

INSTITUTO UNIVERSITÁRIO DE LISBOA

Unlocking	Premium: E	xploring th	ne Interplay	of Personal	∣ity
Traits and I	External Fac	ctors in Fre	emium Bus	siness Mode	ls

Filipa Correia Pinto Hipólito Baptista

Master in Marketing

Supervisor:

Prof. Dr. Ricardo Godinho Bilro, Assistant Professor Department of Marketing, Operations and Management ISCTE Business School

October, 2023



October, 2023

Department of Marketing, Strategy and Operations Unlocking Premium: Exploring the Interplay of Personality Traits and External Factors in Freemium Business Models Filipa Correia Pinto Hipólito Baptista Master in Marketing Supervisor: Prof. Dr. Ricardo Godinho Bilro, Assistant Professor, Department of Marketing, Operations and Management **ISCTE Business School**

Title	Author	
		3

ISCLE INSTITUTO UNIVERSITÁRIO DE LISBOA

Acknowledgments

This marks the final step of the last two years of my master's in marketing which proved to be as much as challenging as it was rewarding.

First, I would like to thank my thesis supervisor, Prof. Ricardo Godinho Bilro, for the help in choosing a topic for this dissertation between all the options that I put on the table, for his guidance, dedication, and valuable advice throughout these last few months. He always supported me with direction during my dissertation.

To my parents, for the unrelenting support throughout all these years of study, without them I would not be where I am today, thank you for pushing me to always try to be the best version of myself. As well as my younger sister, Joana, for always keeping me grounded when times proved to be more challenging, and always, without fault, being there for me.

To my friends who accompanied me every step of the way, this would not have been possible without you.

I also need to mention my team at Fidelidade's Center for Transformation, I knew from the start that working and writing the thesis would be demanding, so thank you for being so understanding and helpful during these last few months. Also, for continuously teaching me indispensable knowledge and tools that I will carry with me for the next chapter of my professional path.

Finally, I would also like to express my gratitude to all the participants who answered the survey, it was a tremendous help to accomplish my research goal.

Resumo

A conversão de utilizadores premium é muito baixa, entre 3% a 5%, o que representa uma

ameaça para a rentabilidade dos negócios, mas a implementação do modelo de negócio

freemium pelas empresas tem vindo a aumentar ao longo dos anos. Embora existam alguns

estudos sobre o freemium, pouco se sabe sobre o comportamento do consumidor em relação ao

freemium e sua intenção de compra. Neste estudo, investiga-se se traços de personalidade e

outros traços, como Necessidade de Mudança, Necessidade de Exclusividade e Curiosidade,

afetam a perceção de valor da oferta premium em plataformas de subscrição, e como isso afeta

a atitude do consumidor em relação à versão premium, a intenção de compra e a disposição

para pagar. Os dados deste estudo foram recolhidos através de um inquérito online (N=321)

junto de utilizadores que possuem e não possuem a versão premium de plataformas como

LinkedIn, Spotify, Canva e outras, foram testadas 11 hipóteses utilizando o IBM SPSS

Statistics. Foi comprovado de que a Necessidade de Mudança e a Curiosidade afetam

positivamente a perceção do consumidor sobre o valor premium, o que reflete na sua atitude

em relação à assinatura premium e aumenta a intenção de compra e a disposição de pagar dos

usuários. As descobertas do presente estudo contribuem para uma melhor compreensão do

consumidor, para que empresas e profissionais de marketing possam aplicar melhor estratégias

para este tipo de modelo.

Palavras-chave: Freemium Business Model; Curiosidade; 5 Traços de Personalidade;

Necessidade de Mudança; Atitude em relação ao Premium; Vontade de Pagar.

JEL Sistema de Classificação: M31 Marketing; M15 IT Management

Abstract

The conversion of premium users is very low, between 3% to 5%, which represents a threat for

business profitability, yet the implementation of the freemium business model by companies

has been rising over the years. Although there are some studies on freemium, little is known

about consumer behavior towards it and their purchase intention. In this study, its investigated

if personality traits and other traits, such as Need for Change, Need for Uniqueness and

Curiosity affect the perceived value of the premium offering on subscription platforms, and

how it affects consumer attitude towards premium, purchase intention and willingness to pay.

The data for this study was gathered through an online survey (N=321) among users that have

and do not have the premium version of platforms such as LinkedIn, Spotify, Canva and others,

it was tested 11 hypothesis using IBM SPSS Statistics. We found support that Need for Change

and Curiosity positively affect the consumer perception of the premium value, which reflects

on their attitude towards the premium subscription and increases the purchase intention and

users' willingness to pay. The current study's finding contributes to better understand the

consumer, so businesses and marketeers can better apply strategies for this type of model.

Keywords: Freemium Business Model; Curiosity; Big 5 Personality Traits; Need for Change;

Attitude Towards Premium; Willingness to Pay.

JEL Classification System: M31 Marketing; M15 IT Management

Ш

Table of Contents

1.Introduction	1
2. Literature Review	4
2.1 The Freemium Business Model	4
2.2. The Big Five personality traits	6
2.3. Need for Uniqueness	8
2.4. Curiosity	9
2.5. Need for Change	10
2.6. Perceived Value	11
2.7. Attitude towards Premium	12
2.8. Willingness to Pay	14
2.9. Purchase Intention	16
3. Conceptual model and Hypothesis (3 pages)	18
4. Methodology (5 pages)	21
4.1 Questionnaire	21
4.2 Universe and sample	23
4.3 Data treatment	23
4.4 Respondent profile	24
5. Results	28
5.1 Descriptive Statistics	28
5.1.1 The Big Five Personality Traits	28
5.1.2 Need for Uniqueness	29
5.1.3 Need for Change	30
5.1.4 Curiosity	30
5.1.5 Attitude towards Premium	31
5.1.6 Willingness to Pay	31
5.1.7 Purchase Intention	32
5.1.8 Reliability Analysis	33
5.2 Multiple Regression Analysis	33
5.2.1 Assumption of the Multiple Regression	34
5.2.2 Multiple Regression – Personality traits as independent and PV as dependent variable.	37
5.2.3 Multiple Regression – NFU, NFC and Curiosity as independent and PV as dependent variable.	38
5.3 Mediation Analysis	39
5.3.1 Mediation - NFU as independent, PV as mediator and ATT, PI and WTP as dependent.	40

5.3.2 Mediation - NFC as independent, PV as mediator and ATT as dependent	41
5.3.3 Mediation - Curiosity as independent, PV as mediator and ATT as dependent	42
5.3.4 Mediation - NFC as independent, PV as mediator and PI as dependent	42
5.3.5 Mediation - Curiosity as independent, PV as mediator and PI as dependent	43
5.3.6 Mediation - NFC as independent, PV as mediator and WTP as dependent	43
5.3.7 Mediation - Curiosity as independent, PV as mediator and WTP as dependent	44
5. Discussion	46
7. Conclusion and recommendations	49
7.1 Theoretical Contribution	49
7.2 Managerial Implications	50
7.3 Limitations and Future Research Recommendations	51
References	53
Appendixes	59

List of Figures

Figure 1: Dissertation Structure Figure 2: Conceptual Model Figure 3: Gender Pie Chart Figure 4: Bar Chart Age Group Figure 5: Bar Chart Country of Origin Figure 6: Platforms that respondents use for free Figure 7: Platforms that respondents pay for premium Figure 8: Education level bar chart	18 24 25 26 26
Figure 9: Employment status bar chart Figure 10: P-P Plot Figure 11: Histogram Figure 12: Scatterplot	76 77
List of Tables	
Table 1: Descriptive Statistics of Personality Traits	. 29
Table 2: Descriptive Statistics of Need for Uniqueness	. 30
Table 3:Descriptive Statistics of Need for Change	. 30
Table 4: Descriptive Statistics of Curiosity	
Table 5: Descriptive Statistics of Attitude towards Premium	
Table 6: Descriptive Statistics of Willingness to Pay	
Table 7: Descriptive Statistics of Purchase Intention	
Table 8: Reliability Analysis for all the constructs.	
Table 9: Collinearity Statistics.	
Table 10: Summary version of Table 26 on Appendix 3.	
Table 11: Dublin-Watson Test.	
Table 12: "Goodness of fit" Statistics.	
Table 13: ANOVA Statistics.	
Table 14: Coefficients of Multiple Regression	
Table 15: Coefficients of Multiple Regression	
Table 16: Regression Model with outcome variable ATT	. 40
Table 17: Regression Model with outcome variable PI	
Table 18: Regression model with outcome variable WTP	
Table 19: Regression model with outcome variable ATT	
Table 20: Regression model with outcome variable ATT	
Table 21: Regression model with outcome variable PI	. 43
Table 22: Regression model with outcome variable PI	
Table 23: Regression model with outcome variable WTP	
Table 24: Regression model with outcome variable WTP	
Table 25: Hypothesis Validation.	
Table 26: Correlation between independent and residuals	
Table 27: Model Summary Personality Traits	
Table 28: ANOVA Personality Traits	
Table 29: Coefficients Personality Trais	
Table 30: Model Summary External Influences	
Table 31: ANOVA External Influences	
Table 32: Coefficients External Influences	. 79

Glossary of acronyms

NFC – Need for Change

 $NFU-Need\ for\ Uniqueness$

PV – Perceived Value

ATT – Attitude towards Premium

PI – Purchase Intention

WTP – Willingness to Pay

1.Introduction

Nowadays, if you ask someone if they have used a freemium product the likelihood of their answer being yes is undoubtedly high. This model is present in our daily lives, either on a personal level by using Spotify, or in our professional role, when we rely on a freemium version of a collaboration software tool, for instance, Slack.

There has been a significant number of companies using "freemium" as a growth strategy model in Business to Consumer (B2C) in Software as a Service (SaaS), such as Canva, Slack, and Notion. Some of the most well-known examples of services and products that use this type of model are Spotify, Dropbox, LinkedIn, and Grammarly. This model became popular in gaming, then expanded to areas such as productivity and collaboration tools, services that offer personalized services to consumers — music-sharing and video-streaming services. According to data by Statista (2019) the freemium business model was the second most popular monetization strategy for mobile apps, behind the subscription model.

The application of freemium business model has been growing over the years, this model poses substantial challenges for enterprises. Converting free users to premium users is one of the freemium model's significant issues, particularly because free customers could be less devoted to the brand and more prone to deflect. The conversion rate of free users to premium users is between 2 and 5 percent (Holm & Günzel-Jensen, 2017). Ross (2018) and Mäntymäki et al. (2020) claim that the key element for the freemium to succeed is to foster conversion by using strategies for customer retention and focused marketing and retaining the premium users.

Therefore, consumer behavior research on this topic is essential. It will help marketeers get a better understanding of consumers preferences and the value they see in the premium offer in comparison to the free version. It is furcal to understand the differences between the factors that motivate basic users to upgrade from free to premium subscriptions and those that motivate premium users to maintain their subscriptions. Despite this, there aren't many studies that have looked at the issue of why people are willing to pay (Wagner & Hess, 2013), which is an opportunity to expand the research on this matter.

The main objective of this paper is to investigate if personality traits might influence the value individuals see on the premium subscription, and if this affects their attitude towards premium, their purchase intention and user's willingness to pay for a product that is free to use but provide additional features for a price, also known as freemium platforms or apps, and to provide a better understanding of what characteristics users that tend to purchase premium

might have so it can be used in a strategic and organizational context. Also, besides the main five personality traits it is investigated if individuals with high levels of curiosity, need for change and need for uniqueness might be influence user's attitude, purchase intention and willingness to pay. By understanding the possible consumer of premium better, more effort can be made in the product presentation, positioning and pricing strategy as well as marketing strategy. The first objective of this research is to develop a theoretical framework on consumers personality traits, for this the most well-known personality framework is the Big 5 Personality Traits that include openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism, plus other factors, it was chosen curiosity, need for change and need for uniqueness and if they perceive premium features value, for this every respondent was given the same information regarding a freemium platform, it was presented the features of Spotify premium (the Portuguese offer). Afterward, the second goal was to understand if and how the perceived value was associated to attitude towards premium, purchase intention and willingness to pay.

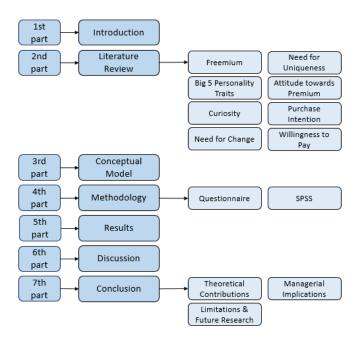
The following research questions were defined for this study:

Research Question 1: Do intrinsic dimensions influence the individual's attraction to purchase the premium version?

Research Question 2: What are the intrinsic dimensions of an individual that influence the purchase of premium versions in a freemium?

This dissertation is divided into seven chapters, starting with the introduction, and ending with the conclusion, that is divided into theoretical contributions, managerial implications, and limitations and future research recommendation. The structure of the paper can be seen in the figure below:

Figure 1: Dissertation Structure



Source 1: Own Elaboration.

2. Literature Review

2.1 The Freemium Business Model

The Freemium business model is a popular pricing strategy used by several types of enterprises. It involves giving the consumer the basic, free, version of a good or service while having the option of charging extra for the use of additional or special features, known as the premium version.

One of the main advantages of the freemium model is that it allows companies to generate a significant user base that can eventually be monetized through the sale of premium features or services, which can be accomplished through a variety of strategies, such as supplying time-limited free trials, limiting the number of features in the free version, and employing marketing strategies to convince people to upgrade. This can be highly effective for companies that offer services with low marginal costs, like software or digital media.

However, the freemium model poses substantial challenges for enterprises. The conversion of premium users is very low (3%-5%) which damages the company's profitability (Koch and Benlian, 2017). However, there are examples of success such as Spotify, Dropbox and others. Ross (2018) claims that by using strategies for customer retention and focused marketing, this can be minimized.

Freemium strategy implementation, however, needs rigorous preparation and execution. Holm and Günzel-Jensen (2017) offer perceptions of how businesses might flourish with freemium by creating successful implementation strategies.

First and foremost, Holm and Günzel-Jensen (2017) stress the value of comprehending the target market and its requirements. For a freemium product or service, businesses must choose the appropriate target market and gain a thorough understanding of their tastes, behaviors, and willingness to pay. Companies can customize their freemium offering to match the wants and preferences of their target audience by identifying who that demographic is.

Effective communication and marketing strategies are essential for the success of freemium business models, claims Sciglimpaglia and Raafat (2022). Demand-side analysis can be a key component of a freemium business model's market segmentation strategy. According to Sciglimpaglia and Raafat (2022), market segmentation based on consumer demands, interests, and behaviors can help businesses efficiently target particular customer categories with their marketing initiatives. Companies may create tailored marketing efforts to draw in and keep customers by understanding the demands and behaviors of various segments.

Additionally, Sciglimpaglia and Raafat (2022) advise businesses utilizing the freemium model to concentrate on developing a strong brand identity that successfully conveys the benefits of the good or service. To reach a larger audience and spark interest in the good or service, this can be accomplished through focused marketing initiatives like social media marketing and influencer marketing. To guarantee user pleasure and promote positive word-of-mouth, businesses should concentrate on offering exceptional customer service.

Also, advise businesses to leverage data analytics to comprehend consumer behavior and preferences in order to then customize their marketing initiatives. Companies can create targeted marketing campaigns to persuade customers to upgrade to the premium version by employing data analytics to determine which features or services are most appreciated by various consumer categories.

Wagner et al. (2014), reinforces how crucial the perceived premium fit—a measure of how well premium features match customers' tastes and needs— is. They contend that their perception of the perceived premium fit significantly influences free customers' decisions to subscribe to premium services. In this case, their paper was focused on Music as a Service (MaaS) which has successfully applied the freemium model in the music industry by providing free music streaming. The premium services come with ad-free streaming, offline playback, and enhanced audio.

