sophia: The fact that they buy their personalized cream and that there will be no one else ever buying the same cream as theirs. Also the fact that we create it together and that they fix the smell and the texture.
Me: Which in your opinion would be the most appropriate product in order to run my thesis? ..The small website I was talking before, where customers would customize a product..
Sophia: Which would be the best?
Me: Yes.
Sophia: The day cream with SPF 10 – the sun protection filter.
Me: And why do you think that?
Sophia: Because it is a cream which is suitable for all kind of skins, for all ages, someone can customize this cream also for acne, additionally, since there is sun protection in this cream, it is a cream that someone can use all day, whilst the other with no SPF protection cannot be used all day long. And additionally I see that everybody prefers this one.
Me: We live in a sunshine country, thank god.
Sophia: Yes exactly..
Me: I would like some details now. Can you please describe me step by step the process of customizing this cream? (day cream with SPF)

Sophia: I don't understand what we should say now. How I make the cream?
Me: Yes exactly.
Sophia: At the outset we discuss what the customer wants, a day cream, a night cream? What properties she wants the cream to have. Whether she wants it to be anti-wrinkling, anti-aging or extra-moisturizing. Hmm.. for what type of skin, oily, mixed or dry. Whether she wants it to smell or not. That means that we put just plant oils or plant oils and essential oils.
Me: Excuse me, but can you please tell me the difference between plant oils and essential oils because I do not know it.
Sophia: There are two different things. The essential oils are highly concentrated and we take them from the plants with a different procedure than the one we use for the plant oils and the most important difference is that essential oils have smell whilst the plants oils do not have smell.
Me: I understand. So what the customer wants, the properties that she wants, type of skin…
Sophia: And if she wants smell or not.
Me: So these are all the steps.
Sophia: Yes.
Me: Perfect. Does age play a role?
Sophia: Yes of course. I do not ask the exact age, I see the age. I do not consider that as a separate step. I also see what needs each skin has.
Me: And what is the effect of the age – I mean the needs of the skin?
Sophia: It reflects on the density of the cream.
Me: Nice. Can you please tell me what ingredients can customers customize? Essential oils, how many essential oils do you have?
Sophia: 25 essential oils and 5 plan oils. We also have some active ingredients in the fridge, such as fruit acids and minerals, which however do not exist in the company and in the pharmacies, we only have them here in the store.
Me: Ok. What did you say, can you please repeat?
Sophia: Fruit acids, minerals, some enzymes such as from cranberry.
Me: I see. Like Mr Choukalas has told me, some ingredients might create excludable conditions for some others e.g. with the tones of the essential oils or for example for allergy reasons, some ingredients should not be together.
Sophia: We separate the essential oils in three tones: high, medium and low tones. The most important is that we cannot put three essential oils that are in the same tone.
Me: I see.
Sophia: Or if we put three essential oils, we can put two from the same tone but the third one should definitely be in a different tone. Ideally, all three essential oils should be in different tones. In practice this will show. Even if someone who does not know about those issues, he/she would put all three essential oils from the same tone, the result will not be nice. And especially for the face we maximum put three essential oils because it is a sensitive area and maximum two plant oils which should be in different tones.
Me: I understand. And what about allergies? Are there any combinations that could create allergies more easily?
Sophia: Yes of course, there are some essential oils that contain some ingredients that are more often to create allergies or some others might create photosensitivity such as lemon, orange, grapefruit, bergamot. However, while allergies are not a common issue,

photosensitivity is in the face day cream. And therefore no essential oils from citrus trees are put in day creams.
Me: I understand. Hmmm. In what degree do you think that the customers understand the product.
Sophia: how much they understand the product… Hmmm… I would say that they understand overall. I would say that there are people who understand the product up to 90%, on average I would say that a personal customer understand the product 80%. That's because we spend time together on creating it. I devote much time to each customer. They understand.
Me: I see. Have you noticed a gap between APIVITA's vocabulary and the one customer's are using?
Sophia: ...A gap... Well, I would say yes.
Me: Can you give me specific examples?
Sophia: With the plant oils and the essential oils this is very common.
(Voice of a saleswoman calling the interviewee)
Sophia: Can we please pause for a few minutes because I have to help my colleague with something.
Me: Yes, of course. Please take your time.
(After 4 minutes)
Sophia: I am sorry for the interruption.
Me: That is fine. Do you think that customers want to customize even more their cosmetics than what they are currently able to customize?
Sophia: More? Yes.
Me: Like, do you have any example in your mind?
Sophia: Example.. Hmmm.. Basically not in things that exist but in things that do not exist. For example in the eye cream.
Me: What do you mean?
Sophia: They want more products. Like shampoos. They are constantly asking (to customize) something that does not exist.
Me: I understand. So they have not asked to customize further existing customizable products. For example your basis for the creams is with calendula and olive. Have they ever asked to customize that base?
Sophia: No our current options seem adequate.
Me: I see, ok thank you. When you make a personal product, do you write the ingredients in the packaging?
Sophia: Yes we do.
Me: Has anyone ever asked you to choose the packaging that the personal product will be in?
Sophia: No, they just say a lot of things about the packaging.
Me: Like what things?
Sophia: This other day a lady was telling me that she wants the vase to have a colour like the one the wine elixir is in. Others say: "Oh the cream cannot go in an applicator bottle?" …to have this choice… Or for example in the body cream they say that the vase is too heavy, and they ask if there is something more light. Things like that.
Me: Ok. To customize the label? Has anyone ever asked you to customize the label?
Sophia: No. But they like the fact that we write the ingredients outside – their own recipe.
Me: For example their own name outside? For a present if not for themselves?

Sophia: No. They have not asked something like that.
Me: We are approaching to the end of the interview in a bit. In what language do you think I should conduct the data collection. I mean, in what language do you think the website should be? And the questionnaire?
Sophia: In Greek.
Me: Can you tell me how many customers enter daily the shop?
Sophia: No. because I am also here upstairs and I do not directly see.
Me: Ok, so how many do you have here in this floor for the personal line, per day?
Sophia: I would say 10 to 15.
Me: And what about foreign customers? Do they come for the personal?
Sophia: Yes they do. A lot of Japanese come, they like it a lot.
Me: And how do they know about it? Have they heard from someone else?
Sophia: No, I don't know. It is well known among French, this is something that exists in France. There where some Turks coming for a few times, they did not know it before. And then a lot from America.
Me: Generally, are the customers of personal constant customers?
Sophia: Usually the customers of personal are stable yes.
Me: Ok I see. Is there something else that you would like to add?
Sophia: Something to add. No not really.
Me: Something that I have missed and you think is important and I did not ask you about?
Sophia: Something which I am not sure if it is very important is the aromatisation of the area, which we can combine and we suggest. They create their own sprays – it is something that they like a lot and they ask. I cannot thing of something more.
Me: Ok, let me ask you something more, for example for the young ages there are some ingredients that you prefer?
Sophia: Of course! Yes! According to the age we choose the essential oils. For example if we have a mature skin we would go for essential oils from rose or from pogostemon cablin, for younger skin than that we would choose essential oil from cananga odorata, for even younger skins we would choose pelargonium graveolens essential oil. Of course! We do not put the same essential oils for a woman at her 60ies and for a woman at her 20ies, even if they want the same thing, same thing meaning hydration. Of course the smell is very important. We have 2-3 anti-aging essential oils for each age, the customer chooses the smell that prefers and we make it happen.
Me: I see. And let me ask you, do you have all of these in a book? Because it would be helpful for me to have those things written down for my thesis, so I wont ask you all the time for such specificities.
Sophia: Of course we have them written down. Here, let me see.
(Goes behind the table and looks for books)
Sophia: We have this one, which we give to the customers, and this one which is for the pharmacists.
Me: Ok that's great. Last question, do you want me to send you the results of the experiment and the thesis after it is done?
Sophia: Yes of course.
Me: Do you want to give me your email?
Sophia: Yes of course.
Me: Ok, please write it down here.
Sophia: Ok.

Me: Thank you very much for your time. It was a pleasure talking with you.
Sophia: Thank you. I'm looking forward for the news.

Appendix 6 – Transcription of Interview 2

Me: Good evening. My name is Ilias Demiris thank you very much for your time. It is very important for me your experience as a saleswoman. I am 25 years old and I am studying in Sweden in Gothenburg the MSc in Innovation and Industrial Management. The purpose of this interview is to help me a little bit with my thesis, which is about the Personal line. More specifically I would like you to tell me a few things about the customer behaviour and whether you have experienced some issues that I have found in the literature and what product you would recommend me to use for my thesis. To say a few things for my thesis: it will be based on a small-scale website where customers would be able to create their own cosmetic – just one product – and afterwards I will be comparing the willingness to pay and to buy for a customized product in comparison to generic products.

Athina: Nice.
Me: Was that descriptive enough?
Athina: Yes it was.
Me: Ok nice. Do you want to tell me a few things about yourself? Who are you? Your professional past and your relation with APIVITA?
Athina: I am 5 and half years in APIVITA I started here with my internship in the R&D where we research on every new formula for new cosmetics, where all the stability tests take place. It is not the production, it is about researching new products and which new products would be launch. After that I was working as a saleswoman close with the pharmacists both in Athens and in rest of Greece, and now for the last 2 and half years I am in the stores. I used to be a saleswoman in the old store in Solonos 26, which was a smaller store, and now here I am in Solonos 6 in the new APIVITA Experience Store. Before APIVITA I was working for 4 years in sales in the cosmetics.
Me: Nice. And what about your studies?
Athina: I am a graduate of A.T.E.I. of Athens in Aesthetics and Cosmetology.
Me: Great. And you age is? Sorry for asking a lady…
Athina: No, you should, my age is 27.
Me: Ok, I see. Which are in your opinion the most important factors that influence the purchasing decision of a customer?
Athina: The most important is to be convinced that the product will fulfil their need. When someone comes and is looking for something specific – which is the most common thing that happens – and he/she is not looking to explore what the company has to offer him/her. He/she has to be convinced about the product.
Me: What has to be convinced for?
Athina: The brand plays an important role at the outset I believe.
Me: Do you think that this is the same the first and the same time?
Athina: The first and the second connection with the product?
Me: Yes exactly.
Athina: No.
Me: So, in the second connection?

Athina: Because we assume that he/she is satisfied with the product since it is the second time, usually customers want to try more products, new products because they are already convinced about the effectiveness.
Me: I see, thank you. Do you think that the packaging is important?
Athina: Yes it is. And especially for women.
Me: And which packaging characteristics do you think are the most important?
Athina: Especially for APIVITA the packaging should be something more natural. Something too shiny is not coherent with the brand and I don't think that our customers would like it. Also the colours play a role. Who would not like a colour on the packaging that is coherent with the product itself? For example something that is closer to healing than to beauty, you want it to be more simple and neutral, but for other products which are for beauty and euphoria, colours may predispose the customer.
Me: Ok, I see. In your opinion, if a Personal customer could choose the packaging of the product would that have an effect?
Athina: Probably yes… A positive effect.
Me: Perfect, so you have worked with selling the personal line?
Athina: Yes
Me: Can you please describe me a typical customer of personal?
Athina: There is no such thing. Let me tell you a little bit when I was working with it. APIVITA always used to have products like personal, when the personal initiative, as it is today was done, when a bigger opening also was held also in some pharmacies I think in 2009, people did not know it, and they still don't know it, so I would not say that there is a typical personal customer, because you make him a customer. Or do you mean what they ask more? If a customer would come for personal what he/she would ask?
Me: No, I am asking more if you can tell me something more about gender, age and educational level of the customers of personal.
Athina: For sure more of them are women and it is a more special group of customers, customers who are aware of the product and are looking for the best product. It is usually a crowd who knows about aromatherapy and homeopathy. This group of customers cares about the product. Other such as men would say: "why should I buy something else that is not standardized?"
Me: So you would say that the dominant characteristic of personal customers is that they have knowledge on the product?
Athina: Yes, that they have knowledge, that they really care about the product and not for all the rest, the packaging, the commercials and the brand
Me: I see. The online offering of personal, would mainly target people who are familiar with the internet and generally young people. Do you think that those people would go online to buy a personal product?
Athina: Yes that's what I believe.
Me: Which in your opinion would be the most appropriate product in order to run my thesis? – the experiment I was describing before.
Athina: Hmmm, I would say that both the body cream and the face cream would be appropriate for this purpose. But the face cream is more expensive, which is something that plays a role, and someone more difficulty buys something for the face that has not tried before, but for body personal products due to the smell – which is also very important and which can be more intense in body products because the amounts of essential oils can be larger in body products - someone more easily "invests" on body products. It is easier to buy

a body product and I believe that people would take this risk more easily for a body cream than for a face cream. In the face you definitely want to see the texture of the product on the face.
Me: Can you please describe me step by step the process of customizing the personal body cream?
Athina: I will talk to you about what was happening so far and will not reflect on some new raw material we have currently introduced because Sophia is solely running the personal now here so I am not aware of all the new things.
Me: Ok, sure.
Athina: Depending on what we want the cream to do – what healing or cosmoceutical property – we add plant oils mainly for moisturizing and for soothing and we add essential oils for the smell depending on what we want. And for some other reasons such as the microcirculation and cellulite.
Me: And do we always begin from the type of skin?
Athina: No, because the cream I recommended you from its nature it is more moisturizing than the body milk. It is something in the middle: its not for very dry skin but not also not to moisturize a normal skin. The body milk because it is very liquid, I would say that targets people who have a very oily skin and thus it is a much small target audience. But the body cream is a beloved product even for women with normal skins and if we add for example almond oil which is highly nutrient, the body cream becomes even more moisturizing, and thus we can say that for a more dry skin another recipe of the body cream could be a good solution.
Me: I see. . Like Mr Choukalas has told me, some ingredients might create excludable conditions for some others for example for allergy reasons, some ingredients should not be together. Can you please tell me which ingredients create excludable conditions for other ingredients?
Athina: For example in pregnancy period a lot of essential oils are prohibited. Additionally when a skin is sensitive, a lot of essentials oils are also prohibited. Finally I would say that essential oils among each other do not create excludable conditions, but for example the cinnamon essential oil is not used for skin use, we use it for room aromatherapy. There are of course some essential oils that match much better with some others is also true. But Sophia knows better those issues and we give you a small book that we have and says those things. (Showing the book I got from Sophia) Yes this one. And without being a pharmacist me and the other girls we did not have the right to make our own mixtures for the creams so we were always using this book. So I cannot go in detail on this matter.
Me: Ok, I understand. To what degree do you think that the customers understand the product? And you can talk to me separately for the customers who buy the generic products and those who choose personal products.
Athina: Just because the people who choose personal are more aware, I would set the percentage of understanding higher. However I still think that the percentage is relatively low. I would say that people that buy the standard products understand them 50% and those who go for the personal 60 – 70%, because they go through the learning process by customizing their cosmetics and they want to learn.
Me: Yes, the fact that they are directly involved is quite basic. Ok, nice. Have you noticed a gap between APIVITA's vocabulary and the one customer's are using?
Athina: Are you asking me about a loyal customer and a potential customer?
Me: Well yes, lets talk about that.

Athina: To a general degree this is true. We are in a market – natural cosmetics – which is much more trendy the last years and I believe that the biggest percentage of our customers know why they buy our products.
Me: And would a customer know the differences between plant and essential oils for example?
Athina: Yes, in a much greater extend than someone who is not currently a customer. Because these are ingredients that we use in all our products anyway, so it is in our philosophy, this is APIVITA and customers know it.
Me: I see. Do you have the impression that customers want to customize more product ingredients and characteristics than those that they are already able to customize?
Athina: Yes. (laughs) Because they always want the best. Customers sometimes want everything inside a product. He/She thinks that we can put everything inside a product, which is not the case, because there are specific proportions that we can put in a product. For example for face products this is very common, ladies usually want moisturizing, anti-aging, radiance and revitalizing and vitamins and enzymes – something which is not feasible both because of course the proportion of all the ingredients would fall and due to scientific reasons. Even by following a simple logic, you can understand that you cannot have everything and in big amounts inside a product. So yes, customers definitely want more – they want as much as possible.
Me: I understand. Has any customer ever asked to choose the packaging that the personal product will be in?
Athina: Yes, a few times. Some customers want the tube, due to functionality reasons, but the personal cream is only offered in a vase since the mixing process would not be feasible if it was in a tube.
Me: I see. Has any customer ever asked you to customize the label of a personal product? – in anyway?
Athina: No, but I think it would be nice. From the feedback I receive from customers, packaging is quite important meaning that a nice packaging predisposes the customers for the inside. The user-friendliness of the packaging is very important and the graphics. Further, it has happened to me to create a different day and a different night personal cream for a customer and she said that: “I have to wear glasses to know which cream to put day and night” because the label is the same. Maybe the colours would be something that could be done for that. For example for a cream which is more moisturizing a blue label would remind the customer that this is for moisturizing. Or for example for anti-aging another colour or a small symbol. Or for example for a day cream a sun could be a good solution and for a night cream a moon – which is something that we see in creams sometimes.
Me: Perfect. Why do you think that customers, who choose personal, do so?
Athina: I think that those customers enjoy the fact that they can have exactly what they are looking for in a product. To ask exactly what they want and thus fully fulfil their need – however this does not mean that this cream is super unique as we said before – but for sure we can create a product which will be much more enjoyable also due to the smell – lot of customers place very highly in their preference the smell of the products – and also its utility (whether it is for healing reason or solely for cosmetics).
Me: I see. Do you think that the personal customers have a feeling of self achievement, a pride that they create their very own product, a sense of creativity – a feeling that this product express themselves?