Second, a suggestion by Wagner et al. (2014), is that MaaS providers can improve perceived premium fit by using focused communication techniques like social proof and customized recommendations. To increase the perceived value for free consumers, they also recommend that MaaS providers offer a variety of price alternatives and bundled services. The importance of creating successful price plans for the premium edition is emphasized by Holm and Günzel-Jensen (2017). Companies must find a way to balance making the premium version affordable while yet making enough money to keep the firm afloat.

Thirdly, another important topic to convert users to the premium version is addressed by Gu et al. (2018) who indicates that the premium version's value proposition needs to be convincing and transparent. Businesses must properly explain to users, the extra features, advantages, and value that the premium version offers. This can be done by using customization strategies and targeted marketing messages that highlight the premium version's distinctive value proposition.

Businesses should carefully compare the perceived worth of the free and premium versions, this can be accomplished by providing a constrained number of features or services in the free edition, and then progressively releasing further features or services that are only

included in the premium version. This may awaken a feeling of exclusivity and raise the premium version's perceived worth (Holm and Günzel-Jensen, 2017).

To conclude, the freemium business model is a pricing scheme that gives away the most basic form of the good or service while charging more for more advanced ones. For businesses employing the freemium model, converting free users to premium users is a major hurdle. A key component of this process is perceived premium fit, which can be improved through focused communication, a variety of pricing options, and bundled services. To reach a larger audience, businesses should concentrate on developing a distinctive brand identity and use targeted marketing strategies. Data analytics can also assist businesses in understanding user behavior and preferences so they can better target their marketing campaigns.

2.2. The Big Five personality traits

The Five Factor Model (FFM), commonly referred to as the Big Five personality traits, is a popular framework for comprehending personality features in psychology. Openness, conscientiousness, extraversion, agreeableness, and neuroticism are the five characteristics (Saw & Inthiran, 2022).

Openness is the capacity for imagination and creativity, as well as the openness to explore new things. The level of organization, accountability, and dependability someone displays are known as Conscientiousness. Extraversion is a term used to describe a person's degree of extroversion, assertiveness, and sociability. The level of friendliness, cooperation, and empathy someone exhibits are their level of Agreeability. A person's emotional instability and vulnerability to unpleasant emotions like anxiety and melancholy are reflected by Neuroticism (Saw & Inthiran, 2022).

The Big Five personality traits have been used in various contexts, including organizational behavior, marketing, decision-making, job performance and e-commerce. For instance, openness to experience has been connected to creativity and invention whereas conscientiousness has been found to be a predictor of job performance (Barrick & Mount, 1991; DeRue & Ashford, 2010).

They offer a framework for comprehending personality variations and their relationship to behavior. According to Saw and Inthiran (2022), conscientiousness and agreeableness can be used to create e-commerce websites that create trust and improve user experience.

It has been proven that the Big Five personality traits are important indicators of consumer behavior. Two examples of research are the case of impulsive purchasing behavior, and the mobile commerce purchase behavior.

According to a study by Gangai, Khagendra Nath, and Agrawal (2016), impulsive purchase is favorably correlated with extraversion, neuroticism, and openness, whereas it is negatively correlated with conscientiousness. Additionally, there was no evidence of a significant connection between agreeableness and impulsive purchasing. It has been discovered that impulsive buying behavior is inversely correlated with conscientiousness, which can be defined by being organized, responsible, and dependable. This might be a result of the fact that people with high conscientiousness scores often exhibit more self-control and self-discipline. It is imperative to remember that individual characteristics and environmental factors may also influence customer behavior (Gangai et al., 2016).

Personality traits have been proven to significantly influence consumer behavior in the setting of mobile commerce. The Big Five personality traits are significant determinants of how people engage with mobile devices and make judgments about what to buy, according to Varnali (2013). According to one study, neuroticism was negatively correlated with mobile purchasing behavior, whereas extraversion and openness were favorably correlated. Conscientiousness was found to be positively correlated with the adoption and usage of mobile apps in a different study (Varnali, 2013).

These results imply that certain personality qualities may affect how customers feel about and act in relation to mobile commerce. For instance, those with high extraversion and openness may be more willing to try out novel mobile shopping experiences, whereas people with high neuroticism may be more wary and reluctant to do so. Conscientious people might use mobile purchasing apps more systematically and in a more organized manner than other people.

Overall, it has been demonstrated that the Big Five personality traits are useful indicators of customer behavior and recognizing these features can assist marketers in adjusting their strategies to better suit the requirements and preferences of various consumer segments (Varnali, 2013). Also, on the fields of performance and behavior, organizations can develop successful interventions and tactics to increase employee productivity and engagement by understanding how these attributes connect to goals, such as knowledge sharing intentions or work performance.

There is not one personality trait that is the best predictor of whether a user will purchase premium services under a freemium model. As mentioned before, there are individual characteristics and environmental factors that might affect the freemium conversion rate, including consumer demographics, usage behavior, and perceived value (Gu et al., 2018; Wagner et al., 2014). Although personality traits may be used to predict consumer behavior,

their impact is likely to be mediated by other variables, such, for example, perceived value and affordability of the premium features.

Two of the traits that will have a greater focus on this research will be openness and extraversion, since openness and extraversion were found to be favorably correlated with technology acceptance and usage in some studies on the association between personality traits and technology adoption (Lu & Yang, 2020; Venkatesh & Bala, 2008). While personality traits may influence consumer behavior in freemium business models, there is no clear evidence that suggest that any one trait is a definitive predictor of premium adoption. The freemium model was not promptly addressed by this research, which leaves a gap for research to be conducted.

2.3. Need for Uniqueness

The desire for individuals to differentiate themselves from others in terms of their purchasing preferences and belongings is reflected in a consumer trait known as need for uniqueness (NFU). The inherent human need for self-expression and identity development, in accordance with Goldsmith (2018), is the source of this demand for distinctiveness. High uniqueness needs are associated with more independent, imaginative, and receptive personalities. The fact that this construct influences a variety of consumer behaviors, such as product preferences, purchase decisions, and brand loyalty, has amass substantial interest in the study of consumer behavior.

In consumer behavior, the need for uniqueness can take many different forms. One technique is by looking for innovative and out-of-the-box things that are not frequently used by others. These people are more prone to spend their money on things that are uncommonly used by others since it makes them feel more unique.

Additionally, people with this characteristic prefer customized and personalized products because it enables to show their distinct likes and preferences.

Moreover, brand loyalty may be impacted by the need for uniqueness. According to Goldsmith (2018), customers that place a high value on originality favor companies with a reputation for being cutting-edge and innovative. Because it enhances their sense of individuality, these customers are drawn to brands that are not frequently used by others. But if their chosen brand becomes too well-known or mainstream, they can also be more likely to swap brands.

As an example, in a study regarding the fashion sector by Workman and Kidd (2000) it was discovered that people with high NFU scores were more likely to engage in unconventional fashion consumption behaviors, such as adopting new fashion trends. Since, they frequently

use their fashion choices to express themselves, which can enhance risk-taking and lead to a motivation to pay more for unique products.

Such is shown by Lynn and Harris (1997) scale to assess the demand for uniqueness. The requirement for uniqueness and customer behavior has been compared using this scale in several research. These studies' findings have repeatedly demonstrated that people with a high need for uniqueness choose uncommon or unique products and are less inclined to follow trends or social norms in their purchasing decisions (Lynn & Harris, 1997; Tian & Belk, 2005).

According to Gu et al.'s (2018) research, customers that have a strong need for uniqueness would be more willing to pay for premium services under a freemium business model. This is so that consumers' desires for uniqueness can be satisfied. Premium features frequently provide special advantages and extra features that are not present in the free version. As a result, freemium enterprises can promote to these customers by highlighting the exclusivity and uniqueness of their premium services, which may boost their desire to pay. It is essential to understand the individual variable, it can assist marketers in creating focused marketing campaigns that appeal to the drive for differentiation of this consumer group.

Overall, even if a demand for uniqueness may not be the best predictor of choosing premium services in a freemium business model, it can undoubtedly help draw in and keep customers that place a high value on originality and uniqueness.

The need for uniqueness may be a sign that customers are purchasing premium versions.

To conclude, customers with a strong need for uniqueness choose products that stand out from the competition and are more likely to pay extra for them (Lynn & Harris, 1997). This can imply a desire to upgrade to a paid version of a freemium product because it might come with special features that are not included in the free version. However, other elements like the premium version's perceived utility and value, and social impact may also influence buying behavior (Workman & Kidd, 2000).

Therefore, while developing marketing strategies for freemium company models, a thorough understanding of the consumer and their motives is required.

2.4. Curiosity

It has been established that curiosity plays an essential part in consumer behavior. Kashdan et al. (2018) defined curiosity as the desire to learn about new topics and broaden one's knowledge and experiences. The authors proposed a five-dimensional scale for measuring curiosity that accounts for its various facets, such as the desire for thrills and excitement, deprivation sensitivity, stress tolerance, and social curiosity.

Deprivation sensitivity is the urge to fill in knowledge gaps, whereas joyful exploration relates to the satisfaction of learning new things. While social curiosity is the desire to learn about other people and their viewpoints, stress tolerance represents the capacity to maintain inquiry in the face of ambiguity and uncertainty. Finally, the desire for unusual and thrilling events demonstrates a willingness to take chances.

According to research, curiosity can have an impact on buying decisions. For instance, curious people may be more prone to look for novel and cutting-edge products and engage in experimental purchasing behaviors (Litman & Jimerson, 2004). They might also be more inclined to seek out information by reading reviews of products or doing internet research before making a purchase (Kashdan et al., 2018).

Furthermore, the decision-making processes of consumers may be influenced by their curiosity. Curious people might be more receptive to weighing many possibilities and doing so, thoroughly, and unbiasedly. They might also be more ready to put up with the risk and uncertainty that come with buying anything, which could have a more favorable long-term effect (Silvia, 2006).

Curiosity can be strategically incorporated into the freemium business model to enhance consumer's engagement and conversion. By understanding the dimensions of curiosity businesses can use marketing strategies to generate interest in the premium version and increase conversions.

2.5. Need for Change

The notion of "Need for Change" is a psychological indicator of innovation adoption. The need to change is rooted in changing one's routines or habits, and it refers to a person's innate tendency to look for and accept new concepts, items, or experiences (Wood et al., 2005). It displays a person's openness to change and readiness to investigate new areas, including consumer behavior.

Wood et al. (2005) carried out a study to better understand the connection between the need for change and the acceptance of innovative products. According to their research, those who felt a strong need for change were more likely than others to accept new technologies. Which translates that consumers' attitudes and behaviors regarding innovation are significantly influenced by the desire for change.

Exploratory purchasing is also associated with need for change, meaning consumers engage in information search activities, showing a greater interest in learning about new goods or services (Wood et al., 2005).

The need for cognition is one of the innate psychological characteristics that is connected to the desire for change, which relates to a person's drive to exert effort in cognitive activities including reasoning, problem-solving, and information processing (Wood et al., 2005). According to Wood et al. (2005), people with high needs for cognition were also more likely to have high needs for change, indicating a strong correlation between the two characteristics.

Consumers' views and behavior toward the freemium model can be affected by the need for change. Since, as mentioned before, a high demand for change may make people more open to experimenting with novel products or services, which is consistent with the fundamental idea of the freemium model—offering a free version to draw in potential clients. These people are probably driven to learn about and experiment with the freemium model offer and gives them the chance to do so without making an initial cash commitment.

Also, people who have a strong need for change are more inclined to actively seek out information and learn about novel goods and services. They are likely to do extensive study before deciding whether to upgrade to a paid version of a freemium service, looking for reviews, comparisons, and advice from other customers or industry professionals.

There is a clear need to understand the impact of need for change on how consumers feel about the freemium model. Companies can create freemium products and services that cater to customers' requirements for variety, novelty, and exploration by understanding the underlying motivations and needs of customers with a high need for change.

2.6. Perceived Value

In the context of freemium services, perceived value plays a vital role in consumer behavior. It affects consumers' choices about whether to keep using the service or product and if they'll make purchases. The term "perceived value" refers to a variety of factors, including utilitarian, hedonistic, social, and economic value, that collectively influence how consumers perceive the utility and value of a freemium product or service.

For example, in free-to-play games, perceived value is essential for understanding user behavior (Hamari, Hanner, & Koivisto, 2019). According to Hamari et al. (2019), perceived value is the subjective judgment that customers make about the value or benefits they anticipate deriving from a good or service in comparison to the expenses or trade-offs made. Perceived value is a significant element influencing customers' intention to continue using freemium services and make future purchases. The research conducted by Hamari et al. (2019) showed higher perceived value is linked to both a higher likelihood of ongoing use and higher purchase intentions on free-to-play games.

Perceived value has many different characteristics and is multidimensional in the context of free-to-play games. According to Hamari et al. (2019), utilitarian value is one aspect of perceived value and relates to the concrete and practical advantages users get from playing the game, such as enjoyment, gaming elements, or rewards. Users evaluate the game based on its capacity to meet their practical needs and deliver pleasurable and captivating experiences.

Hedonic value, which includes the emotional and experiential advantages connected to the game, is another aspect of perceived value. Users assess a game based on how well it may elicit pleasant feelings, produce a sense of immersion, and encourage social connections amongst players.

Furthermore, social factors also affect perceived value perception. It refers to the advantages players believe the game provides in terms of the social connections and interactions. Users evaluate a game according to how well it allows for opportunities for teamwork, rivalry, or socializing with other players.

In addition to the previously listed aspects, economic factors have an impact on perceived value. Economic value is the perception of users of the financial and transactional benefits resulting from in-game purchases or upgrades (Hamari et al., 2019). Users assess the game based on how fair they believe the cost is to be.

To improve user experiences and maintain user engagement, game developers and marketers can benefit from an understanding of the dimensions of perceived value in free-to-play games. Game creators can raise users' perceptions of value by focusing on and delivering utilitarian, hedonistic, social, and economic value. This will enhance users' satisfaction and loyalty as well as their propensity to make in-game purchases.

2.7. Attitude towards Premium

When analyzing customer willingness to pay for privacy in the context of the privacy-freemium model, the concept of "Attitude towards Premium" is particularly important aspect of consumer behavior (Schreiner & Hess, 2015). In comparison to free alternatives, how do people perceive the value and benefits of premium? This is known as their attitude toward premium (Schreiner & Hess, 2015). Media firms must comprehend how consumers feel about premium because this feeling directly affects their decision to choose paid services.

In the privacy-freemium environment, several factors affect consumers' attitudes regarding premium, such as value perception. Consumers evaluate the perceived benefits that premium offerings give in comparison to free alternatives to determine their value proposition. These advantages can include improved data security, more control over personal information, or less

exposure to targeted advertising (Schreiner & Hess, 2015). When customers believe that the benefits of paid services surpass the expenses or sacrifices made, a positive attitude toward premium develops.

Customers' attitudes towards premium services have a big impact on how ready they are to pay for privacy when media companies use the privacy-freemium business model. A favorable attitude toward premium products demonstrates that consumers understand the worth and advantages of purchasing them. Consumer attitudes regarding premium are influenced by things like perceived value, trust, privacy concerns, and the need for individualized experiences. The advantages of paid services can be skillfully communicated by media businesses, if they comprehend how consumers feel about premium, modifying their strategies to successfully explain the benefits of subscription services by analyzing the elements that affect consumers' perceptions of the value and advantages associated with premium products, may increase consumer willingness to pay for privacy-enhancing features. And to improve the overall user experience, premium products frequently include cutting-edge customizing options or exclusive content (Schreiner & Hess, 2015).

The research done within the context of music as a service by Wagner, Benlian, and Hess (2014) showed that customers had a more favorable attitude toward premium products when they experienced a high premium fit, which is the perceived match between the benefits of the premium version and their individual needs, preferences, and expectations.

The perception of value is another element that influence customer towards premium. Based on the extra features, functions, or advantages the premium product offers above the free version, consumers evaluate its value proposition. According to Wagner et al. (2014), these advantages could include improved audio quality, ad-free listening, access to only certain content, or more customizability possibilities. When customers view the added value as valuable and advantageous, they develop a favorable attitude toward premium.