Athina: Well, I haven't thought about that to be honest, (Hmmm) but I think that in some cases customers like a lot the idea of having their very own personal cosmetic.
Me: Ok nice. We are approaching to the end slowly slowly. In what language do you think I should design the whole experiment? And the questionnaire? Would English work?
Athina: Greek for sure.
Me: How many customers do daily enter the store? Can you give me a rough estimation?
Athina: I believe that we definitely serve 100 customers per day.
Me: Can you tell me approximately how many of those 100 are foreigners?
Athina: 10 to 20. Now. Because of the season.
Me: I will be hear collecting my data in March. Do you think that the number of customers per day will be the same during that time?
Athina: Yes it will be more. January and February are months that cosmetics are low on sales due to the sales on the clothing stores.
Me: Is there something more you would like to add? Something important that I forgot to ask you?
Athina: Well yes. For the personal I think that it is very important the expiration day of the product. From when all the essential and plant oils are mixed, there is a time frame of two months before the product expires.
Me: While the rest of the creams?
Athina: In APIVITA the generic products expire a year after they are opened.
Me: Ok.
Athina: Yes, so this is a minus for the personal. And especially for the face cream.
Me: Is the expiration time even less for the face cream?
Athina: No it is the same, but even if the customer uses the cream daily, it is common that customers do not finish all the amount of the cream inside the time frame of two months. This is a big minus I think. More people tend to buy a cream before the previous one is done, which makes this issue an even bigger problem.
Me: So what do you think could be done to correct this pitfall?
Athina: I am not sure whether the expiration day could be extended, but a thing that could be done would be to sell the personal face cream in a smaller vase.
Me: Perfect. Would you be interested to know the results of my thesis?
Athina: Of course!
Me: Can you please write me down here your email address?
Athina: Yes of course! I hope it will go very well. (Writing)
Me: Thank you a lot for your time! I really appreciate it!
Athina: No problem it was a pleasure.

Appendix 7 – General Statistics for all Gathered Observations

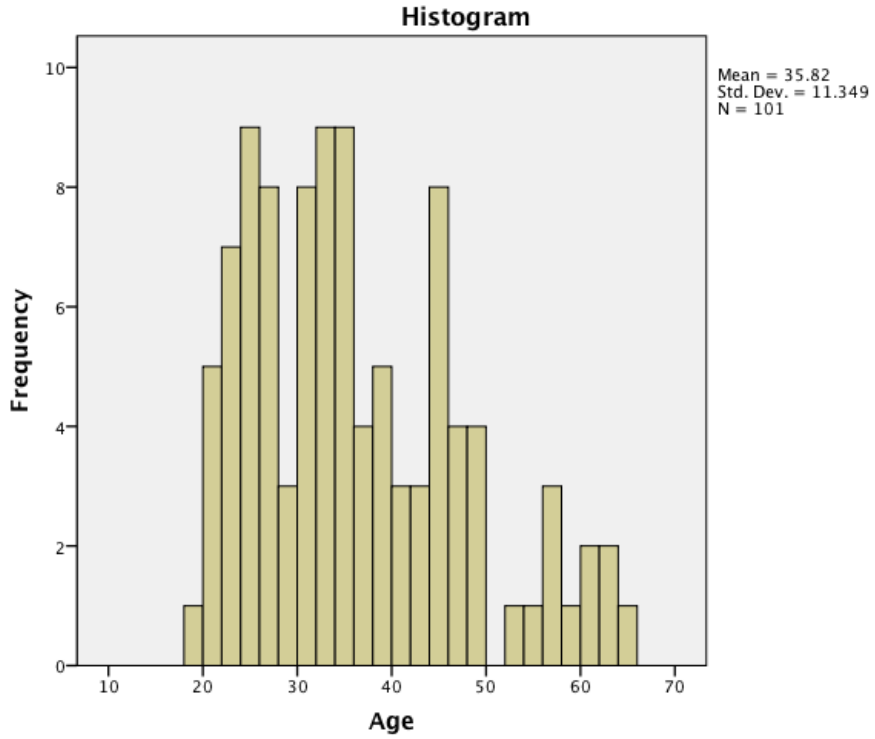
Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	8	7.8	7.8	7.8
	Female	94	92.2	92.2	100.0
	Total	102	100.0	100.0	

Descriptive Statistics for INCOME & AGE

	N	Minimum	Maximum	Mean	Std. Deviation
Income	94	0	7000	1223.62	1151.820
Age	101	19	65	35.82	11.349
Valid N (listwise)	94				

Frequencies Histogram of Age

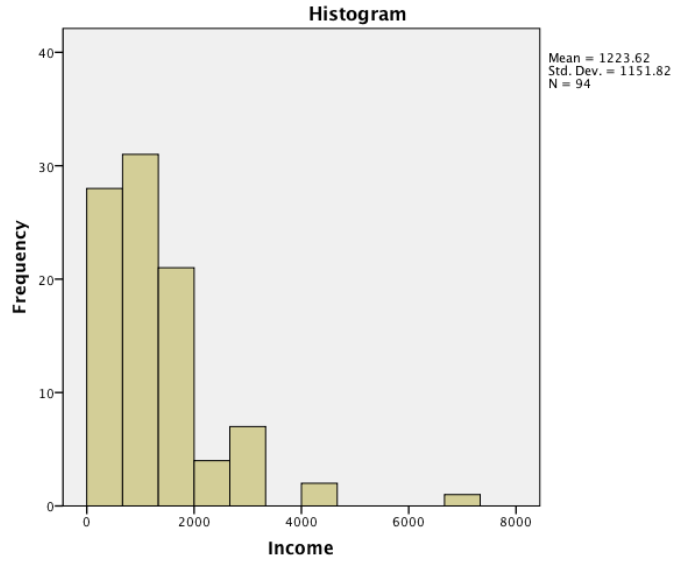


Age Frequencies, Percent & Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19	1	1.0	1.0	1.0
	20	2	2.0	2.0	3.0
	21	3	2.9	3.0	5.9
	22	3	2.9	3.0	8.9
	23	4	3.9	4.0	12.9
	24	4	3.9	4.0	16.8
	25	5	4.9	5.0	21.8
	26	6	5.9	5.9	27.7
	27	2	2.0	2.0	29.7
	29	3	2.9	3.0	32.7

	30	3	2.9	3.0	35.6
	31	5	4.9	5.0	40.6
	32	7	6.9	6.9	47.5
	33	2	2.0	2.0	49.5
	34	2	2.0	2.0	51.5
	35	7	6.9	6.9	58.4
	37	4	3.9	4.0	62.4
	38	1	1.0	1.0	63.4
	39	4	3.9	4.0	67.3
	40	3	2.9	3.0	70.3
	42	1	1.0	1.0	71.3
	43	2	2.0	2.0	73.3
	44	3	2.9	3.0	76.2
	45	5	4.9	5.0	81.2
	46	3	2.9	3.0	84.2
	47	1	1.0	1.0	85.1
	48	2	2.0	2.0	87.1
	49	2	2.0	2.0	89.1
	53	1	1.0	1.0	90.1
	55	1	1.0	1.0	91.1
	56	1	1.0	1.0	92.1
	57	2	2.0	2.0	94.1
	59	1	1.0	1.0	95.0
	60	2	2.0	2.0	97.0
	62	2	2.0	2.0	99.0
	65	1	1.0	1.0	100.0
	Total	101	99.0	100.0	
Missing	System	1	1.0		
Total		102	100.0		

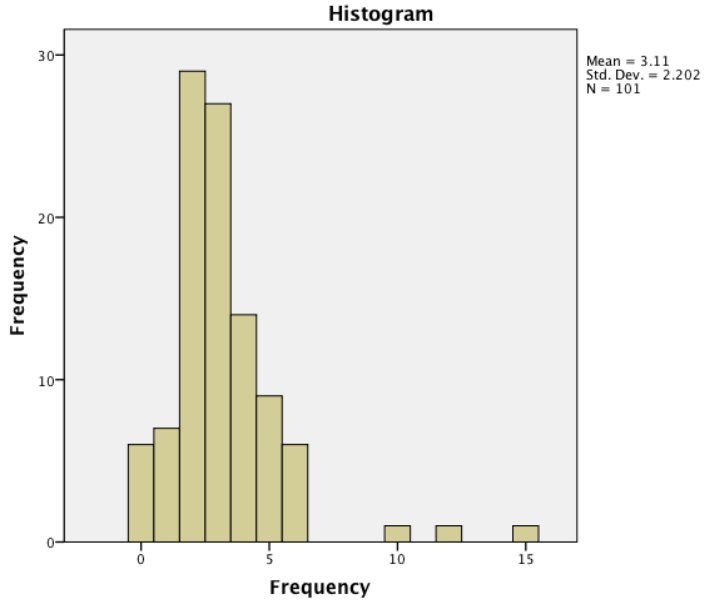
Frequencies Histogram of Income (in Euros)



Income Frequencies, Percent & Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	15	14.7	16.0	16.0
	50	1	1.0	1.1	17.0
	70	1	1.0	1.1	18.1
	100	1	1.0	1.1	19.1
	300	2	2.0	2.1	21.3
	340	1	1.0	1.1	22.3
	450	1	1.0	1.1	23.4
	500	4	3.9	4.3	27.7
	600	2	2.0	2.1	29.8
	700	3	2.9	3.2	33.0
	750	2	2.0	2.1	35.1
	800	5	4.9	5.3	40.4
	860	1	1.0	1.1	41.5
	900	4	3.9	4.3	45.7
	1000	11	10.8	11.7	57.4
	1100	1	1.0	1.1	58.5
	1200	3	2.9	3.2	61.7
	1300	1	1.0	1.1	62.8
	1400	2	2.0	2.1	64.9
	1500	10	9.8	10.6	75.5
	1600	2	2.0	2.1	77.7
	1650	1	1.0	1.1	78.7
	1800	2	2.0	2.1	80.9
	2000	4	3.9	4.3	85.1
	2300	1	1.0	1.1	86.2
	2500	3	2.9	3.2	89.4
	3000	6	5.9	6.4	95.7
	3100	1	1.0	1.1	96.8
	4500	2	2.0	2.1	98.9
	7000	1	1.0	1.1	100.0
	Total	94	92.2	100.0	
Missing	System	8	7.8		
Total		102	100.0		

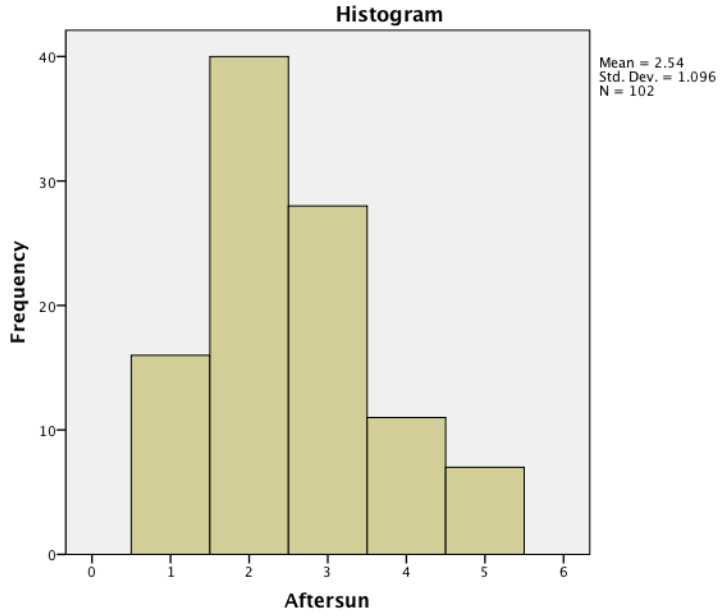
Frequencies Histogram of Average Monthly Purchases of APIVITA Products



Work Status Frequencies, Percent & Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	66	64.7	64.7	64.7
	Housewife	5	4.9	4.9	69.6
	Unemployed	15	14.7	14.7	84.3
	Unemployed due to choice	1	1.0	1.0	85.3
	Student	12	11.8	11.8	97.1
	Pensioner	3	2.9	2.9	100.0
	Total	102	100.0	100.0	

Frequencies Histogram of After Sun WTP
(1= retail price – 30%, 2= retail price – 15%. 3= retail price, 4= retail price +15%, 5= retail price +30%)



Appendix 8 – General Statistics for Usable Observations

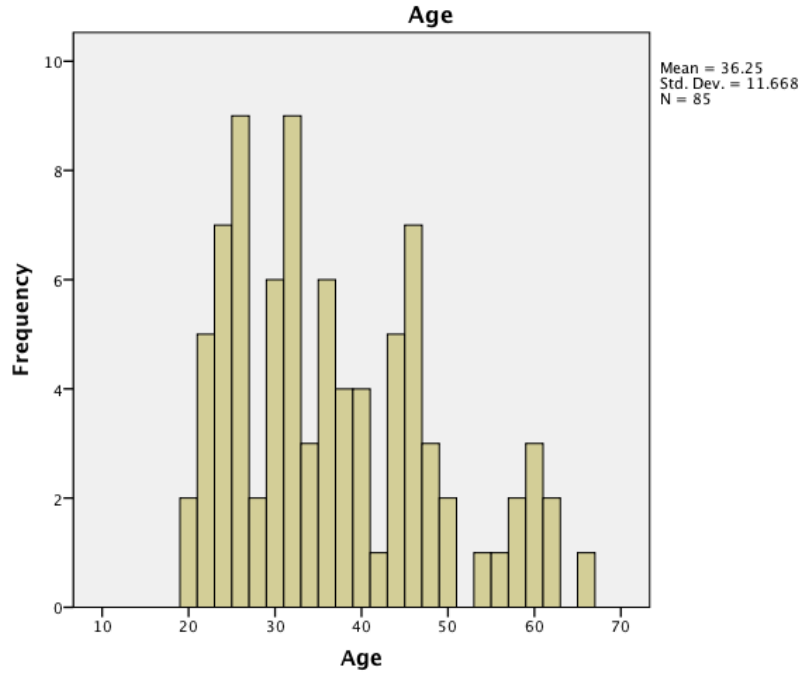
Frequencies for Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	5	5.9	5.9	5.9
	Female	80	94.1	94.1	100.0
	Total	85	100.0	100.0	

Descriptive Statistics for INCOME & AGE

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Income	79	0	7000	1231.90	1186.836	1408579.682
Age	85	20	65	36.25	11.668	136.141
Valid N (listwise)	79					

Frequencies Histogram of Age

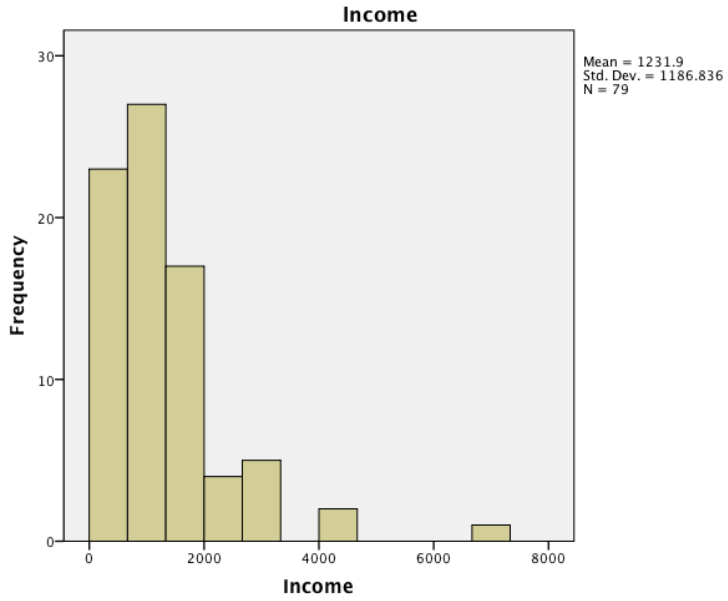


Age Frequency, Percent & Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	2	2.4	2.4	2.4
	21	3	3.5	3.5	5.9
	22	2	2.4	2.4	8.2
	23	4	4.7	4.7	12.9
	24	3	3.5	3.5	16.5
	25	3	3.5	3.5	20.0
	26	6	7.1	7.1	27.1
	27	2	2.4	2.4	29.4
	29	3	3.5	3.5	32.9
	30	3	3.5	3.5	36.5
	31	5	5.9	5.9	42.4
	32	4	4.7	4.7	47.1
	33	2	2.4	2.4	49.4
	34	1	1.2	1.2	50.6
	35	6	7.1	7.1	57.6
	37	4	4.7	4.7	62.4
	39	2	2.4	2.4	64.7
	40	2	2.4	2.4	67.1
	42	1	1.2	1.2	68.2
	43	2	2.4	2.4	70.6

44	3	3.5	3.5	74.1
45	4	4.7	4.7	78.8
46	3	3.5	3.5	82.4
47	1	1.2	1.2	83.5
48	2	2.4	2.4	85.9
49	2	2.4	2.4	88.2
53	1	1.2	1.2	89.4
55	1	1.2	1.2	90.6
57	2	2.4	2.4	92.9
59	1	1.2	1.2	94.1
60	2	2.4	2.4	96.5
62	2	2.4	2.4	98.8
65	1	1.2	1.2	100.0
Total	85	100.0	100.0	

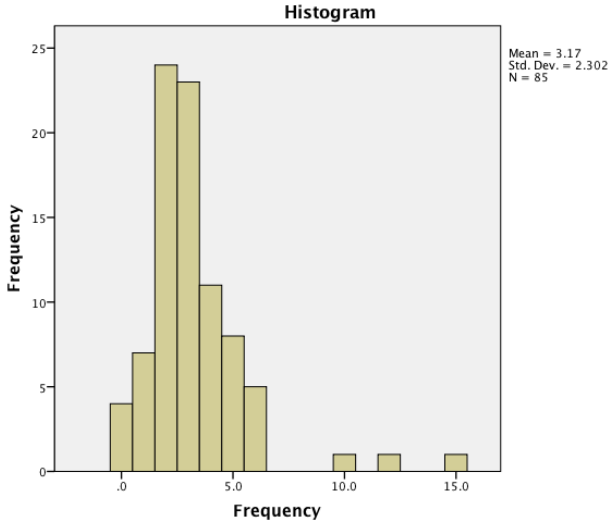
Frequencies Histogram of Income (in Euros)