Social influence can also affect buyers' perceptions of attitude towards premium. Consumers' perceptions of the value and advantages of the premium offering may be influenced by social factors, such as referrals from friends or influencers (Wagner et al., 2014). By developing a feeling of social desirability and legitimacy connected with the premium version, positive word-of-mouth or social proof can improve consumers' attitudes about premium.

Furthermore, customers' earlier interactions with the service's free version may have an impact on how they feel about premium. Positive experiences with the free version might foster a positive attitude toward the premium version as an improved and enhanced offering (Wagner

et al., 2014). On the other hand, poor experiences or unhappiness with the free version may prevent the growth of a favorable attitude toward the premium.

Businesses that provide services employing the freemium model must comprehend consumers' attitudes toward premium. In order to effectively explain the advantages of the premium offering, service providers can modify their marketing tactics by taking into account the elements that affect consumers' perceptions of value, fit, social influence, and prior experience. Customers' attitudes toward premium can be positively influenced by highlighting special features, customization possibilities, exclusive material, and social proof, which increases the possibility that they will switch from free to premium services.

In conclusion, customers' attitudes regarding premium services, like music as a service, are critical in determining whether they would switch from free to premium services in the freemium model. Consumer attitudes about premium are influenced by a variety of factors, including perceived value, fit, social influence, and prior experience. Service providers can create effective campaigns that highlight the benefits of the premium version and increase customers' readiness to upgrade by being aware of these elements.

2.8. Willingness to Pay

Consumers' willingness to pay can be influenced by a number of factors, according to Chen et al. (2022) empirical investigation on consumers' willingness to pay a price premium. The authors looked at how consumers' perceptions and their willingness to pay more for goods were related.

The findings of the research showed that consumers' willingness to pay a price premium was influenced by how valuable they thought the product was. Customers were more inclined to pay more for the goods when they thought it was of greater quality or offered more advantages. On the other hand, consumers' willingness to pay a greater price reduced when they believed the product to be of inferior quality or to offer few noteworthy advantages. The research highlights how consumers' opinions of a product's value are crucial in determining whether they are willing to pay more for it.

These findings emphasize how crucial it is to properly promote value perceptions and highlight the special advantages of the product to increase buyers' readiness to pay a higher price. Businesses can raise consumers' perceptions of the value of their products and their willingness to pay a premium price by highlighting the quality, features, or benefits of their products.

Oppong et al. (2022) investigated the herbal sector and gathered information from a sample of consumers through surveys. They looked at how trust, credibility, value, and customers' willingness to pay more for something are related. They also looked at brand equity, which is a measure of a brand's strength and worth in the marketplace.

First, it was discovered that consumers' willingness to pay a premium for a product is positively influenced by trust. Customers were more inclined to pay extra for the connected goods or services when they believed a brand to be reliable. Consumers' perception of value and the justification for the premium pricing were based on their trust in the brand.

Second, it was discovered that consumers' willingness to pay a premium for a product was positively correlated with credibility. Customers were more willing to pay extra for a product when they believed the brand had a solid reputation for producing high-quality goods.

Thirdly, customers were more likely to be willing to spend more for a product or service if they believed it offered greater value, such as special features, superior performance, or extra benefits. The judgments that customers made about premium pricing were greatly influenced by their impression of value.

Consumers' willingness to pay more for a product was positively impacted by a strong brand with high equity because it improved perceptions of trust, trustworthiness, and value. Wagner and Hess (2013) conducted surveys of users of freemium music platforms to gather information on the topic of music services. The goal of the writers was to pinpoint the important factors that affect users' willingness to pay for premium subscriptions on music platforms.

The degree of satisfaction with the freemium service's fundamental characteristics was also noted as a key factor influencing willingness to pay. Users who were pleased with the free version's basic features were more likely to think about switching to a premium membership. The users' satisfaction with the free services served as a driving force for them to look for more value in the premium offers.

Additionally, individuals' willingness to pay for premium services was significantly correlated with their income level. People with higher incomes were more likely to pay for premium subscriptions, maybe because they had more money available to them and could afford the extra expense.

In conclusion, the results demonstrate how consumers' decisions to upgrade to premium subscriptions are significantly influenced by perceived value, happiness with basic services, and income level. These perceptions can help freemium service providers create premium offerings that suit consumers' interests and motives and devise pricing strategies.

The study precisely examines what motivates users' desire to pay for music services under the freemium model in the article by Wagner and Hess (2013). The results demonstrate how customers' decisions to upgrade to a premium subscription are influenced by their perceptions of the value of premium features and their contentment with the fundamental (free) services. This shows that a user's propensity to pay for premium services is significantly influenced by their assessment of the added value and their contentment with the free features.

While not expressly mentioning the freemium model, the article by Oppong, Mensah, and Addae (2022) discusses elements like trust, trustworthiness, value perception, and brand equity that can also be applied to freemium services and goods. For instance, customers' perceptions of value and their level of trust and credibility in the freemium brand can affect how eager they are to pay for the premium services offered under the freemium business model.

2.9. Purchase Intention

The term "purchase intention" describes a person's propensity or willingness towards a future purchase of a good or service. Understanding purchase intention becomes essential in the context of freemium business models, where organizations provide a basic free version alongside a premium paid one, for turning free users into paying customers. In their 2014 study, Wagner, Benlian, and Hess looked into how perceived premium fit affected consumers' desire to buy music as a service.

The study by Wagner et al. (2014) identifies a number of variables that determine how premium fit is perceived, which in turn influences purchase intention. First and foremost, compatibility across the free and paid versions is essential. Customers are more likely to perceive a higher premium fit and, as a result, demonstrate stronger purchase intention when the features and functionalities of the premium version seamlessly extend and build upon the capabilities of the free version.

The study also highlights the significance of perceived need satisfaction. Customers are more likely to perceive a higher premium fit and indicate a stronger intention to buy if the premium features meet unmet demands or offer remedies to customer pain points that are not sufficiently handled in the free version.

Additionally, the perceived uniqueness of the premium features affects consumers' intentions to buy. Customers sense a higher premium fit and are more likely to make a purchase when the premium version delivers unique and exclusive functions.

Several factors can shape purchase intention in the freemium context.

First, the premium offering's perceived worth. Users of the free version evaluate the premium version's added features, services, and perks and judge its value in light of their preferences and needs. By indicating a more favorable trade-off between the price and the perceived benefits, a greater perceived value of the premium version increases purchase intention (Wagner et al., 2014).

Second, the perceived dependability and quality of the freemium service can influence the likelihood of making a purchase. Users' perceptions of the overall service quality are influenced by their experiences with the free version. Positive experiences with the free version can boost customer confidence in the business and increase their propensity to buy the premium version (Kumar & Anjana, 2019).

In the freemium model, social influence can also influence consumers' intentions to buy. One's purchase intention may be influenced by observing others who have made the premium version upgrade, particularly those in one's social network or peer group (Wu & Wang, 2019). Additionally, encouraging recommendations and word-of-mouth from people who have previously purchased the premium edition can increase purchase intent.

Additionally, elements like a sense of urgency or time-limited incentives can influence a consumer's intention to make a purchase. Fear of losing out can be stoked and the desire to subscribe to the premium edition increased through time-limited deals, unique features, or early access to future updates (Wu & Wang, 2019).

Freemium firms can create effective strategies for turning nonpaying users into paying customers by understanding the elements that affect purchase intention, such as the perceived premium fit—which includes compatibility, need fulfilment, and originality of the premium offering—perceived value, service quality, social impact, and perceived scarcity.

3. Conceptual model and Hypothesis (3 pages)

In recent years researchers have published several studies regarding the necessary foundations to understand the freemium business model, strategies to monetize with this model, how to create and capture value in the freemium business model on music as a service or games, and new enterprises using this type of business model. However, there are few studies focusing on what factors drives the consumer to purchase the premium version.

The main goal was to find a possible relation that could give an insight about the type of individuals that are more attracted to pay for the premium version of services or products online. With this in mind, the conceptual model framework for this study was constructed to study the personality of the consumer which is defined by 5 personality traits – Extraversion, Conscientiousness, Agreeableness, Neuroticism and Openness to Experience – and some other consumer behavior influences - Need for Uniqueness, Need for Change and Curiosity - and if they have any influence on the perceived value of premium as well as if the perceived value leads to higher attitude towards premium, purchase intention and willingness to pay.

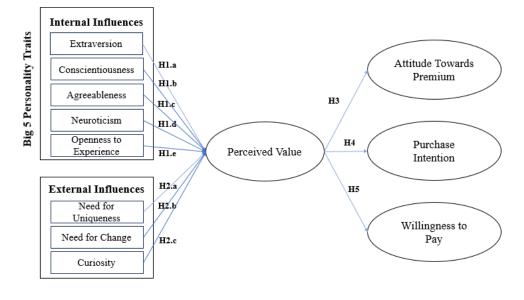


Figure 2: Conceptual Model

Source 2: Own Elaboration

It has been proven that the Big Five personality traits are important indicators of predicting individuals' behavior, mostly in predicting workplace outcome (e.g. job satisfaction, job performance, among others), but their role in the formation of perceived value of premium features or offers is inconclusive. The study conducted by Chen and Lee (2008) evaluated the influence of personality traits on website design, it was found that people that consumers with

higher levels of agreeableness and conscientiousness have a positive relationship of perceived utilitarian shopping value, while the higher levels of the remaining traits have a positive relationship with perceived hedonic shopping value. Another study by Marbach, Lages and Nunan (2016) analyzed the relationship between personality traits and online customer engagement and customer perceived value, where they found a positive relationship to six different forms of consumer perceived value (social value, play, efficiency, excellence, aesthetic, and altruistic value). Therefore, for this study the first set of hypotheses are:

- H1a: Extraversion has an influence on premium Perceived Value.
- H1b: Conscientiousness has an influence on premium Perceived Value.
- H1c: Agreeableness has an influence on premium Perceived Value.
- H1d: Neuroticism has an influence on premium Perceived Value.
- H1e: Openness to Experience has an influence on premium Perceived Value.

Individuals achieve a level of certain uniqueness on one's personal and social identity among their peers by acquisition, utilization and disposition of consumer goods (Tian, T. K., Bearden, W., O., & Hunter, G.,L., 2013). The study by Liao, J., Chen, H., Cai, P. (2013) shows that need for uniqueness and perceived value are interconnected and can also explain the impact on purchase intention. The following hypothesis can be indicated:

- H2a: Need for Uniqueness has an influence on premium Perceived Value.

Consumers find value in products or services that are presented as novelty or innovative, that is one of the main factors why consumers might switch brands (Wood & Swait, 2002). Based on this, the following hypothesis arises:

- H2b: Need for Change has an influence on premium Perceived Value.

Curiosity can lead consumers to try out new products, and this is often used in advertised techniques to arouse consumers interest in the product (Daume & Hüttl-Maack, 2019). Hence the hypothesis:

- H2c: Curiosity has an influence on premium Perceived Value.

In the research by Wagner and Hess (2013) was possible to confirm that perceived value (price value in this case) has a positive relationship with users' attitude towards premium. Also, Schreiner, M. and Hess, T. (2015) found out that consumers saw value when adding new and different features to an existing platform - the respondents were given the option to subscribe

to a fictional premium version of Facebook with additional privacy control features -, hence perceived value significantly affected consumers attitude towards subscribing to premium.

- H3: Perceived value has a positive effect on Attitude Towards Premium.

Studies regarding perceived value in the context of freemium business model are scarce, being the existing ones mostly related to freemium mobile games (Hsiao & Chen, 2016). Hamari and Hanner (2019) when analyzing the four aspects of perceived value (enjoyment, social value, perceived quality, and economic value) found that social value and economic value have a positive relationship with purchase intention. In turn, there are several studies that make the connection between Purchase Intention being positively connected to consumer Willingness to Pay. Furthermore, by following the logic of the documentation found, it can be concluded that when there is a positive relation to the perceived value of a product or service there will be an increase on the consumer willingness to pay. As proved by Chaudhuri and Ligas (2016, as cited in Oppong, 2022) high values of perceived value leads to a positive effect on consumers WTP. Which resulted in the following hypothesis:

- H4: Perceived value has a positive effect on Purchase Intention.
- H5: Perceived value has a positive effect on Willingness to Pay.

4. Methodology (5 pages)

The research project, more specifically a marketing research project, consists in six stages. According to Malhotra, Nunan, & Birks (2016), the first step is problem definition, we start by finding a research gap through the collection and analysis of available published information, which will allow to understand the problem that requires research support.

The methodology was developed after the literature review, through research papers that already established some conclusions and developed the variables needed to conduct this study. The topics on the literature review were regarding the object of study of Consumer Behavior, Personality Traits and the Freemium Business Model, and the connection between them.

The purpose of this study is to understand the if there is a relation between individual characteristics, and their effect on consumer behavior, and how that reflects in the buying of the premium feature. With the results of this study hopefully there will be a better understanding for companies that use the freemium business model, and how they should be investing in marketing more effectively. In order to draw conclusions, the data was collected via questionnaire (quantitative method).

4.1 Questionnaire

To sustain this research topic a well-structured questionnaire was developed based on variables from current published papers, so to use the already existing scales. The participants were informed of the project's purpose in the beginning of the realization of the survey, and the questions are fixed-alternative questions that call for respondents to choose from a prepared list of answers. The survey consisted of a total of 29 questions, which was composed by twenty-two 5-point Likert scale, five demographics with close ended questions and two multiple answer questions. The survey was online from the 1st of May until the 5th of July, a total of 321 responses were gathered.

The survey was made available in English and in Portuguese, to widen the respondent's poll. First it was sent to a group of eleven people, as a first try-out and for feedback collection regarding structure, clear understanding of the question and the answer options, and the items being analyzed. After taking the feedback from each of the eleven respondents and implementing the necessary changes the survey was distributed on different online platforms, such as WhatsApp messages, Facebook groups, Instagram, LinkedIn, specific groups related to platforms that use the freemium business model on Reedit and was posted on Survey Circle.

Regarding the structure of the questionnaire, this was divided into 10 sections.

First block: It was about the topic of the Big Five Personality Traits, divided into Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. The different personality traits were divided into different groups of questions with multiple paragraphs and evaluated with an adapted 5-point Likert scale (1=strongly disagree and 5=strongly agree) through the measures previously developed by Saw, C. C., & Inthiran, A. (2022) and Akbar, A., Malik, A., & Warraich, N. F. (2023).

Second block: It was a question regarding the Need for Uniqueness, the scale more widely accepted and reliable used is the thirty-one item measurements developed by Tian et al. (2001). However, the quantity of items used by Tian et al. (2001) puts into question the validity and quality of the data collected as it is such a lengthy questionnaire, therefore the best course is to use a shortened and cross-culturally validated version of the Consumer Need for Uniqueness scale developed by Ruvio et al. (2008), which is composed by twelve items. The twelve-item used in the questionnaire was measured with an adapted 5-point Likert scale (1=strongly disagree and 5=strongly agree).

Third block: The Need for Change question was also a single question composed by six items, regarding the content of the scales it was measured via research by Wood, S. and Swait, J. (2002), also using a 5-point Likert scale (1=strongly disagree and 5=strongly agree) for each of the items.

Fourth block: In about the middle of the survey two open-answer question, that allowed multiple answers was made, as to understand if the respondents already used products or services offered by companies that use the freemium business model. It questioned which of the apps/platforms the respondents used for free and after which of the ones they used they paid for the premium version. I researched what were the most common freemium apps or services used worldwide and came up with a list of twelve well-known apps/platforms. This list included platforms such as LinkedIn, Spotify, Dropbox and Zoom and some phone games, such as Clash of Clans and Candy Crush Saga.

Fifth block: Then to test the respondent curiosity the features of the LinkedIn Premium were presented. This construct was divided into three items, evaluated by a 5-point Likert scale (1=strongly disagree and 5=strongly agree). The questions in this section were adapted from Daume, J. and Hüttl-Maack, V (2019).