Income Frequencies, Percent & Cumulative Percent

(in Euros)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	12	14.1	15.2	15.2
	50	1	1.2	1.3	16.5
	70	1	1.2	1.3	17.7
	100	1	1.2	1.3	19.0
	300	2	2.4	2.5	21.5
	340	1	1.2	1.3	22.8
	500	3	3.5	3.8	26.6
	600	2	2.4	2.5	29.1
	700	2	2.4	2.5	31.6
	750	2	2.4	2.5	34.2
	800	5	5.9	6.3	40.5
	860	1	1.2	1.3	41.8
	900	4	4.7	5.1	46.8
	1000	9	10.6	11.4	58.2
	1200	3	3.5	3.8	62.0
	1300	1	1.2	1.3	63.3
	1400	2	2.4	2.5	65.8
	1500	9	10.6	11.4	77.2
	1600	2	2.4	2.5	79.7
	1800	1	1.2	1.3	81.0
	2000	3	3.5	3.8	84.8
	2300	1	1.2	1.3	86.1
	2500	3	3.5	3.8	89.9
	3000	4	4.7	5.1	94.9
	3100	1	1.2	1.3	96.2
	4500	2	2.4	2.5	98.7
	7000	1	1.2	1.3	100.0
	Total	79	92.9	100.0	
Missing	System	6	7.1		
Total		85	100.0		

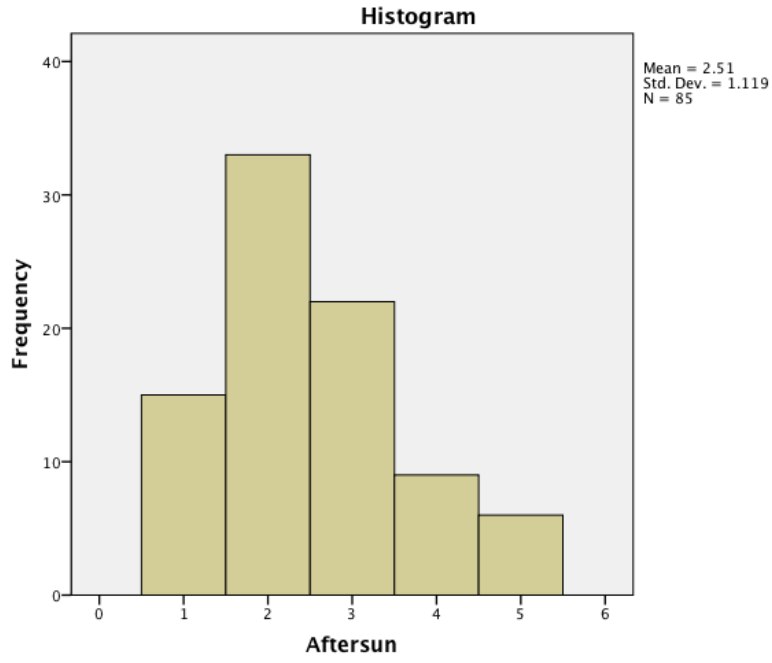
Frequencies Histogram of Average Monthly Purchases of APIVITA Products



Work Status Frequencies, Percent & Cumulative Percent

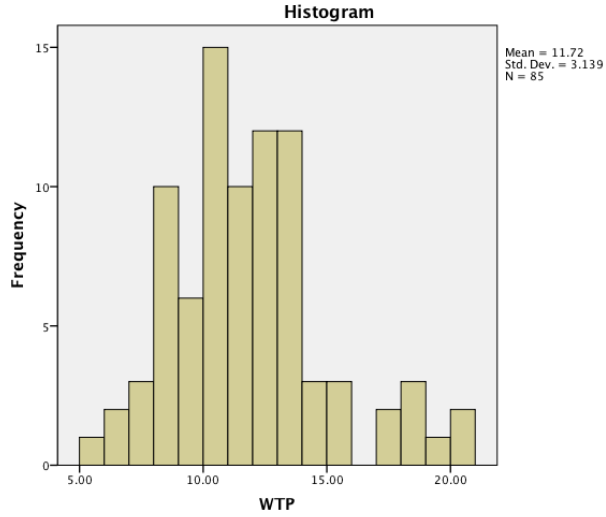
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	56	65.9	65.9	65.9
	Housewife	4	4.7	4.7	70.6
	Unemployed	13	15.3	15.3	85.9
	Unemployed due to choice	1	1.2	1.2	87.1
	Student	8	9.4	9.4	96.5
	Pensioner	3	3.5	3.5	100.0
	Total	85	100.0	100.0	

Frequencies Histogram of After Sun WTP
(1= retail price – 30%, 2= retail price – 15%. 3= retail price, 4= retail price +15%, 5= retail price +30

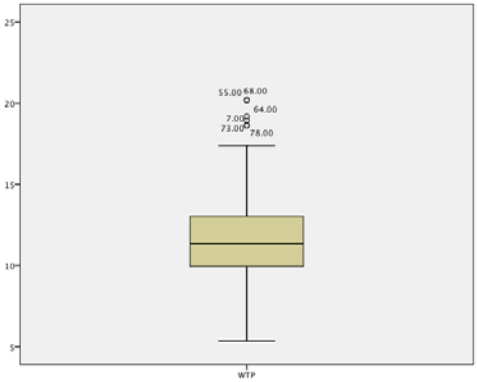


Appendix 9 – WTP Outliers

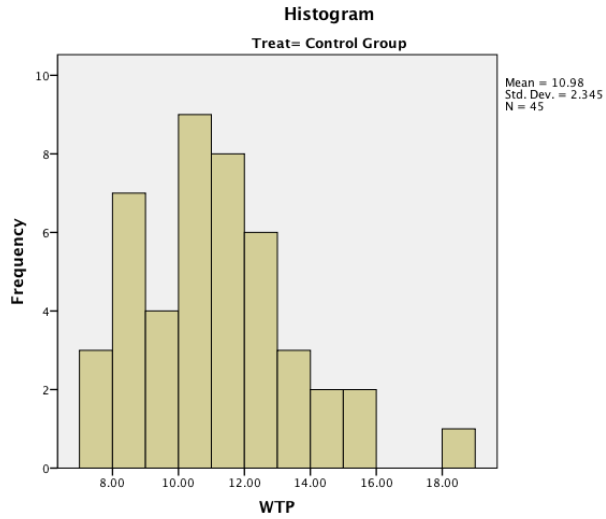
WTP Histogram – Both Groups



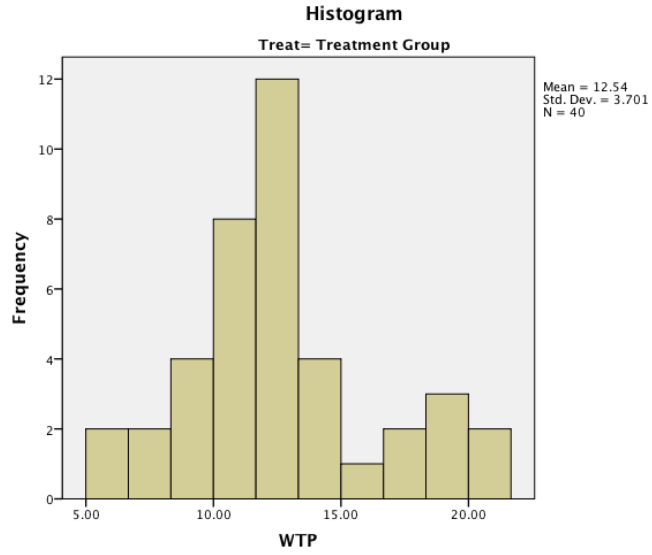
WTP Outliers – Both Groups



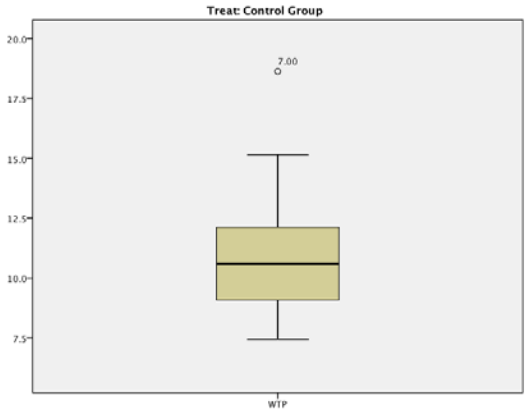
WTP Histogram – Control Group



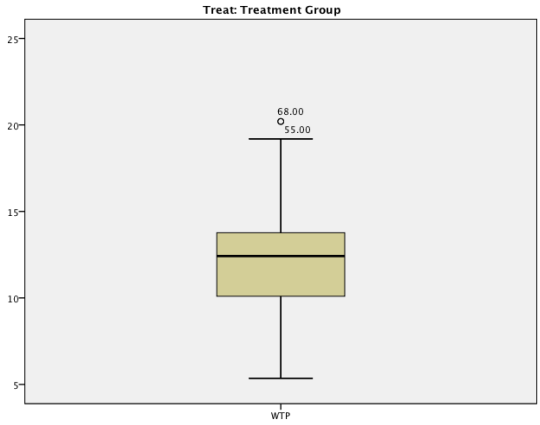
WTP Histogram – Treatment Group



WTP Outliers – Control Group



WTP Outliers Treatment Group



Appendix 10 – Correlation of Dependent Variables

Correlations

		PI	WTP
PI	Pearson Correlation	1	.108
	Sig. (2-tailed)		.325
	N	85	85
WTP	Pearson Correlation	.108	1
	Sig. (2-tailed)	.325	
	N	85	85