The last part of the survey was regarding Perceived Value, Attitude towards Premium, Willingness to Pay and Purchase Intention were introduced after a short presentation regarding Spotify Premium, this included the features the respondents could access and the price point for each premium plan (Student, Normal and Family).

Sixth block: This next block consisted of the perceived value respondents saw on the features offered by Spotify Premium. The 5-point Likert-scale (1=strongly disagree and 5=strongly agree) questions used for this block were adapted from Hamari, J. & Hanner, N. & Koivisto, J. (2019).

Seventh block: Followed by how respondents' attitude towards premium was regarding Spotify premium offer mentioned before. The four 5-point Likert-scale (1=strongly disagree and 5=strongly agree) questions regarding attitude were adapted from the article of Schreiner, M. & Hess, T. (2015).

Eighth block: The three 5-point Likert-scale (1=strongly disagree and 5=strongly agree) questions regarding willingness to pay were adapted from Oppong, P. & Mensah, J. & Addae, M. (2022).

Nineth block: This block focused on the respondent desire to purchase the premium option. It is composed of four 5-point Likert-scale (1=strongly disagree and 5=strongly agree) questions adapted from Wagner, T. & Benlian, A. & Hess, T. (2014).

Tenth block: The last block of the survey requested information regarding demographic data: age, gender, country of origin, education level and employment status.

4.2 Universe and sample

For this study it was considered people from all ages and countries, as long as they spoke English or Portuguese because that were the languages the survey was made available to, that used some of the platforms that applies the freemium model, there was no problem if the participants never paid to have the premium version. Considering that we want to evaluate people willingness to pay for the premium features and, also, their perception of the value included in the features. The survey was published in online platforms and on social media, so the answers collected are from a random group of people. The minimum sample size established was 300 respondents, after cleaning the final data collection, by excluding the respondents who did not fully completed the survey, the final sample was of 321 respondents, all answers considered valid.

4.3 Data treatment

The data of the questionnaire was collected from Qualtrics website, from there the data was saved and exported to the software IBM SPSS Statistics version 29. Through the software the

author was able to do the following analysis: simple descriptive statistics, exploratory, single and multiple regression analyses.

First, it was necessary to identify the correct type of variable for each item being evaluated. Gender, Country of Origin, Q1 and Q2 were indicated as nominal variables, Age, Level of Education and Employment Status were treated as ordinal variables, for the remaining items, the 5-point Likert scale questions, were indicated as scale variable.

4.4 Respondent profile

In order to have a diverse sample, it was asked of the respondents their gender, age, education level, employment status and their nationality. The data obtained on Gender (Figure X) demonstrates that the majority of respondents are female (71,65%), and the remaining of the respondents are male (27,41%) or identify themselves with other gender (0,93%). Additionally, from Figure X, which shows the spread of 7 different age groups, it shows that the majority of the respondents fall in the group of between 18-24 years old (56,70%) and 25-34 years old (27,73%). This is followed by 6,23% of respondents aged between 55-64 years old, 3,74% of people aged between 35-44 years old, 2,18% of 45-54 years old, 1,87% of people with 65+ years old and finally only 1,56% are people under 18-year-old.

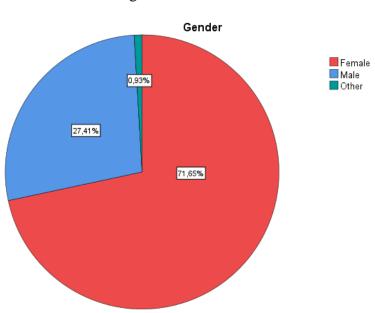


Figure 3: Gender Pie Chart

Source 3: Own elaboration through SPSS data.

200 150 Count 100 56,70% 50 27,73% 6,23% 2,18% 1,87% 35-44 Under 18 18-24 25-34 45-54 55-64 65+ Age

Figure 4: Bar Chart Age Group

Source 4: Own elaboration through SPSS data.

Regarding the education level of the respondents more than half the sample is composed by individuals with the Bachelor's degree (43,94%) and the Master's degree (31,78%), followed by individuals with high school diploma or equivalent (21,50%) and a very small percentage have PhD (1,56%) or other (1,25%).

Most of the respondents are students or employed, representing 39,88% and 34,27% respectively, followed by working-student status with 20,56%. The remaining are unemployed (2,80%), retired (2,18%) and doing the PhD (0,31%). This data is presented on Appendix 2.

Country of Origin 70,00% 59,50% 60,00% 50,00% 40,00% 30,00% 17,76% 20,00% 11,84% 10,00% 5,30% 3,43% 2,18% 0,00% Portugal UK & USA Italy India Other Nothern Ireland

Figure 5: Bar Chart Country of Origin

Source 5: Own elaboration through Excel.

The last demographic variable analyzed was the country of origin of the respondents. There was a total of 35 different nationalities, most responses being from Portuguese citizens, which represents 58,50% of the sample (191 responses). The second biggest representation was from the United Kingdom and Northern Ireland representing 11,84% with 38 responses, followed by United States of America with 17 answers (5,30%) followed closed by Italy with 11 responses (3,43%). This data is represented on Figure 5 above.

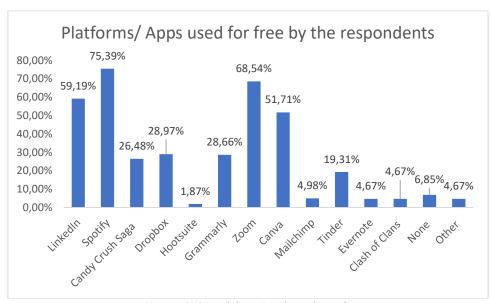


Figure 6: Platforms that respondents use for free

Source 6: Own elaboration through Excel.

Platforms/ Apps paid by the respondents 46.11% 50,00% 43,61% 45,00% 40,00% 35,00% 30,00% 25,00% 20,00% 15,00% 6,54% 10,00% 5,30% 0,62% 1,25% 4,05% 1,25% 5,00% 0.62% 0,00% 0,00% Clash of Clans

Figure 7: Platforms that respondents pay for premium

Source 7: Own elaboration through Excel.

On the survey there were two questions regarding the most used platforms/apps that use the freemium business model, these questions were made with the purpose to give insight regarding the number of respondents that use these platforms for free and the percentage of people that pay for the premium version. These were both multiple answers questions, the respondents could select more than one platform. On Figure 6 we can see that the most used platforms used by the respondents is Spotify with 242 answers (75,39%), Zoom with 220 responses (68,54%) and LinkedIn with 190 answers (59,11%). Be that as it may be, when looking at Figure 7 we see a pronounced drop on the respondents that actually pay for the premium version, 148 respondents answered that they do not pay for the premium version of any platform/ app making almost half the sample free users of these platforms (46,11%) and Spotify continues to be the most used with 140 responses (43,61%).

5. Results

5.1 Descriptive Statistics

5.1.1 The Big Five Personality Traits

The descriptive statistics analysis, calculated through SPSS Statistics 29, begins with the construct of the Big Five Personality traits, which includes Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience. It was used a sum of 43 questions in form of a 5-point Likert scale based on the studies of Saw, C. C., & Inthiran, A. (2022) and Akbar, A., Malik, A., & Warraich, N. F. (2023).

Table 1 shows the descriptives statistics of the value means and standard deviation for the different traits studied.

The value with the highest mean was the personality trait Conscientiousness, with a mean value of 3,75 and a standard deviation of 0,67, people with this trait are more serious and cautious when making decisions, are responsible, dutiful, and trustworthy, and expect others to be conscientious also, hence, they are more likely to trust (Saw, C. C., & Inthiran, A. (2022)). The mean value of this trait is higher than the middle value of the 5-point Likert scale, which reveals that the respondents are likely to be organized, dependable, with a reasonable degree of self-discipline and willingness to work conscientiously, but not to the extreme. The standard deviation of 0,67 gives insights into the variability of the scores around the mean. In this case it suggests that a substantial portion of the participants fall within a similar range of conscientiousness. This could reflect a certain level of consistency in the population being studied.

The next significant trait is Agreeableness with a mean value of 3,65 and a standard deviation of 0,55. According to the mean score displayed, participants in the study exhibit a moderate level of agreeableness. According to the standard deviation of 0.55, there is some variation in the agreeableness scores, with people in the sample exhibiting varying degrees of this quality.

Thirdly, a mean value of 3.51 for Openness to Experience suggests that, on average, the individuals in your study have a moderate level of openness. Openness is associated with characteristics like curiosity, creativity, and a willingness to explore new ideas. The moderate mean score indicates a general receptiveness to new experiences within the group. The standard deviation of 0.68 shows some variability, indicating that while the mean is moderate, there is a range of openness levels among the participants.

Extraversion had a mean value of 3,24 which suggests that, on average, the respondents have a slightly below-average level of extraversion. Extraversion involves traits like sociability, assertiveness, and comfort in social interactions. The mean score indicates that the group tends to be introverted or leans toward introversion. The standard deviation of 0.73 suggests variability, meaning that some participants may be more extraverted while others are more introverted.

Finally, a mean value of 3.02 for Neuroticism implies that, on average, the individuals in this study have a moderate level of neuroticism. Neuroticism is characterized by emotional instability and susceptibility to stress and negative emotions. The mean score indicates a moderate level of emotional stability within the group. The standard deviation of 0.75 highlights variability, suggesting that while the mean is moderate, there is a range of emotional stability levels among participants.

Table 1: Descriptive Statistics of Personality Traits

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Extraversion	321	1,13	5,00	3,24	,73
Agreeableness	321	1,67	5,00	3,65	,55
Conscientiousness	321	1,00	5,00	3,75	,67
Neuroticism	321	1,00	5,00	3,02	,75
Openess_to_Experience	321	1,30	5,00	3,51	,68
Valid N (listwise)	321				

Source 8: Own elaboration through SPSS data

5.1.2 Need for Uniqueness

Looking at the mean value of 2,37 calculated through SPSS which indicates that the majority of the respondents do not consider the premium features of the platform – in this case related to LinkedIn Premium – that unique, it suggests that the user experience of this particular freemium platform falls below the midpoint of user curiosity. Meanwhile, the standard deviation of 0,82 signifies a degree of variety in these opinions, which translates that some users considered the features presented more appealing than others. This statistical spread reflects the difference of user preference within the freemium business model.

Table 2: Descriptive Statistics of Need for Uniqueness

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Need_For_Uniqueness	321	1,00	5,00	2,37	,82
Valid N (listwise)	321				

Source 9: Own elaboration through SPSS data

5.1.3 Need for Change

The mean value, in this context, represents the average inclination toward change among the individuals in our study. Need for Change was divided into 6 items, the calculated mean value on SPSS of all these items was 2,95, which puts our respondents below midpoint value, this still indicates that they are relatively open to change, they are not resistant to it nor overwhelming excited about it. This balanced perspective may indicate a willingness to adapt when necessary but without a strong urgency for change.

The standard deviation of 0,78 it is a compelling sign that there is a diverse attitude towards change. These findings suggest that any initiatives or strategies aimed at introducing change within this group should be approached with sensitivity to the diverse perspectives on change.

Table 3:Descriptive Statistics of Need for Change

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Need_For_Change	321	1,00	5,00	2,95	,78
Valid N (listwise)	321				

Source 10: Own elaboration through SPSS data

5.1.4 Curiosity

For the question regarding the level of curiosity, it was presented the features included in the LinkedIn Premium subscription. The average level of curiosity among the individuals in this study falls slightly above the midpoint of the scale of 1 and 5, the mean value of 3,27 represents that this sample if moderately curious regarding the premium features of the presented platform. This can indicate that the people are interested and will probably engage in learning and exploring the platform premium offering.

A standard deviation of 0,95 signifies that there is a considerable amount of variability in the participant's curiosity scores. This hints that there is a diversity of curiosity profiles

within the sample, some exhibit high levels of curiosity while others are less inquisitive regarding the features presented and did not interest them to explore further.

Table 4: Descriptive Statistics of Curiosity

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Curiosity_T	321	1,00	5,00	3,27	,95
Valid N (listwise)	321				

Source 11: Own elaboration through SPSS data

5.1.5 Attitude towards Premium

A mean value of 3,70 suggests that, on average, respondents have a moderately positive Attitude towards Premium (ATT) version, meaning they find value in the offering on the additional features made available. However, there is a chance to improve their satisfaction further.

The standard deviation of 0,93 indicates a notable diversity in attitudes of the respondents. Some respondents might highly value the premium features, while others are more cautious of how they invest the money or even indifferent to the offer. This diversity underscores the need for platforms or apps to cater to a wide range of user preferences.

Table 5: Descriptive Statistics of Attitude towards Premium

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Attitude	321	1,00	5,00	3,70	,93
Valid N (listwise)	321				

Source 9: Own elaboration through SPSS data

5.1.6 Willingness to Pay

A mean score of 2.87 indicates that, as a group, the participants tend to be moderately open to making payments for certain features of the premium offering, in this case it was presented the features and price point of each plan available on Spotify Premium in Portugal. They are neither highly reluctant nor excessively enthusiastic about parting with their resources.

A high standard deviation (0,94) suggests that there are significant individual differences in how the surveyed individuals perceive their Willingness to Pay (WTP). Some

respondents may be very willing to pay for the features presented, while others may be more hesitant.

From a practical perspective, these findings indicate that businesses that apply the freemium business model, and marketers need to consider the diversity of attitudes toward payment when designing products, services, or pricing strategies. It may be necessary to segment the audience based on their willingness to pay and tailor offerings accordingly.

Table 6: Descriptive Statistics of Willingness to Pay

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Willingness_To_Pay	321	1,00	5,00	2,87	,94
Valid N (listwise)	321				

Source 10: Own elaboration through SPSS data.

5.1.7 Purchase Intention

The mean value, in this context, represents the average level of Purchase Intention (PI) among the individuals in our study. A mean value of 3,27 indicates that the respondents neither strongly agree nor strongly disagree with the idea of paying the subscription of the premium version.

A standard deviation of 1.12 indicates that there is a noteworthy degree of variability in the participants' "Purchase Intention" scores. The standard deviation underscores the diversity of attitudes within the sample. While the mean score suggests a moderate overall purchase intention, it's important to recognize that individuals may have different perspectives on the subject.

From these findings we can take that businesses need to refine their marketing strategies, product offerings, and pricing models. It's important to segment the market based on varying purchase intentions and tailor marketing efforts accordingly to address the diverse needs and preferences of consumers.

Table 7: Descriptive Statistics of Purchase Intention

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Purchase_Intention	321	1,00	5,00	3,27	1,12
Valid N (listwise)	321				

Source 11: Own elaboration through SPSS data.

5.1.8 Reliability Analysis

To evaluate the reliability and validity of the sample the reliability test was performed. The reliability test demonstrates how well a method or test measures something. The analysis was conducted through the statistical program in SPSS version 29. All the Cronbach's alpha were computed for all items and variables, the Cronbach alpha can be any numerical value between 0 and 1, the higher the value the more reliable the variable, for this it was only considered the results that presented a value higher than 0,60.

The results for each variable can be found on Table 8, values between 0.6 and 0.7 are just acceptable, values between 0.7 and 0.8 are considered good and values between 0.8 and 0.9 are very good or moreover the consistency is right. Values equal or above 0.9 are considered excellent.

All the main constructs have a high Cronbach's Alpha, indicating good values with high reliabilities and internal consistencies. The higher value belongs to Attitude towards Premium with a Cronbach's Alpha of 0,94, indicating excellent reliability, followed closed by Purchase Intention (Cronbach Alpha = 0,93), Perceived Value (Cronbach Alpha = 0,92) and Curiosity (Cronbach Alpha = 0,91). The lowest Cronbach Alpha is 0,72 for Agreeableness.

Table 8: Reliability Analysis for all the constructs.