Appendix 11 – Tables from ANOVA for the Homogeneity of Groups

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GENDER	Between Groups	.086	1	.086	1.553	.216
	Within Groups	4.619	83	.056		
	Total	4.706	84			
AGEgroup	Between Groups	.608	1	.608	.559	.457
	Within Groups	90.286	83	1.088		
	Total	90.894	84			
Family	Between Groups	.147	1	.147	.249	.619
	Within Groups	49.100	83	.592		
	Total	49.247	84			
Work	Between Groups	.261	1	.261	.113	.738
	Within Groups	192.444	83	2.319		
	Total	192.706	84			
Income5Groups	Between Groups	.027	1	.027	.014	.905
	Within Groups	145.644	77	1.891		
	Total	145.671	78			
Frequency	Between Groups	1.601	1	1.601	.300	.586
	Within Groups	443.675	83	5.345		
	Total	445.276	84			
OnlineBuy	Between Groups	.094	1	.094	.376	.542
	Within Groups	20.800	83	.251		
	Total	20.894	84			
Aftersun	Between Groups	.847	1	.847	.673	.414
	Within Groups	104.400	83	1.258		
	Total	105.247	84			
Shampoo	Between Groups	1.977	1	1.977	1.996	.161
	Within Groups	82.211	83	.990		
	Total	84.188	84			

Appendix 12 – Tables from Independent-samples T-test for PI

Group Statistics

	Treat	N	Mean	Std. Deviation	Std. Error Mean
PI	Control Group	45	3.7687	.70293	.10479
	Treatment Group	40	3.5980	.63678	.10068

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
PI	Equal variances assumed	.128	.722	1.168	83	.246	.17067
	Equal variances not assumed			1.174	82.966	.244	.17067

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
PI	Equal variances assumed	.14617	-.12007	.46140
	Equal variances not assumed	.14532	-.11837	.45970

Eta squared formula for Independent-Sample T-test (Pallant, 2007:236)

eta squared = $t^2 / (t^2 + (N_1 + N_2 - 2))$

Appendix 13 – Tables from Independent-samples T-test for WTP

Group Statistics

	Treat	N	Mean	Std. Deviation	Std. Error Mean
WTP	Control Group	45	10.9847	2.34492	.34956
	Treatment Group	40	12.5415	3.70127	.58522

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
WTP	Equal variances assumed	5.245	.025	-2.343	83	.022	-1.55683
	Equal variances not assumed			-2.284	64.514	.026	-1.55683

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
WTP	Equal variances assumed	.66455	-2.87859	-.23507
	Equal variances not assumed	.68167	-2.91842	-.19524