Main Construct	Cronbach's Alpha
Extraversion	0,85
Agreeableness	0,72
Conscientiousness	0,86
Neuroticism	0,83
Openness to Experience	0,84
Need For Uniqueness	0,90
Need For Change	0,75
Curiosity	0,91
Perceived Value	0,92
Attitude Towards Premium	0,94
Willingness to Pay	0,76
Purchase Intention	0,93

Source 12: Own elaboration through SPSS data.

5.2 Multiple Regression Analysis

In order to test the conceptual model presented for this study, it was conducted Regression analysis to explore and quantify the relationships between variables. It will help understand how one or more independent variables predict or influence a dependent variable.

5.2.1 Assumption of the Multiple Regression

The research conceptual model was explored in two different analyses which were subject to the same assumptions. This is possible since the independent variables or mediators of the conceptual model in all configurations are the same and are also valid in each model. All the intervals have a confidence level of 95.000.

Before proceeding with the multiple regression analysis, it is important to test the fundamental hypotheses. It is possible to use the model for statistical inference if all the presumptions are true.

Linearity of the model

The multiple regression of the model is as follows:

Perceived Value = $\beta 0 + \beta 1$ x Extraversion + $\beta 2$ x Conscientiousness + $\beta 3$ x Agreeableness + $\beta 4$ x Neuroticism + $\beta 5$ x Openness to Experience + ϵ Also,

Perceived Value = $\beta 0 + \beta 1$ x Need for Uniqueness + $\beta 2$ x Need for Change + $\beta 3$ x Curiosity + ϵ

The conceptual model assumes by construction linearity between independent and dependent variables.

Collinearity Statistics

Multicollinearity is when two or more independent variables are highly correlated and leads to problems within the research since it is not clear which independent variable contributes to the variance explained in the dependent variable. To analyze this a test can be executed that present the tolerance and VIF values through the collinearity statistics. If one of the tolerance values is below 0.1 or one of the VIF values is above 10, this would be a strong indication of multicollinearity. As illustrated in Table 9, all tolerance values are above 0.1 and all VIF values are below 10, resulting in no multicollinearity. This assumption can be verified.

Table 9: Collinearity Statistics.

Coefficients^a

Collinearity Statistics Tolerance VIF Model 1,192 Extrav .839 ,836 1,196 Agreea Consc .822 1,216 Neuro ,839 1,192 1,252 Openess .798 NFU .676 1,479 NFC ,737 1,356 1.089 Curi .918

a. Dependent Variable: PV

Source 13: Own Elaboration through SPSS.

Correlation between the independent variables and the residuals

Evaluating the correlation between independent variables and the residuals in multiple linear regression is an important diagnostic step to check for potential violations of the model's assumptions. If the Pearson Correlation equals to 0,000 it means that independent variables are not correlated to residuals. On Table 26 (Appendix 3), we can gather that all the independent variables are not correlated to the residual terms since all the values presented are equal to zero. This assumption holds.

Table 10: Summary version of Table 26 on Appendix 3.

		Extrav	Agreea	Consc	Neuro	Openess	NFU	NFC	Curi	Unstandardized Residual
Extrav	Pearson Correlation	1	,179**	,220**	-,236**	,284**	,104	,033	,078	,000
Agreea	Pearson Correlation	,179**	1	,271**	-,325**	,048	-,099	-,013	,108	,000
Consc	Pearson Correlation	,220**	,271**	1	-,222**	,127*	-,102	,048	,207**	,000
Neuro	Pearson Correlation	-,236**	-,325**	-,222**	1	-,037	,032	,080	-,023	,000
Openess	Pearson Correlation	,284**	,048	,128*	-,037	1	,341**	,200**	-,033	,000
NFU	Pearson Correlation	,104	-,099	-,102	,032	,341**	1	,477**	,042	,000
NFC	Pearson Correlation	,033	-,013	,048	,080	,200**	,477**	1	,162**	,000
Curi	Pearson Correlation	,078	,108	,207**	-,023	-,033	,042	,162**	1	,000
Unstandardized Residual	Pearson Correlation	,000	,000	,000	,000	,000	,000	,000	,000	1

^{**}Correlation is significant at the 0.01 level (2-tailed).

Source 14: Own Elaboration through SPSS.

Correlation of residual terms

Another assumption that needs to hold in order to perform the multiple regression analysis is that there should not be a correlation among residual terms. To determine if the assumption is met is to perform a Durbin-Watson test. The test statistic ranges from 0 to 4, if the value is less than 1,5 or greater than 2,5 signifies that there is a a autocorrelation problem. In Table 11 we

^{*}Correlation is significant at the 0.05 level (2-tailed).

can see that Dubin-Watson value is close to 2, thus the residuals are not correlated. The assumption holds.

Table 11: Dublin-Watson Test.

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,356ª	,127	,104	,75718	2,036

- a. Predictors: (Constant), Curi, Neuro, Openess, NFC, Consc, Agreea, Extrav, NFL
- b. Dependent Variable: PV

Source 15: Own Elaboration through SPSS.

Normality of the residuals

The multiple regression assumes that the residuals are normally distributed. The P-P Plot is a visual method for assessing normal distribution, if data was perfectly normally distributed it would lie on the sketched diagonal, so the further the data is from the diagonal the less normally distributed it is. In Figure 8 (Appendix C) the data strays away from the sketched diagonal. Therefore, this assumption does not hold. This can be further verified in Figure 9 (Appendix C) the residuals do not follow a normal distribution. The assumption does not hold.

Constancy of the Residual Variance across predicted Values

Homoscedasticity, is another fundamental assumption in multiple linear regression, plays a pivotal role in ensuring the validity of regression analyses. This assumption refers to the equal variance of errors or residuals across all levels of the independent variables. In simpler terms, it suggests that the spread or dispersion of the residuals should remain constant as you move along the range of predicted values. For this to exist the points in the scatterplot must be evenly distributed across the horizontal axis. Figure 10 (Appendix C) shows that the residuals are not evenly distributed, so the assumption does not hold.

Evaluation of the Model

After analyzing all the requirements for the multiple regression, it can be determined how fit the model is. R-squared (R²) is often referred to as a "goodness of fit" statistic. It tells you how well the model fits the observed data. A higher R² indicates a better fit, meaning that the model's predictions are closer to the actual data points. In this case the model does not have a very good

fit ($R^2 = 0.127$), which suggests that the independent variables do not explain much of the variation in the dependent variable.

Table 12: "Goodness of fit" Statistics.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,356ª	,127	,104	,75718

 a. Predictors: (Constant), Curi, Neuro, Openess, NFC, Consc, Agreea, Extrav, NFU

Source 16: Own Elaboration through SPSS.

The ANOVA (Table 13) is a technique for evaluating the fit of a model when you are comparing multiple groups or conditions. It helps determine whether the model explains a significant portion of the variability in the data and whether the group means are different from each other. A larger F-statistic suggests that the between-group variation is significant relative to the within-group variation. The p-value associated with the F-statistic is used to assess the statistical significance of the model fit. F (8,312) = 5,653 and p <0,001, which suggests that the model explains a significant portion of the variability in the data.

Table 13: ANOVA Statistics.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25,926	8	3,241	5,653	<,001 ^b
	Residual	178,876	312	,573		
	Total	204,803	320			

a. Dependent Variable: PV

Source 17: Own Elaboration through SPSS.

To sum up, it is not possible to make a generalization for the population and the model cannot be used for inference, because more than one assumption is not fulfilled.

5.2.2 Multiple Regression – Personality traits as independent and PV as dependent variable.

The coefficients table provides valuable information about the relationships between independent variables and the dependent variable in a given model. In statistical analysis, the threshold for statistical significance is often set at $\alpha = 0.05$. This means that a p-value (Sig) less

b. Predictors: (Constant), Curi, Neuro, Openess, NFC, Consc, Agreea, Extrav, NFU

than 0,05 is typically considered statistically significant. Variables with p-values greater than 0,05 are often labeled as "insignificant" in the context of hypothesis testing.

As can be seen in Table 14 all the five personality traits have Sig > 0.05 (H1a. Sig = 0.184, H1b. Sig = 0.326, H1c. Sig = 0.806, H1d. Sig = 0.201 and H1e. Sig = 0.416). There is insufficient evidence to conclude that this variable has a statistically significant effect on the dependent variable, the p-value associated with that independent variable's coefficient is not small enough to reject the null hypothesis. Therefore, can be concluded that the following hypothesis are not valid:

- H1a: Extraversion has an influence on premium Perceived Value.
- H1b: Conscientiousness has an influence on premium Perceived Value.
- H1c: Agreeableness has an influence on premium Perceived Value.
- H1d: Neuroticism has an influence on premium Perceived Value.
- H1e: Openness to Experience has an influence on premium Perceived Value.

Table 14: Coefficients of Multiple Regression

Coefficients^a Standardized Unstandardized Coefficients Coefficients В Std. Error Beta Model t Sig. 2,458 <,001 (Constant) ,529 4,650 Extraversion .089 ,067 ,081 1,333 ,184 Agreeableness ,087 ,088 ,060 ,983 ,326 ,071 ,015 ,246 ,806 Conscientiousness ,017 Neuroticism 1,280 ,083 ,065 ,078 ,201 Openess to Experience .056 .068 .048 .814 ,416

Source 18: Own Elaboration through SPSS.

5.2.3 Multiple Regression – NFU, NFC and Curiosity as independent and PV as dependent variable.

By analyzing the remaining factors that also influence the individual's behavior, we can conclude from Table 15 that there is evidence to suggest that Need for Uniqueness is not statistically significant in predicting the dependent variable within the current model and dataset, since Sig = 0.735, which is significantly greater than the typical significance level of 0.05.

Nevertheless, Need for Change (Sig =0,004) is statistically significant. The t-value of 2.867 suggests that the relationship between "Need for Change" and the dependent variable is

a. Dependent Variable: Perceived_Value

significant. The standardized coefficient Beta of 0,174 indicates the strength and direction of the relationship. The unstandardized B coefficient of 0,178 represents the change in the dependent variable associated with a one-unit change in "Need for Change" while holding other variables constant, meaning that every increase unit of "Need for Change" leads to a 0,178 increase in "Perceived Value".

Additionally, "Curiosity" also has a p-value less than 0,05, indicating statistical significance. The higher t-value of 4.878 suggests a stronger relationship between "Curiosity" and the dependent variable. The standardized coefficient (Beta) of 0,261 indicates a positive and significant association. The unstandardized B coefficient of 0,221 represents the change in the dependent variable associated with a one-unit change in "Curiosity" while controlling for other variables.

"Need for Change" and "Curiosity" are both statistically significant predictors, and it exhibit a positive relationship with the dependent variable, "Perceived Value". These results support the hypotheses:

- H2b: Need for Change influences the perceived value of the premium version for individuals.
- H2c: Curiosity influences the perceived value of the premium version for individuals.

Table 15: Coefficients of Multiple Regression

Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	2,281	,213		10,733	<,001
	Need_For_Uniqueness	,020	,059	,020	,339	,735
	Need_For_Change	,178	,062	,174	2,867	,004
	Curiosity_T	,221	,045	,261	4,878	<,001

a. Dependent Variable: Perceived Value

Source 19: Own Elaboration through SPSS.

5.3 Mediation Analysis

The final stage of the conceptual model is the mediation test, conducted using the statistical tools PROCESS macro in SPSS, its purpose is to explore and understand the underlying mechanisms or pathways through which one variable influences another variable. The Perceived Value (PV) will be our mediator variable while Attitude Towards Premium (ATT),

Purchase Intention (PI) and Willingness to Pay (WTP) will be the dependent variables and Need for Uniqueness (NFU), Need for Change (NFC) and Curiosity (Curi) will be independent variables.

5.3.1 Mediation - NFU as independent, PV as mediator and ATT, PI and WTP as dependent.

The mediation analysis quantifies the indirect effects, in this case of the NFU on the ATT through the mediator PV. This indirect effect represents the extent to which the mediator accounts for the relationship between the NFU and ATT. When the confidence interval includes zero, it suggests that there is insufficient evidence to conclude that the indirect effect is different from zero. In other words, the data does not provide strong support for the presence of a significant mediation effect in this analysis.

Table 16 shows that the lower-level confidence interval (BootLLCI) is -0,0058 and the upper-level confidence level (BootULCI) is 0,1900, which means that the indirect effect is not statistically significant at the conventional 95% confidence level.

Table 16: Regression Model with outcome variable ATT

Total (effect of X o	n Y			
Effect	se	t	q	LLCI	ULCI
,0532	,0635	, 8386	,4023	-,0716	,1781
Direct	effect of X	on Y			
Effect	se	t	р	LLCI	ULCI
-,0402	,0447	-,9004	,3686	-,1281	,0477
Indire	ct effect(s)	of X on Y:			
	Effect E	BootSE Boot	LLCI Boot	tULCI	
PV	, 0935	,0500 -,	0058	, 1900	

Source 20: Own Elaboration through SPSS Data extended via PROCESS.

When evaluating the indirect effect of NFU on the PI through the mediator PV. The intervals of confidence presented also include zero between them, BootLLCI= -0,0022 and BootULCI=0,2110, which as explained before cannot be concluded that the indirect effect is different from zero.

Table 17: Regression Model with outcome variable PI

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
,1019	,0768	1,3274	,1853	-,0491	,2529	
Direct	effect of X	on Y				
Effect	se	t	р	LLCI	ULCI	
,0002	,0592	,0033	,9974	-,1162	,1166	
Indirect effect(s) of X on Y:						
	Effect :	BootSE Boo	tLLCI Boo	tULCI		
PV	,1017	,0543 -	,0022	,2110		

Source 21: Own elaboration through SPSS data extended via PROCESS.

The confidence intervals for Curiosity as dependent and WTP as independent with PV as mediator, follow the same rule as the values presented above, the values for the lower-level are negative and for the upper-level is positive (BootLLCI= -0,0035 and BootULCI= 0,1323, respectfully).

Table 18: Regression model with outcome variable WTP

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
,1642	,0638	2,5730	,0105	,0386	,2897	
Direct	effect of X	on Y				
Effect	se	t	p	LLCI	ULCI	
,1026	,0568	1,8064	,0718	-,0091	,2144	
Indirect effect(s) of X on Y:						
	Effect	BootSE B	ootLLCI B	ootULCI		
PV	,0615	,0341	-,0035	,1323		

Source 22: Own elaboration through SPSS data extended via PROCESS.

Therefore, it can be concluded that the indirect effect is not statistically significant in none of the analysis computed presented above, and the variable NFU does not significantly influence ATT, PI or WTP through the proposed mediator, PV.

5.3.2 Mediation - NFC as independent, PV as mediator and ATT as dependent.

The mediation analysis quantifies the indirect effects, in this case of the NFC on the ATT through the mediator PV.

On the Table 19 we can confirm that both the intervals present positive values (BootLLCI=0,0963 and BootULCI=0,2958) which indicates that the indirect effect is statistically significant. It can be concluded that, the conceptual model presented has an indirect effect of Need for Change on Attitude towards Premium through the mediator Perceived Value.

Table 19: Regression model with outcome variable ATT

Total effect of X on Y						
Effect	se	t	q	LLCI	ULCI	
,1632	,0656	2,4873	,0134	,0341	,2923	
Effect	effect of S se ,0475	t	,5275	LLCI -,1236	ULCI ,0635	
<pre>Indirect effect(s) of X on Y:</pre>						
I	Effect	BootSE	BootLLCI	BootULCI		
ΡV	,1933	,0505	,0963	, 2958		

Source 23: Own Elaboration through SPSS Data extended via PROCESS.

5.3.3 Mediation - Curiosity as independent, PV as mediator and ATT as dependent.

The mediation analysis quantifies the indirect effects, in this case of Curiosity on the ATT through the mediator PV.

On the Table 20 we can confirm that both the intervals present positive values (BootLLCI=0,1188 and BootULCI=0,2957) which indicates that the indirect effect is statistically significant. It can also be concluded that, there is an indirect effect of Curiosity on Attitude towards Premium through the mediator Perceived Value.

Table 20: Regression model with outcome variable ATT

Total effect of X on Y						
Effect	se	t	р	LLCI	ULCI	
,2000	,0537	3,7220	,0002	,0943	, 3057	
Direct Effect -,0040		on Y t -,0988	p ,9214	LLCI -,0829	ULCI ,0749	
Indire	ct effect(s)	of X on Y:				
	Effect B	ootSE Boot	LLCI Boot	tULCI		
PV	,2040	,0457 ,	1188	,2957		

Source 24: Own elaboration through SPSS Data extended via PROCESS.

5.3.4 Mediation - NFC as independent, PV as mediator and PI as dependent.

The mediation analysis quantifies the indirect effects, in this case of NFC on the PI through the mediator PV.

The confidence intervals for this analysis are BootLLCI=0,1071 and BootULCI=0,3228 which indicates that the indirect effect is statistically significant. Therefore, there is an indirect effect of Need for Change on Purchase Intention through the mediator Perceived Value.

Table 21: Regression model with outcome variable PI

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
,1602	,0797	2,0086	,0454	,0033	,3171	
Direct	effect of X	on Y				
Effect	se	t	p	LLCI	ULCI	
-,0523	,0629	-,8324	,4058	-,1760	,0714	
Indirect effect(s) of X on Y:						
	Effect B	ootSE BootL	LCI Bootu	JLCI		
PV	,2125	,0555 ,1	071,3	3228		

Source 25: Own elaboration through SPSS data extended via PROCESS.

5.3.5 Mediation - Curiosity as independent, PV as mediator and PI as dependent.

The mediation analysis quantifies the indirect effects, in this case of Curiosity on the PI through the mediator PV.

The confidence intervals for this analysis are both positive values (BootLLCI=0,1349 and BootULCI=0,3223) which indicates that the indirect effect is statistically significant. Therefore, there is an indirect effect of Curiosity on Purchase Intention through the mediator Perceived Value.

Table 22: Regression model with outcome variable PI

Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI		
,1920	,0656	2,9265	,0037	,0629	,3211		
Direct	Direct effect of X on Y						
Effect		t	p	LLCI	ULCI		
-,0337	7 ,0530	-,6347	,5261	-,1380	,0707		
Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI							
DVZ							
PV	,2257 ,	,1	349 ,3	3223			

Source 26: Own elaboration through SPSS data extended via PROCESS.

5.3.6 Mediation – NFC as independent, PV as mediator and WTP as dependent.

The confidence intervals for this analysis are BootLLCI=0,0646 and BootULCI=0,2018, being both positive values it indicates that the indirect effect is statistically significant. Therefore, there is an indirect effect of Need for Change on Willingness to Pay through the mediator Perceived Value.

Table 23: Regression model with outcome variable WTP

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
,1381	,0668	2,0692	,0393	,0068	,2695	
Direct e:	ffect of X o	n Y				
Effect	se	t	p	LLCI	ULCI	
,0088	,0607	,1456	,8844	-,1106	,1283	
Indirect effect(s) of X on Y:						
E:	ffect Bo	otSE BootL	LCI Boott	JLCI		
PV	,1293 ,	0353 ,0	646 ,2	018		

Source 27: Own elaboration through SPSS data extended via PROCESS.

5.3.7 Mediation - Curiosity as independent, PV as mediator and WTP as dependent.

The confidence intervals for this analysis are both positive values (BootLLCI=0,0818 and BootULCI=0,2063) which indicates that the indirect effect is statistically significant. Therefore, there is an indirect effect of Curiosity on Willingness to Pay through the mediator Perceived Value.

Table 24: Regression model with outcome variable WTP

Total effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
,0994	,0554	1,7937	,0738	-,0096	,2083	
Direct	effect of X	on Y				
Effect	se	t	p	LLCI	ULCI	
-,0420	,0511	-,8205	,4125	-,1426	,0587	
Indire	ct effect(s)	of X on Y	:			
	Effect	BootSE B	ootLLCI B	ootULCI		
PV	,1413	,0318	,0818	,2063		

Source 28: Own elaboration through SPSS data extended via PROCESS.

To conclude, the hypotheses supported by the results and analysis are summarized in the table below, thus indicating that part of the conceptual model is valid (Table 25).

Table 25: Hypothesis Validation.

Hypothesis	Validation
H1a. Extraversion has an influence on Perceived Value.	No
H1b.Conscientiousness has an influence on Perceived Value.	No
H1c. Agreeableness has an influence on Perceived Value.	No
H1d. Neuroticism has an influence on Perceived Value.	No
H1e. Openness to Experience has an influence on Perceived Value.	No
H2a. Need for Uniqueness has an infleunce on Perceived Value.	No
H2b. Need fpr Change has an influence on Parceived Value.	Yes
H2c. Curiosity has an influence on Perceived Value.	Yes
H3. Perceived Value has a positive effect on Attitude towards Premium.	Yes
H4. Perceived Value has a positive effect on Purchase Intention.	Yes
H5. Perceived Value has a positive effect on Willingness to Pay.	Yes

Source 29: Own elaboration.

6. Discussion

The main objective of this research study was to identify possible consumer influences that would drive them to subscribe to the premium version, to give more insights to companies that use the freemium business model. In this chapter the results from this study will be compared to what is already known from the Literature Review.

Personality Traits

In the prospect of finding new insights regarding consumer behavior towards freemium business offer, I tried to see if there was a relation between individuals personality traits and their perceptions of the premium version value. Holm and Günzel-Jensen (2017) and Sciglimpaglia and Raafat (2022) stress the value of comprehending the target audience, and tailor their message to a specific particular customer category for more retention efficiency.

There was some indication that openness and extraversion might show signs of consumers seeing value on the premium feature offering, because the study of Lu and Yang (2020) and Venkatesh. and Bala (2008) found a positive association between those traits and technology adoption. Also, some studies related that high levels of extraversion and openness have a positive relation to purchase intention (Gangai et. al, 2016) and conscientiousness and neuroticism are negatively correlated with the consumer purchase behavior, maybe due to the characteristics of these individuals - conscientiousness, which can be defined by being organized, responsible, and dependable, show more signs of self-control and self-discipline. (Varnali, 2013).

While personality traits may influence consumer behavior in freemium business models, there was no clear evidence that suggest that any of the traits was a possible predictor of premium adoption. The findings of this research did not find any significant results for the relationship between any of the 5 personality traits and perceived value of the features presented for Spotify premium, and therefore inconclusive results about their intention to pay for the premium version.

Need For Uniqueness

The literature highlights that need for uniqueness is a consumer driven by the desire for individuals to differentiate themselves in terms of their purchasing. High need for uniqueness individuals seek uniqueness in their consumption choices, often valuing independent, imaginative and unconventional products, often using their consumption choices as a means of self-expression. (Goldsmith, 2018). Meaning people with this trait are willing to pay more to

differentiate themselves from their peers, which may imply a desire to upgrade to premium subscriptions. (Lynn & Harris, 1997). As said before, there is evidence that customers that have this need would be more willing to pay for premium subscriptions, because in the free version individuals do not have access to special advantages or/and extra features which tur the premium users unique and exclusive. (Gu et al., 2018).

While NFU plays a role in influencing consumer behavior, the results of this study suggest that the impact of NFU on certain aspects of consumer behavior, particularly the consumer perceived value of premium subscription as previously assumed. The data indicates that consumers' desire for uniqueness may not be a major driver of their perception of a product or service's premium value, this emphasizes the need to consider multiple factor beyond perceived value. It still can be a relevant factor in attracting and retaining customers who value originality and uniqueness. Also, it does not seem to be significantly mediated by perceived value in the context of attitude towards premium, purchase intention or willingness to pay for premium subscriptions. These findings provide valuable insights for marketers and business seeking to understand and cater to the preferences and behaviors of individuals with a high need for uniqueness.

Need For Change

Wood et al. (2005) show on their research that individuals with high need for change are more likely to accept new technologies, and conduct exploratory purchasing, showing an interest in learning and trying new goods or services. Since, a high demand for change may make people more open to experimenting with novel products or services, which is the core idea of the freemium business model - offering a free version to draw in potential clients – it leads to believe these people are driven to learn and experiment the premium version offered by the freemium model platforms. The results from this study are in line with the previously mentioned study.

The results of this study highlight the importance of Perceived Value as a mediator, it suggests that for individuals with a strong Need for Change, their attitudes towards premium offering may be positively influenced through their perception of these offerings as valuable and distinct. The strong correlation between Need for Change and Perceived Value, suggest that individuals with a high need for change value innovation, uniqueness, and premium quality. The Perceived Value plays a mediating role in driving purchase intentions for individuals with a strong need for change. For businesses, understanding and targeting this segment of

consumers with tailored marketing strategies can be highly relevant in meeting their desires for change and innovation, it also gives insights for pricing and product positioning strategies, emphasizing the perceived value of premium can increase the individuals with this characteristic to pay more.

Curiosity

Based on results from prior research, Kashdan et al. (2018) found evidence of the presence of four distinct type of curious people, each with their passionate interests, areas of expertise, consumer behavior, and social media use. Two of the five identified factors on dimension of curiosity define a group of people open to new experiences, driven by positive emotions and pursue new learnings and opportunities, curiosity is a motivational drive for the people that fit into these groups. Also, Hill et al. (2016) found that curiosity elicits purchase motivation, since the curiosity factor fells into a state of motivation or energy for the consumer, so it elicits an action by the consumer. The findings of these articles are in line with the results from this study, higher curiosity level may lead to a purchase by the consumer.

This study reveals that higher levels of curiosity tend to perceive greater value in products and/or services, which in turn highlights the role of curiosity as a significant driver of how customers perceive premium offerings. Also, the mediation effect of Perceived value between curiosity and attitude towards premium, purchase intention and willingness to pay was statistically significant, suggesting that Perceived Value plays a mediating role in shaping individuals' attitudes towards premium and boosting their purchase intention and willingness to pay when driven by curiosity.

These findings give valuable insights to businesses and marketeers, showing that it is possible to capitalize on the perception of curious individuals by crafting marketing messages and product attributes that resonate with consumers' innate curiosity, thereby enhancing perceived value and driving purchase intent and willingness to pay. Also, it is significant for pricing and product positioning strategies.

7. Conclusion and recommendations

7.1 Theoretical Contribution

This study was motivated by the desire to better understand the consumers that pay for premium subscriptions in platforms that use the freemium business model. To evaluate the consumer, we analyzed several variables that affect the consumer behavior, such as personality traits, need for uniqueness, need for change and curiosity, in relation to three dependable variables, attitude towards the premium subscription, purchase intention and willingness to pay, mediated by the perceived user value of the premium features.

The research principal theoretical contribution focuses on consumer traits. There are some studies that research how personality traits affect consumer behaviors, using the Big Five as a framework, in media, indirect buying behavior and consumer goods (Sandy et al., 2013) and personality also plays a very important role specifically related to recycled products and sustainable products (Awais et al., 2020; Gustavsen et al., 2020 and Chen et al., 2022), some of the papers that Kassarjian (1971) have linked personality traits with purchasing behavior, media choice, innovation, segmentation, fear, social influence, product choice, opinion leadership, risk taking, attitude change. However, the research on the relation between the big five personality traits, need for uniqueness, need for change, and curiosity, and freemium services is underexplored. The lack of articles relating these topics might deem the results of this study pertinent for the market.

One of this study's key contributions is that need for change is one of the elements that make users see more value on the premium version offering, which in turn changes positively their attitude towards the premium features presented, raises their purchase intention and their willingness to pay. We explained that Wood et al. (2005) in their research about innovation adoption, focusing on need for cognition and need for change, found that people with a high demand for change are more likely to accept new technologies and trying new products or services, this last part is very positive for the freemium business model, since it's the core of the model – offer a trial for free and pay for extra features. So, their results go in line with this study, hence the positive result in the Need for Change variable in the consumer perceived value for the premium version. The second key contribution is that curiosity is another element that has the same effect. However, for the big five - Extraversion, Conscientiousness, Agreeableness, Neuroticism and Openness to Experience – it was not found any direct influence on perceived value, therefore we could not conclude that it influences the consumer attitude towards the premium offering, their purchase intention and willingness to pay (see Table 9).

Finally, another relevant contribution from this study is the understanding of the perceived consumer value on premium features and its positive influence on attitude towards the premium offering, purchase intention and willingness to pay. According to Chen et al. (2022), customers were more inclined to pay more for the goods when they thought it was of greater quality or offered more advantages, which is in line with the results from this study. These findings emphasize how crucial it is to properly promote value perceptions and highlight the special advantages of the product.

7.2 Managerial Implications

The freemium business model is a very popular monetization strategy only surpassed by the subscription model (Statista, 2019). This model allows for companies to generate a big user base right from the start, the users are attracted by the free versions, this strategy is highly effective for companies that offer services with low marginal costs, like software. As one of the main problems of this model is converting free users to premium users, the conversion rate of free to premium users is between 2 and 5 percent (Holm & Günzel-Jensen, 2017). With the findings of these studies there are some conclusions that can be made and allow us to understand the freemium business model consumer a bit more.

The fact that curiosity and need for change influence consumers perceived value of the premium offering, shows that it is possible to capitalize on the perception of curious individuals by crafting marketing messages and product attributes that resonate with consumers' innate curiosity, thereby enhancing perceived value and driving purchase intent and willingness to pay. This study comes to extend the research of Holm and Günzel-Jensen (2017) in understanding further the target market and its requirements. Offering limited-time trial periods or free demos of premium features can allow users to experience the value firsthand. This can help in converting users who are curious about the premium offering but may be hesitant to commit. For businesses, understanding and targeting this segment of consumers with high need for change with tailored marketing strategies can be highly relevant in meeting their desires for change and innovation, it also gives insights for pricing and product positioning strategies, emphasizing the perceived value of premium can increase the individuals with this characteristic to pay more. Having this insight about consumers of premium can make it easier to implement strategies, and customize it for this specific target audience, for consumer retention and focused marketing (Ross, 2018).

Furthermore, perceived value acted as a good mediating mechanism that linked exposure to premium features and the decision to upgrade. By understanding how perceived

value mediates this relationship, researchers can pinpoint the factors that drive the perceived value and, in turn, influence conversion. Understanding that perceived value influences willingness to pay, companies can carefully consider their pricing strategy, ensuring that the price of the premium offering reflects the perceived value it provides to different user segments.

Sciglimpaglia and Raafat (2022), claimed that for the freemium business model to succeed it is extremely important to develop effective communication and marketing strategies, with the findings of this study we can understand some consumer characteristics which allows marketeers to design contents to fit the needs of a certain segment of the market. Recognizing that different users may have varying levels of curiosity and need for change, companies can segment their user base. Tailoring marketing messages and premium offerings to specific segments can enhance their appeal.

7.3 Limitations and Future Research Recommendations

There are different reasons why the findings of this study should be accepted with some precaution. First, it should be noted that for all the individuals that answered the survey examples of premium features of two platforms were given for consideration, it was given the examples of the features of LinkedIn premium to test curiosity and the Portuguese price point and additional features of Spotify premium for the questions regarding perceived value, attitude towards premium, purchase intention and willingness to pay. So, the findings of this sample group resulted in some bias on the freemium platform, the findings might not be applicable to all freemium business model products. Some demographics were collected for this study, and it would be relevant to know if age and occupation have any effect on the purchase of premium version, considering the different price plans that exist, for example Spotify has a special fee for students. Does this have any significant impact on the conversion rate?

One limitation of the study is also that for the variable of perceived value it was not considered the four dimensions of it – emotional value, social value, quality, and economic value – if these aspects were considered in depth for the offer of the premium version feature possibly it would be clearer what aspects are most important for the consumer (Sweeney & Soutar, 2001). There are other aspects that influence purchase intention and willingness to pay that can be considered for further research on this topic.