Appendix 14 – SPSS Output from Multiple Regressions

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING PAIRWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT PI
  /METHOD=ENTER Utilitarian Uniq Expres Hedonic Creativity
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS NORMPROB(ZRESID)
  /CASEWISE PLOT(ZRESID) OUTLIERS(3)
  /SAVE MAHAL COOK.
```

Regression

Notes

Output Created		24-MAY-2014 21:34:08
Comments		
Input	Data	/Users/iliasdemiris/Desktop/PImeanWTPaftersunMODIFIED.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	Treat
	N of Rows in Working Data File	85
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Correlation coefficients for each pair of variables are based on all the cases with valid data for that pair. Regression statistics are based on these correlations.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING PAIRWISE /STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL ZPP /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT PI /METHOD=ENTER Utilitarian Uniq Expres Hedonic Creativity /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS NORMPROB(ZRESID) /CASEWISE PLOT(ZRESID) OUTLIERS(3) /SAVE MAHAL COOK.
Resources	Processor Time	00:00:01.65
	Elapsed Time	00:00:03.00
	Memory Required	7840 bytes
	Additional Memory Required for Residual Plots	488 bytes
Variables Created or Modified	MAH_17	Mahalanobis Distance
	COO_16	Cook's Distance

[DataSet2] /Users/iliasdemiris/Desktop/Hyp1test.sav

Descriptive Statistics

Treat		Mean	Std. Deviation	N
Control Group	PI	3.7687	.70293	45
	Utilitarian	3.69	.793	45
	Uniq	2.44	.867	45
	Expres	3.71	.757	45
	Hedonic	3.73	.837	45
	Creativity	3.16	.976	45
Treatment Group	PI	3.5980	.63678	40
	Utilitarian	3.78	.577	40
	Uniq	2.80	1.114	40
	Expres	3.63	.628	40
	Hedonic	4.08	.656	40
	Creativity	3.73	.679	40

Correlations

Treat			PI	Utilitarian	Uniq	Expres	Hedonic	Creativity
Control Group	Pearson Correlation	PI	1.000	.344	-.002	-.099	.164	.086
		Utilitarian	.344	1.000	.173	.604	.455	.475
		Uniq	-.002	.173	1.000	.269	.042	.158
		Expres	-.099	.604	.269	1.000	.378	.462
		Hedonic	.164	.455	.042	.378	1.000	.581

		Creativity	.086	.475	.158	.462	.581	1.000
	Sig. (1-tailed)	PI	.	.010	.494	.259	.141	.288
		Utilitarian	.010	.	.128	.000	.001	.000
		Uniq	.494	.128	.	.037	.393	.150
		Expres	.259	.000	.037	.	.005	.001
		Hedonic	.141	.001	.393	.005	.	.000
		Creativity	.288	.000	.150	.001	.000	.
	N	PI	45	45	45	45	45	45
		Utilitarian	45	45	45	45	45	45
		Uniq	45	45	45	45	45	45
		Expres	45	45	45	45	45	45
		Hedonic	45	45	45	45	45	45
		Creativity	45	45	45	45	45	45
Treatment Group	Pearson Correlation	PI	1.000	.215	.330	.321	.318	.134
		Utilitarian	.215	1.000	.208	.327	-.022	.296
		Uniq	.330	.208	1.000	.293	.126	.468
		Expres	.321	.327	.293	1.000	-.179	.173
		Hedonic	.318	-.022	.126	-.179	1.000	.220
		Creativity	.134	.296	.468	.173	.220	1.000
	Sig. (1-tailed)	PI	.	.091	.019	.022	.023	.205
		Utilitarian	.091	.	.099	.020	.446	.032
		Uniq	.019	.099	.	.033	.219	.001
		Expres	.022	.020	.033	.	.135	.143
		Hedonic	.023	.446	.219	.135	.	.086
		Creativity	.205	.032	.001	.143	.086	.
	N	PI	40	40	40	40	40	40
		Utilitarian	40	40	40	40	40	40
		Uniq	40	40	40	40	40	40
		Expres	40	40	40	40	40	40
		Hedonic	40	40	40	40	40	40
		Creativity	40	40	40	40	40	40

Variables Entered/Removed[a]

Treat	Model	Variables Entered	Variables Removed	Method
Control Group	1	Creativity, Uniq, Utilitarian, Hedonic, Expres[b]	.	Enter
Treatment Group	1	Creativity, Expres, Hedonic, Utilitarian, Uniq[b]	.	Enter

a. Dependent Variable: PI

b. All requested variables entered.

Model Summary[b]

Treat	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Control Group	1	.521[a]	.272	.178	.63718
Treatment Group	1	.550[c]	.303	.200	.56949

a. Predictors: (Constant), Creativity, Uniq, Utilitarian, Hedonic, Expres
b. Dependent Variable: PI
c. Predictors: (Constant), Creativity, Expres, Hedonic, Utilitarian, Uniq

ANOVA[a]

Treat	Model		Sum of Squares	df	Mean Square	F	Sig.
Control Group	1	Regression	5.907	5	1.181	2.910	.025[b]
		Residual	15.834	39	.406		
		Total	21.741	44			
Treatment Group	1	Regression	4.787	5	.957	2.952	.026[c]
		Residual	11.027	34	.324		
		Total	15.814	39			

a. Dependent Variable: PI

b. Predictors: (Constant), Creativity, Uniq, Utilitarian, Hedonic, Expres

c. Predictors: (Constant), Creativity, Expres, Hedonic, Utilitarian, Uniq

Coefficients[a]

Treat	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Control Group	1	(Constant)	3.208	.593		5.412	.000
		Utilitarian	.544	.162	.613	3.364	.002
		Uniq	.021	.116	.027	.186	.854
		Expres	-.459	.168	-.495	-2.738	.009
		Hedonic	.076	.146	.090	.517	.608
		Creativity	-.024	.130	-.034	-.187	.852
Treatment Group	1	(Constant)	.620	.984		.631	.532
		Utilitarian	.130	.173	.118	.751	.458
		Uniq	.135	.096	.237	1.413	.167
		Expres	.311	.163	.307	1.912	.064
		Hedonic	.368	.147	.379	2.502	.017
		Creativity	-.139	.159	-.148	-.872	.389

Coefficients[a]

Treat	Model		95.0% Confidence Interval for B		Correlations			Collinearity Statistics
			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance
Control Group	1	(Constant)	2.009	4.407				
		Utilitarian	.217	.871	.344	.474	.460	.562
		Uniq	-.212	.255	-.002	.030	.025	.916
		Expres	-.799	-.120	-.099	-.402	-.374	.571
		Hedonic	-.221	.372	.164	.083	.071	.614
		Creativity	-.286	.238	.086	-.030	-.026	.577
Treatment Group	1	(Constant)	-1.378	2.619				
		Utilitarian	-.222	.482	.215	.128	.108	.833
		Uniq	-.059	.330	.330	.235	.202	.729
		Expres	-.020	.641	.321	.312	.274	.798
		Hedonic	.069	.666	.318	.394	.358	.895
		Creativity	-.463	.185	.134	-.148	-.125	.709

Coefficients[a]

Treat	Model		Collinearity Statistics
			VIF
Control Group	1	(Constant)	
		Utilitarian	1.780
		Uniq	1.091
		Expres	1.750
		Hedonic	1.628
		Creativity	1.734
Treatment Group	1	(Constant)	
		Utilitarian	1.201
		Uniq	1.372
		Expres	1.254
		Hedonic	1.117
		Creativity	1.410

a. Dependent Variable: PI

Collinearity Diagnostics[a]

Treat	Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
					(Constant)	Utilitarian	Uniq	Expres
Control Group	1	1	5.796	1.000	.00	.00	.00	.00
		2	.098	7.683	.00	.01	.79	.00
		3	.046	11.263	.10	.04	.12	.03
		4	.027	14.655	.10	.18	.02	.18
		5	.018	17.809	.57	.36	.08	.05
		6	.015	19.535	.22	.42	.00	.74
Treatment Group	1	1	5.827	1.000	.00	.00	.00	.00
		2	.099	7.666	.01	.01	.80	.00
		3	.033	13.297	.00	.04	.00	.30
		4	.020	17.283	.01	.06	.08	.11

	5	.015	19.814	.00	.76	.07	.33
	6	.006	30.410	.98	.14	.05	.26

Collinearity Diagnostics[a]

Treat	Model	Dimension	Variance Proportions	
			Hedonic	Creativity
Control Group	1	1	.00	.00
		2	.03	.06
		3	.00	.66
		4	.48	.04
		5	.32	.17
		6	.17	.07
Treatment Group	1	1	.00	.00
		2	.01	.00
		3	.30	.03
		4	.21	.70