Finally, another limitation of this study was that it was not possible to conclude if the personality traits have any relevance in consumer behavior regarding the freemium business model. Kassarjian, Harold H. (1971) reach the conclusion that it is not linear to say that personality traits are related to consumer behavior, there are studies that indicate a strong

relationship between personality and aspects of consumer behavior, a few indicate no relationship, and the great majority indicate that if correlations do exist, they are so weak as to be questionable.

Another opportunity for future research is understanding why the study of personality traits did not have any effect on this study, what requirements are needed for personality traits to be measured and show significant results.

References

- Awais M, Samin T, Gulzar M, Hwang J, Zubair M. (2020). Unfolding the Association between the Big Five, Frugality, E-Mavenism, and Sustainable Consumption Behavior. Sustainability. 12(4), 490. https://doi.org/10.3390/su12020490
- Bilro, R. G., & Loureiro, S. M. C. (2020). A consumer engagement systematic review: synthesis and research agenda. Spanish Journal of Marketing-ESIC, 24(3), 283–307. https://doi.org/10.1108/SJME-01-2020-0021
- Bilro, R. G., Loureiro, S. M. C., & Souto, P. (2023). A systematic review of customer behavior in business-to-business markets and agenda for future research. Journal of Business and Industrial Marketing, 38(13), 122–142. https://doi.org/10.1108/JBIM-07-2022-0313
- Bilro, R. G., Loureiro, S. M. C., & Guerreiro, J. (2019). Exploring online customer engagement with hospitality products and its relationship with involvement, emotional states, experience and brand advocacy. Journal of Hospitality Marketing and Management, 28(2), 147–171. https://doi.org/10.1080/19368623.2018.1506375
- Bilro, R. G., & Loureiro, S. M. C. (2023). I am feeling so good! Motivations for interacting in online brand communities. Journal of Research in Interactive Marketing, 17(1). https://doi.org/10.1108/JRIM-07-2021-0182
- Bilro, R. G., Loureiro, S. M. C., & Ali, F. (2018). The role of website stimuli of experience on engagement and brand advocacy. Journal of Hospitality and Tourism Technology, 9(2), 204–222. https://doi.org/10.1108/JHTT-12-2017-0136
- Chaudhuri, A., & Ligas, M. (2016). The Role of Store Trust and Satisfaction in Creating Premium Prices. Marketing Management Journal, 26 (15), 1-17.
- Chen, S. H., & Lee, K. P. (2008). The Role of Personality Traits and Perceived Values in Persuasion: an Elaboration Likelihood Model Perspective on Online Shopping. Social Behavior and Personality, 36(10), 1379–1399. https://doi.org/10.2224/sbp.2008.36.10.1379
- Chen, Z., & Lu, H. (2022). Effect of Perceived Risk of Greenwashing on Consumers' Willingness to Pay a Price Premium: An Empirical Study. BCP Business & Management, 30, 52-68. https://doi.org/10.54691/bcpbm.v30i.2402

- Daume, J. & Hüttl-Maack, V. (2019). Curiosity-inducing advertising: how positive emotions and expectations drive the effect of curiosity on consumer evaluations of products, International Journal of Advertising, 39(2), 307-328 https://doi.org/10.1080/02650487.2019.1633163
- Fyber. (September 30, 2019). Most popular mobile app business models as of June 2019, by usage and monetization [Graph]. In Statista. Retrieved June 03, 2023, from https://www.statista.com/statistics/262945/revenue-development-of-mobile-apps/
- Gangai, K. N., & Agrawal, R. (2016). The Influence of Personality Traits on Consumer Impulsive Buying Behaviour. International Journal of Marketing and Business Communication, 5, 27-36. doi: 10.21863/ijmbc/2016.5.1.027
- Goldsmith, R. E. (2018). Uniqueness motivation in consumer behavior. Journal of Consumer Psychology, 28(3), 453-470. doi: 10.1002/jcpy.1010
- Gu, X., Kannan, P. K., & Ma, L. (2018). Selling the Premium in Freemium. Journal of Marketing, 82(6), 10-27. https://doi.org/10.1177/0022242918807170
- Gustavsen, G., Hegnes, A.,(2020) Individuals' personality and consumption of organic food. Journal of Cleaner Production, Volume 245, 118772, ISSN 0959-6526, https://doi.org/10.1016/j.jclepro.2019.118772
- Hamari, J., Hanner, N., & Koivisto, J. (2019). "Why pay premium in freemium services?" A study on perceived value, continued use and purchase intentions in free-to-play games. International Journal of Information Management, 51, 102040. doi: 10.1016/j.ijinfomgt.2019.102040.
- Hill, Krista M.; Fombelle, Paul W.; Sirianni, Nancy J. (2016). Shopping under the influence of curiosity: How retailers use mystery to drive purchase motivation. Journal of Business Research, 69(3), 1028–1034. doi:10.1016/j.jbusres.2015.08.015
- Holm, A.B. and Günzel-Jensen, F. (2017), "Succeeding with freemium: strategies for implementation", Journal of Business Strategy, Vol. 38 No. 2, pp. 16-24. https://doi.org/10.1108/JBS-09-2016-0096

- Hsiao, K. L., & Chen, C. C. (2016). What drives in-app purchase intention for mobile games? An examination of perceived values and loyalty. Electronic Commerce Research and Applications, Volume 16, 18-29. https://doi.org/10.1016/j.elerap.2016.01.001.
- Kashdan, T. B., Stiksma, M. C., Disabato, D. J., McKnight, P. E., Bekier, J., Kaji, J., & Lazarus, R. (2018). The Five-Dimensional Curiosity Scale: Capturing the bandwidth of curiosity and identifying four unique subgroups of curious people. Journal of Research in Personality, 73, 130–149. https://doi.org/10.1016/j.jrp.2017.11.011
- Kassarjian, Harold H. (1971). Personality and Consumer Behavior: A Review. Journal of Marketing Research, 8(4), 409–418. https://doi.org/10.1177/002224377100800401
- Koch, O.F., Benlian, A. The effect of free sampling strategies on freemium conversion rates. Electron Markets 27, 67–76 (2017). https://doi.org/10.1007/s12525-016-0236-z
- Kumar, A., & Anjana, R. (2019). Investigating freemium user's intention to upgrade: Role of perceived trust, service quality, and price fairness. Journal of Retailing and Consumer Services, 51, 386-395. doi: 10.1016/j.jretconser.2019.07.003
- Liao, J., C., H., & Cai, P. (2013). The Influence of Consumers' Need for Uniqueness on Perceived Value and Purchase Intention. Proceedings of 20th International Conference on Industrial Engineering and Engineering Management, 1135–1144. https://doi.org/10.1007/978-3-642-40072-8_112
- Litman, J. A., & Jimerson, T. L. (2004). The measurement of curiosity as a feeling of deprivation. Journal of Personality Assessment, 82(2), 147-157. doi: 10.1207/s15327752jpa8202_6
- Loureiro, S. M. C., Bilro, R. G., & Japutra, A. (2020). The effect of consumer-generated media stimuli on emotions and consumer brand engagement. Journal of Product & Brand Management, 29(3), 387–408. https://doi.org/10.1108/JPBM-11-2018-2120
- Loureiro, S. M. C., Bilro, R. G., & Neto, D. (2023). Working with AI: can stress bring happiness? Service Business, 17(1), 233–255. https://doi.org/10.1007/s11628-022-00514-8
- Loureiro, S. M. C., Romero, J., & Bilro, R. G. (2020). Stakeholder engagement in co-creation processes for innovation: A systematic literature review and case study. Journal of Business Research, 119, 388–409. https://doi.org/10.1016/j.jbusres.2019.09.038

- Lu, Y., & Yang, Y. (2020). Personality and technology acceptance: A meta-analysis and theoretical extension. Journal of Organizational and End User Computing, 32(3), 1–16.
- Lynn, M., & Harris, J. (1997). The desire for unique consumer products: A new individual differences scale. Psychology & Marketing, 14(6), 601-616. https://doi.org/10.1002/(SICI)1520-6793(199709)14:6
- Malhotra, N. K., Birks, D. F., & Nunan, D. (2017). Marketing research: An applied approach, (5th ed.). www.pearson.com/uk
- Mäntymäki, M., Islam, N., & Benbasat, I. (2020) What drives subscribing to premium in freemium services? A consumer value-based view of differences between upgrading to and staying with premium. Info Systems Journal, 30, 295–333. https://doi.org/10.1111/isj.12262
- Marbach, J., Lages, C. R. and Nunan, D. (2016) Who are you and what do you value? Investigating the role of personality traits and customer-perceived value in online customer engagement. Journal of Marketing Management, 32 (5-6). pp. 502-525. ISSN 1472-1376 https://doi.org/10.1080/0267257X.2015.1128472
- Oppong, P., Mensah, J., & Addae, M. (2022). Nexus between Trust, Credibility, Value and Willingness to Pay (WTP) a Price Premium: Intervening Role of Brand Equity in Herbal Industry. (2022). Journal of Marketing and Management, 13(2), 85-104. https://doi.org/10.1080/19435597.2022.2004743
- Rosado-Pinto, F., Loureiro, S. M. C., & Bilro, R. G. (2020). How Brand Authenticity and Consumer Brand Engagement Can Be Expressed in Reviews: A Text Mining Approach. Journal of Promotion Management, 26(4), 457-480. https://doi.org/10.1080/10496491.2020.1719955
- Ross, N. (2018). Customer retention in freemium applications. Journal of Marketing Analytics, 6(3-4), 127-137. doi: 10.1057/s41270-018-0042-x.
- Ruvio, A. (2008), Unique like everybody else? The dual role of consumers' need for uniqueness. Psychology & Marketing, 25: 444-464. https://doi.org/10.1002/mar.20219
- Sandy, C.J., Gosling, S.D. & Durant, J. (2013), Predicting Consumer Behavior and Media Preferences: The Comparative Validity of Personality Traits and Demographic Variables. Psycholy & Marketing., 30: 937-949. https://doi.org/10.1002/mar.20657

- Saw, C. C., & Inthiran, A. (2022). Designing for Trust on E-Commerce Websites Using Two of the Big Five Personality Traits. Journal of Theoretical and Applied Electronic Commerce Research, 17(2), 375–393. MDPI AG. Retrieved from http://dx.doi.org/10.3390/jtaer17020020.
- Schreiner, M., & Hess, T. (2015). Why Are Consumers Willing to Pay for Privacy? An Application of the Privacy-freemium Model to Media Companies. Journal of Business Ethics, 130(4), 851-871. doi: 10.1007/s10551-014-2276-7.
- Sciglimpaglia, D., & Raafat, F. (2022). Freemium marketing: use of demand-side research in market segmentation strategy. Journal of Strategic Marketing, 30(7), 667-690. https://doi.org/10.1080/0965254X.2020.1824013.
- Sweeney, J. C., & Soutar, G. (2001). Consumer perceived value: The development of a multiple item scale. Journal of Retailing, 77(2), 203–220. https://doi.org/10.1016/S0022-4359(01)00041-0
- Varnali, K. (2013). Personality Traits and Consumer Behavior in the Mobile Context. International Journal of E-Services and Mobile Applications, 3, 1-20. doi: 10.4018/jesma.2011100101
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. Decision Sciences, 39(2), 273–315.
- Wagner, T. M., Benlian, A., & Hess, T. (2014). Converting freemium customers from free to premium—the role of the perceived premium fit in the case of music as a service. Electronic Markets, 24(4), 259-268. https://doi.org/10.1007/s12525-014-0168-4.
- Wagner, T. M., & Hess, T. (2013). What drives users to pay for freemium services? Examining people's willingness to pay for music services. In Proceedings of the 19th Americas Conference on Information Systems (AMCIS 2013) Hyperconnected World: Anything, Anywhere, Anytime (pp. 3950-3957).
- Wood, L., Stacy, J., & Swait, J. (2005). Psychological Indicators of Innovation Adoption: Cross-Classification Based on Need for Cognition and Need for Change. Journal of Consumer Psychology, 12(1), 1-13

- Workman, J. E., & Kidd, L. K. (2000). Use of the need for uniqueness scale to characterize fashion consumer groups. Clothing and Textiles Research Journal, 18(4), 227-236.
- Wu, I.-L., & Wang, Y.-S. (2019). The impact of online social network on purchase intention for freemium service. Information & Management, 56(1), 14-27. doi: 10.1016/j.im.2018.08.005.

Appendixes

Appendix A - Online Survey

English v

Qualtrics Surveys Question Demo

Hello,

My name is Filipa Baptista, I am a master student in Marketing at ISCTE Business School.

This survey is part of my master dissertation and will help me understand how people's individual characteristics may affect the purchase of premium services/ products.

This will only take 7 minutes to answer. All answers are anonymous and the data collected will only be used for academic purposes.

I really appreciate your help!

This survey contains codes for Survey Circle and SurveySwap participants at the end.

Thank you for your time,
Filipa Baptista
fcphb@iscte-iul.pt
Prof. Ricardo Godinho Bilro

On a scale of 1 to 5 (being 1 "strongly disagree" and 5 "strongly agree") rate the following statements.

I see myself as someone who:

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl... 1/16$

17/08/23, 16:38		Qualtrics	Survey Software		
	1 (strongly disagree)	2	3	4	5 (strongly agree)
Is sociable	0	0	0	0	0
Has an assertive personality	0	0	0	0	0
Is full of energy	0	0	0	0	0
Generates a lot of enthusiasm	0	0	0	0	0
Likes communicating with others	0	0	0	0	0
Tends to be quiet	0	0	0	0	0
Is reserved	0	0	0	0	0
Is sometimes shy	0	0	0	0	0
I see myself as som	1 (strongly				5 (strongly
	disagree)	2	3	4	agree)
Is generally trusting	0	0	0	0	0
Is helpful and unselfish with others	0	0	0	0	0
Has a forgiving nature	0	0	0	0	0
Likes to cooperate with others	0	0	0	0	0
Is considerate and kind to almost everyone	0	0	0	0	0
Starts arguments with others	0	0	0	0	0
Can be cold and aloof	0	0	0	0	0
Is sometimes rude to others	0	0	0	0	0
Tends to find fault with others	0	0	0	0	0

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl... 2/16$

I see myself as someone who:

	1 (strongly disagree)	2	3	4	5 (strongly agree)
Makes plans and follows through with them	0	0	0	0	0
Is a reliable worker	0	0	0	0	0
Does things efficiently	0	0	0	0	0
Does a thorough job	0	0	0	0	0
Continues until the task is finished	0	0	0	0	0
Tends to be disorganized	0	0	0	0	0
Tends to be lazy	0	0	0	0	0
Can be somewhat careless	0	0	0	0	0
Is easily distracted	0	0	0	0	0
I see myself as som	eone who:				
	1 (strongly disagree)	2	3	4	5 (strongly agree)
Is relaxed and handles stress well	0	0	0	0	0
Is emotionally stable	0	0	0	0	0
Remains calm in tense situations	0	0	0	0	0
Worries a lot	0	0	0	0	0
Is depressed	0	0	0	0	0
Can be tense	0	0 0 0	0	0 0 0	0
Gets nervous easily	0	0	0		0 0 0
Can be moody	0	0	0	0	0

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview? ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl... 3/16$

I see myself as someone who:

	1 (strongly disagree)	2	3	4	5 (strongly agree)
Is original, comes up with new ideas	0	0	0	0	0
Likes to reflect with ideas	0	0	0	0	0
Is inventive	0	0	0	0	0
Is sophisticated in art, music, and/or literature	0	0	0	0	0
Is a deep thinker	0	0	0	0	0
Is curious about many different things	0	0	0	0	0
Has an active imagination	0	0	0	0	0
Values artistic, aesthetic experiences	0	0	0	0	0
Prefers work that is routine	0	0	0	0	0
Has few artistic interests	0	0	0	0	0

On a scale of 1 to 5 (being 1 "strongly disagree" and 5 "strongly agree") rate the following statements.

	1 (strongly disagree)	2	3	4	5 (strongly agree)
I have sometimes purchased unusual products or brands as a way to create a more distinctive personal image	Ο	0	0	0	0
I often look for one- of-a-kind products or brands so that I	0	0	0	0	0

https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibrary1... 4/16

https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibraryI... 5/16

0

they would not seem to accept.