		5	.00	.26
		6	.47	.02

a. Dependent Variable: PI

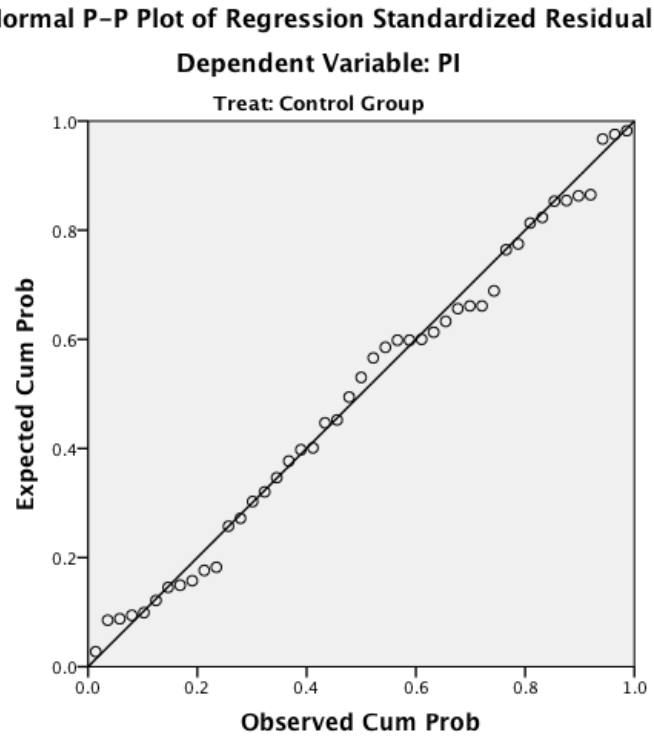
Residuals Statistics[a]

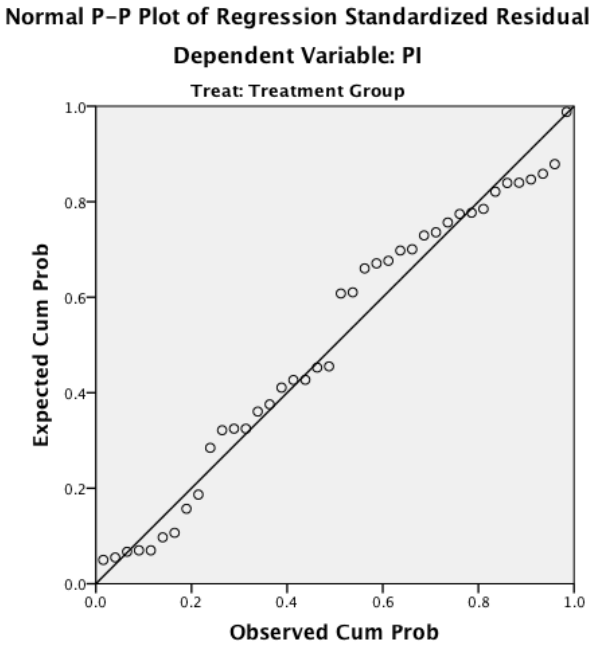
Treat		Minimum	Maximum	Mean	Std. Deviation	N
Control Group	Predicted Value	3.1999	4.4150	3.7687	.36640	45
	Std. Predicted Value	-1.552	1.764	.000	1.000	45
	Standard Error of Predicted Value	.131	.447	.224	.065	45
	Adjusted Predicted Value	2.8352	4.4760	3.7551	.39895	45
	Residual	-1.22140	1.34072	.00000	.59989	45
	Std. Residual	-1.917	2.104	.000	.941	45
	Stud. Residual	-2.008	2.176	.009	1.014	45
	Deleted Residual	-1.34066	1.51350	.01357	.70135	45
	Stud. Deleted Residual	-2.094	2.292	.012	1.036	45
	Mahal. Distance	.880	20.684	4.889	3.611	45
	Cook's Distance	.000	.274	.030	.051	45
	Centered Leverage Value	.020	.470	.111	.082	45
Treatment Group	Predicted Value	2.7646	4.3347	3.5980	.35036	40
	Std. Predicted Value	-2.379	2.103	.000	1.000	40
	Standard Error of Predicted Value	.111	.338	.214	.053	40
	Adjusted Predicted Value	2.7103	4.2147	3.5873	.36017	40
	Residual	-.93734	1.28586	.00000	.53173	40
	Std. Residual	-1.646	2.258	.000	.934	40
	Stud. Residual	-1.788	2.420	.009	1.014	40
	Deleted Residual	-1.21474	1.47655	.01067	.62925	40

	Stud. Deleted Residual	-1.850	2.620	.008	1.038	40
	Mahal. Distance	.495	12.759	4.875	2.781	40
	Cook's Distance	.000	.226	.031	.044	40
	Centered Leverage Value	.013	.327	.125	.071	40

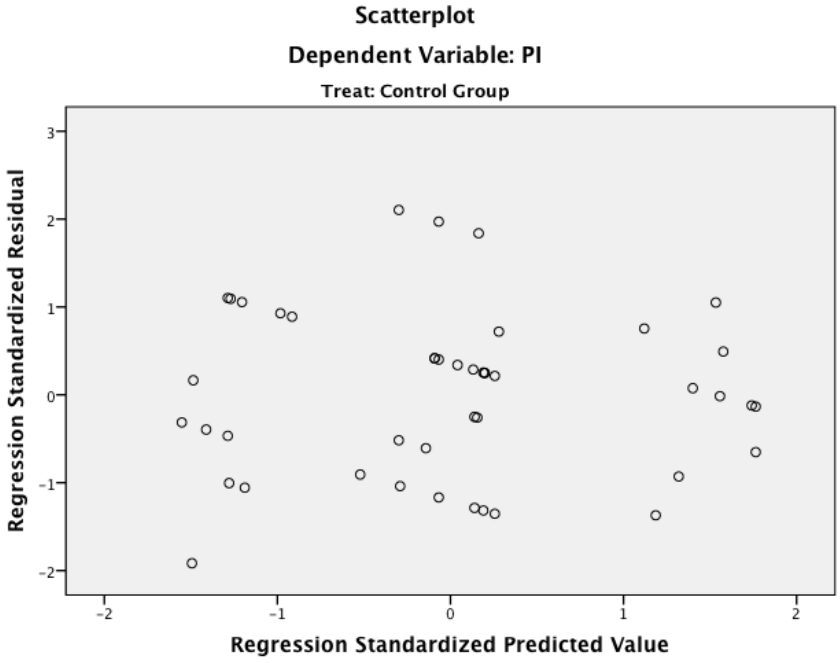
a. Dependent Variable: PI

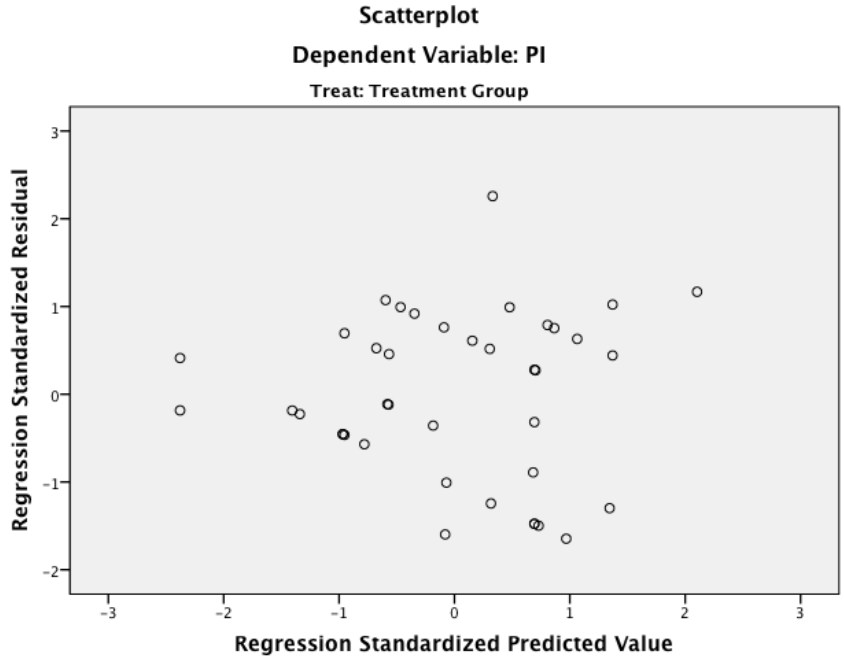
Normal P-P Plots





Scatterplots





Appendix 15 – Tables from Independent-samples T-tests for CPVT

Group Statistics

	Treat	N	Mean	Std. Deviation	Std. Error Mean
Utilitatian	Control Group	45	3.69	.793	.118
	Treatment Group	40	3.78	.577	.091
Uniq	Control Group	45	2.44	.867	.129
	Treatment Group	40	2.80	1.114	.176
Expres	Control Group	45	3.71	.757	.113
	Treatment Group	40	3.63	.628	.099
Hedonic	Control Group	45	3.73	.837	.125
	Treatment Group	40	4.08	.656	.104
Creativity	Control Group	45	3.16	.976	.145
	Treatment Group	40	3.73	.679	.107

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Utilitatian	Equal variances assumed	3.036	.085	-.566	83	.573	-.086
	Equal variances not assumed			-.577	80.005	.566	-.086

Uniq	Equal variances assumed	3.047	.085	-1.651	83	.103	-.356
	Equal variances not assumed			-1.627	73.457	.108	-.356
Expres	Equal variances assumed	.086	.770	.566	83	.573	.086
	Equal variances not assumed			.573	82.619	.568	.086
Hedonic	Equal variances assumed	4.686	.033	-2.077	83	.041	-.342
	Equal variances not assumed			-2.106	81.773	.038	-.342
Creativity	Equal variances assumed	2.353	.129	-3.085	83	.003	-.569
	Equal variances not assumed			-3.150	78.648	.002	-.569

Independent Samples Test

		t-test for Equality of Means		
			95% Confidence Interval of the Difference	
		Std. Error Difference	Lower	Upper
Utilitatian	Equal variances assumed	.152	-.388	.216
	Equal variances not assumed	.149	-.383	.211
Uniq	Equal variances assumed	.215	-.784	.073
	Equal variances not assumed	.219	-.791	.080
Expres	Equal variances assumed	.152	-.216	.388
	Equal variances not assumed	.150	-.213	.385
Hedonic	Equal variances assumed	.165	-.669	-.014
	Equal variances not assumed	.162	-.664	-.019
Creativity	Equal variances assumed	.185	-.937	-.202
	Equal variances not assumed	.181	-.929	-.210

Appendix 16 – Tables for Willingness to Buy Personal Online

PersOnlineDUMMY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	36	42.4	42.4	42.4
	Yes	49	57.6	57.6	100.0
	Total	85	100.0	100.0	

PersOnlineDUMMY

Treat			Frequency	Percent	Valid Percent	Cumulative Percent
Control Group	Valid	No	22	48.9	48.9	48.9
		Yes	23	51.1	51.1	100.0
		Total	45	100.0	100.0	
Treatment Group	Valid	No	14	35.0	35.0	35.0
		Yes	26	65.0	65.0	100.0
		Total	40	100.0	100.0	

Appendix 17 – Tables from Paired-samples T-test for PI

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PI	3.6000	40	.63694	.10071
	packPI	3.8250	40	.50630	.08005

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PI & packPI	40	.705	.000

Paired Samples Test

		Paired Differences					t	df
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	PI - packPI	-.22500	.45534	.07200	-.37063	-.07937	-3.125	39

Paired Samples Test

		Sig. (2-tailed)
Pair 1	PI - packPI	.003

Eta squared formula for Paired-Sample T-test (Pallant, 2007:240)

eta squared = $t^2 / (t^2 + N - 1)$

Appendix 18 – Tables from Paired-samples T-test for WTP

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	WTP	12.5432	40	3.70278	.58546
	PackWTP	13.4265	40	4.89526	.77401

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	WTP & PackWTP	40	.918	.000

Paired Samples Test

		Paired Differences					t
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		
					Lower	Upper	
Pair 1	WTP - PackWTP	-.88324	2.09817	.33175	-1.55427	-.21222	-2.662

Paired Samples Test

		df	Sig. (2-tailed)
Pair 1	WTP - PackWTP	39	.011

Appendix 19 – Descriptives for CPVT Observations Split by Changed

Descriptive Statistics

changed		N	Minimum	Maximum	Mean	Std. Deviation
No	Utilitarian	21	3.00	5.00	3.7619	.62488
	Uniq	21	1.00	5.00	2.6190	1.20317
	Expres	21	2.00	5.00	3.5238	.67964
	Hedonic	21	2.00	5.00	4.0476	.74001
	Creativity	21	3.00	5.00	3.7619	.62488
	Valid N (listwise)	21				
Yes	Utilitarian	19	3.00	5.00	3.7895	.53530
	Uniq	19	1.00	5.00	3.0000	1.00000

Expres	19	3.00	5.00	3.7368	.56195
Hedonic	19	3.00	5.00	4.1053	.56713
Creativity	19	2.00	5.00	3.6842	.74927
Valid N (listwise)	19				

Descriptive Statistics

changed		N	Minimum	Maximum	Mean	Std. Deviation
No	Income	21	.00	3000.00	1215.2381	1029.43003
	dPI	21	-2.00	3.00	.5714	1.12122
	dWTP	21	.00	10.47	1.2114	2.71117
	Age	21	21.00	65.00	40.5238	12.38797
	frequency	21	.00	15.00	3.1429	3.11907
	Valid N (listwise)	21				
Yes	Income	19	.00	7500.00	1486.8421	1784.95581
	dPI	19	.00	4.00	1.0000	1.33333
	dWTP	19	-1.05	4.45	.6042	1.38411
	Age	19	20.00	53.00	33.8947	9.56786
	frequency	19	.00	6.00	2.7895	1.71849
	Valid N (listwise)	19				

Appendix 20 – Frequency Tables for ΔPI and ΔWTP

dPI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	1	2.3	2.5	2.5
	-1.00	1	2.3	2.5	5.0
	.00	19	44.2	47.5	52.5
	1.00	10	23.3	25.0	77.5
	2.00	4	9.3	10.0	87.5
	3.00	4	9.3	10.0	97.5
	4.00	1	2.3	2.5	100.0
	Total	40	93.0	100.0	
Missing	System	3	7.0		
Total		43	100.0		

dWTP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-1.05	1	2.3	2.5	2.5
	.00	27	62.8	67.5	70.0
	.53	1	2.3	2.5	72.5
	.57	1	2.3	2.5	75.0
	.78	1	2.3	2.5	77.5
	.89	1	2.3	2.5	80.0
	1.17	1	2.3	2.5	82.5
	2.10	1	2.3	2.5	85.0
	2.27	1	2.3	2.5	87.5
	4.14	1	2.3	2.5	90.0
	4.19	1	2.3	2.5	92.5
	4.45	1	2.3	2.5	95.0
	6.41	1	2.3	2.5	97.5
	10.47	1	2.3	2.5	100.0
	Total	40	93.0	100.0	
Missing	System	3	7.0		
Total		43	100.0		