When a product I own becomes popular among the general population,

17/08/23, 16:38		Qualtrics	Survey Software		
	1 (strongly disagree)	2	3	4	5 (strongly agree)
I begin to use it less.					
As a rule, I dislike products or brands that are customarily bought by everyone.	0	0	0	0	0
The more commonplace a product or brand is among the general population, the less interested I am in buying it.	0	0	0	0	0
I avoid products or brands that have already been accepted or purchased by the average consumer.	0	0	0	0	0
On a scale of 1 to 5	(being 1 "stro	ngly disad	aree" and 5 '	'stronaly a	agree") rate
the following statem			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ag. co y teac
	1 (strongly disagree)	2	3	4	5 (strongly agree)
When I see a new or different brand on the shelf, I often pick it up just to see what it is it like.	0	0	0	0	0
I like introducing new brands and products to my friends.	0	0	0	0	0
I enjoy taking chances in buying unfamiliar brands just to get some variety in my	0	0	0	0	0

https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibraryI... 6/16

purchases.

17/08/23, 16:38		Qualtrics	Survey Software		
	1 (strongly disagree)	2	3	4	5 (strongly agree)
I often read the information on the packages of products just out of curiosity.	0	0	0	0	0
I get bored with buying the same brands even if they are good.	0	0	0	0	0
I shop around a lot for my clothes just to find out more about the latest styles.	0	0	0	0	0
Of the following apprones you use or use LinkedIn Spotify Candy Crush Sag Dropbox Hootsuite Grammarly Zoom Canva Mailchimp Tinder Evernote	ed to use:	vith premi	um versions	, please s	elect the
☐ Clash of Clans ☐ None					
	Othe	r			

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl... 7/16$

Regarding the apps/ platforms selected above, please indicate the ones you
paid/ pay the premium version.
LinkedIn
Spotify
Candy Crush Saga
Dropbox
Hootsuite
Grammarly
Zoom
Canva
Mailchimp
Tinder
☐ Evernote
Clash of Clans
None
Other

Bellow you can see the features of LinkedIn Premium. Please consider this information for the next question.

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview? ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl\dots 8/16$



Start my free trial

Get hired 2x faster on average by discovering over 20 million open jobs and exploring valuable resources to help with your search.

Try now





Connect with hiring managers

Show your interest in an open role with InMail. It's 2.6x more effective than emails alone.

Who's Viewed Your Profile



Turn views into opportunities

See who's viewed your profile over the last 90 days, and who looks next.

LinkedIn Learning courses



Sharpen your skills

Hone your skills or try something new — access over 15,000 expert-led LinkedIn Learning courses.

To what extent do you agree with the following statements:

The service features makes me curious.

- O Strongly disagree
- O Disagree
- O Neither agree or disagree
- O Agree
- O Strongly agree

The service features arouses my interest.

- O Strongly disagree
- O Disagree
- O Neither agree or disagree
- O Agree
- O Strongly agree

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibraryl... 9/16$

I would like to learn more about this service features.
O Strongly disagree
O Disagree
O Neither agree or disagree
O Agree
O Strongly agree

For the next question please consider that you have the Premium version of Spotify. These are the features of the premium version.

Why go Premium?







Ad-free music listening.

Enjoy nonstop music.



Play any song.



Unlimited skips.

Just hit next.

In case you don't know Spotify:

Spotify is a streaming platform of music and podcasts. With the free version you get to listen to music and create playlists, however there are radio-like ads in between songs, the music quality is lower, there are limited music skips and when listening on the phone you cannot chose the music to play (it selects a song randomly of the playlist you chose).

The premium version prices are as follow:

- 1 trial month for free.
- A standard Premium subscription costs 6.99€ per month.

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibrar... \\ 10/16$

- If you can prove you're a student, you can get Spotify Premium for just 3.49€ per month.

On a scale of 1 to 5 (being 1 "strongly disagree" and 5 "strongly agree") rate the following statements.

	1 (strongly disagree)	2	3	4	5 (strongly agree)
I plan to use the platform during the next month.	0	0	0	0	0
Using Spotify Premium is enjoyable.	0	0	0	0	0
Using Spotify Premium is pleasant.	0	0	0	0	0
Using Spotify Premium is exciting.	0	0	0	0	0
Using Spotify Premium is interesting.	0	0	0	0	0
People who I appreciate use/ like Spotify Premium.	0	0	0	0	0
My friends would think using Spotify Premium is a good idea.	0	0	0	0	0
Using Spotify Premium improves the way I am perceived.	0	0	0	0	0
Using Spotify Premium makes a good impression on other people.	0	0	0	0	0
Spotify Premium is of good quality.	0	0	0	0	0

17/08/23, 16:38	Qualtrics Survey Software				
	1 (strongly disagree)	2	3	4	5 (strongly agree)
Spotify Premium works reliably.	0	0	0	0	0
I think that Spotify Premium works as I expect it to.	0	0	0	0	0
All in all, Spotify Premium offers value for money.	0	0	0	0	0
All in all, Spotify Premium is a good service for the price.	0	0	0	0	0
All in all, Spotify Premium is cheap.	0	0	0	0	0
All in all, Spotify Premium is expensive.	0	0	0	0	0
Taking into considera what extent do you a Subscribing to the property of the	agree with the	following	g statements:	10 1001	Premium. To
O Strongly disagree					
O Disagree O Neither agree or d	isaaree				
O Agree	isagree				
O Strongly agree					
I think it is positive to	subscribe to	the prem	nium version.		
O Strongly disagree					
DisagreeNeither agree or d	isagree				
O Agree					
https://iscteiul.co1.qualtrics.com/Q/EditSec	ction/Blocks/Ajax/GetSun	veyPrintPreview?	ContextSurveyID=SV_d	ld36FXz0EZumX7	o&ContextLibrar 12/16

17/08/23, 16:38	Qualtrics Survey Software
Strongly agree	
I like the idea of subscribing to the pr	emium version.
O Strongly disagree	
O Disagree	
O Neither agree or disagree	
O Agree	
O Strongly agree	
I believe that it would be good to sub	scribe to the premium version.
O Strongly disagree	
O Disagree	
O Neither agree or disagree	
O Agree	
O Strongly agree	
10 to	tion provided about Spotify Premium. To
what extent do you agree with the fol	lowing statements:
The price of Spotify Premium would	have to go up quite a lot before I would
switch to the free version or another	similar service platform.
O Strongly disagree	
ODisagree	
Neither agree or disagree	
O Agree	
O Strongly agree	

https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibrar... 13/16

I would be willing to pay a higher price for Spotify Premium than another similar service platform.
O Strongly disagree O Disagree
O Neither agree or disagree
O Agree
O Strongly agree
I would be willing to continue to pay for Spotify Premium even if its price increased somewhat
O Strongly disagree
O Disagree
Neither agree or disagree
○ Agree○ Strongly agree
Taking into consideration the information provided about Spotify premium. To what extent do you agree with the following statements:
I would definitely intend to pay for Spotify premium features.
O Strongly disagree
O Disagree
O Neither agree or disagree
○ Agree○ Strongly agree
I would absolutely consider paying for the Spotify Premium features.
O Strongly disagree
https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibrar 14/16

17/08/23,	16:38	Qualtrics Survey Software
0	Disagree	
0	Neither agree or disagree	
0	Agree	
0	Strongly agree	
Iwo	ould definitely expect to pay for the	features that Spotify Premium offers.
0	Strongly disagree	
0	Disagree	
0	Neither agree or disagree	
0	Agree	
0	Strongly agree	
Lwo	ould absolutely plan to pay to acces	ss the Spotify Premium features.
0	Strongly disagree	
0	Disagree	
O	Neither agree or disagree	
Õ	Agree	
	Strongly agree	
Hov	w old are you?	
0	Under 18	
O	18-24 years old	
O	25-34 years old	
Ö	35-44 years old	
Õ	45-54 years old	
Õ	55-64 years old	
\tilde{O}	65+ years old	
	•	
O	oo+ years old	

https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_dd36FXz0EZumX7o&ContextLibrar... 15/16

17/08/23, 16:38	Qualtrics Survey Software
What is your gender?	
○ Female	
O Male	
Other	
Where are you from?	
	~
What is your highest education level?	
O High school diploma or equivelent	
O Bachelor's degree	
O Master's degree	
O Ph.D	
Other	
What is your current employment stat	us?
O Student	
O Working-student	
O Employed	
O Unemployed	
O Retired	

Please click the lower right blue box to complete this survey.

Powered by Qualtrics

 $https://iscteiul.co1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview? ContextSurveyID=SV_dd36FXz0EZumX7o\&ContextLibrar... \\ 16/16$

Appendix B – Demographics Graphs

Figure 8: Education level bar chart

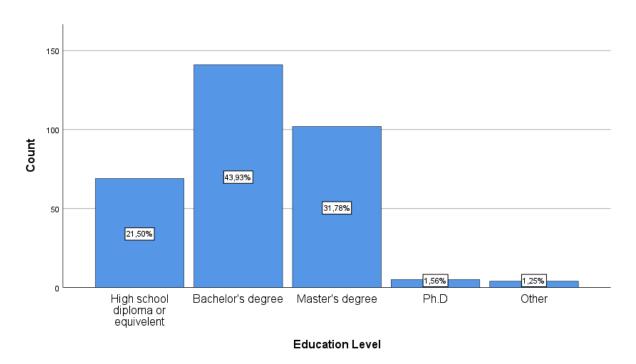
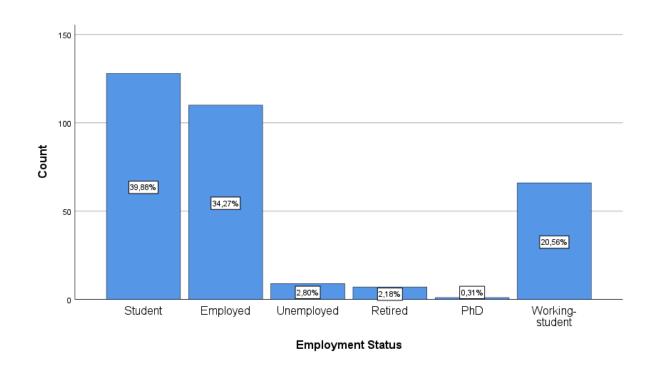


Figure 9: Employment status bar chart



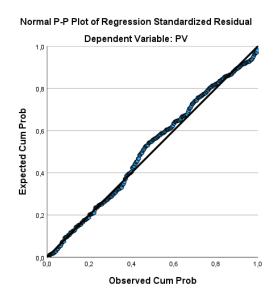
<u>Appendix C – Multiple Regression</u>

Table 26: Correlation between independent and residuals

Correlations										
		Extrav	Agreea	Consc	Neuro	Openess	NFU	NFC	Curi	Unstandardize d Residual
Extrav	Pearson Correlation	1	,179**	,220**	-,236**	,284**	,104	,033	,078	,000
	Sig. (2-tailed)		,001	<,001	<,001	<,001	,063	,557	,162	1,000
	N	321	321	321	321	321	321	321	321	321
Agreea	Pearson Correlation	,179**	1	,271**	-,325**	,048	-,099	-,013	,108	,000
	Sig. (2-tailed)	,001		<,001	<,001	,392	,076	,816	,054	1,000
	N	321	321	321	321	321	321	321	321	321
Consc	Pearson Correlation	,220**	,271**	1	-,222**	,127*	-,102	,048	,207**	,000
	Sig. (2-tailed)	<,001	<,001		<,001	,023	,068	,393	<,001	1,000
	N	321	321	321	321	321	321	321	321	321
Neuro	Pearson Correlation	-,236**	-,325**	-,222**	1	-,037	,032	,080,	-,023	,000
	Sig. (2-tailed)	<,001	<,001	<,001		,506	,572	,152	,676	1,000
	N	321	321	321	321	321	321	321	321	321
Openess	Pearson Correlation	,284**	,048	,127*	-,037	1	,341**	,200**	-,033	,000
	Sig. (2-tailed)	<,001	,392	,023	,506		<,001	<,001	,561	1,000
	N	321	321	321	321	321	321	321	321	321
NFU	Pearson Correlation	,104	-,099	-,102	,032	,341**	1	,477**	,042	,000
	Sig. (2-tailed)	,063	,076	,068	,572	<,001		<,001	,455	1,000
	N	321	321	321	321	321	321	321	321	321
NFC	Pearson Correlation	,033	-,013	,048	,080,	,200**	,477**	1	,162**	,000
	Sig. (2-tailed)	,557	,816	,393	,152	<,001	<,001		,004	1,000
	N	321	321	321	321	321	321	321	321	321
Curi	Pearson Correlation	,078	,108	,207**	-,023	-,033	,042	,162**	1	,000
	Sig. (2-tailed)	,162	,054	<,001	,676	,561	,455	,004		1,000
	N	321	321	321	321	321	321	321	321	321
Unstandardized Residual	Pearson Correlation	,000	,000	,000	,000	,000	,000	,000	,000	1
	Sig. (2-tailed)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
	N	321	321	321	321	321	321	321	321	321

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Figure 10: P-P Plot



^{*.} Correlation is significant at the 0.05 level (2-tailed).

Figure 11: Histogram

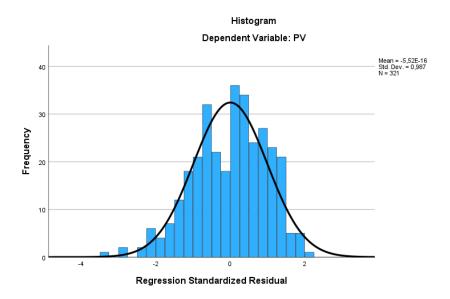


Figure 12: Scatterplot

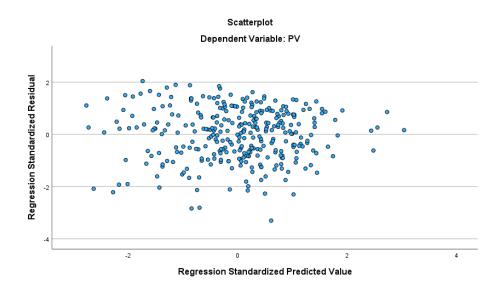


Table 27: Model Summary Personality Traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,131ª	,017	,002	,799

a. Predictors: (Constant), Openess_to_Experience,
 Neuroticism, Conscientiousness, Agreeableness,
 Extraversion

Table 28: ANOVA Personality Traits

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3,529	5	,706	1,104	,358 ^b
	Residual	201,274	315	,639		
	Total	204,803	320			

- a. Dependent Variable: Perceived_Value
- b. Predictors: (Constant), Openess_to_Experience, Neuroticism, Conscientiousness, Agreeableness, Extraversion

Table 29: Coefficients Personality Trais

Coefficients^a

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	2,458	,529		4,650	<,001
	Extraversion	,089	,067	,081	1,333	,184
	Agreeableness	,087	,088	,060	,983	,326
	Conscientiousness	,017	,071	,015	,246	,806
	Neuroticism	,083	,065	,078	1,280	,201
	Openess_to_Experience	,056	,068	,048	,814	,416

a. Dependent Variable: Perceived_Value

Table 30: Model Summary External Influences

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,343ª	,118	,109	,755

a. Predictors: (Constant), Curiosity_T, Need_For_Uniqueness, Need_For_Change

Table 31: ANOVA External Influences

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24,069	3	8,023	14,072	<,001 ^b
	Residual	180,734	317	,570		
	Total	204,803	320			

- a. Dependent Variable: Perceived_Value
- b. Predictors: (Constant), Curiosity_T, Need_For_Uniqueness, Need_For_Change

Table 32: Coefficients External Influences

Coefficients^a

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	2,281	,213		10,733	<,001
	Need_For_Uniqueness	,020	,059	,020	,339	,735
	Need_For_Change	,178	,062	,174	2,867	,004
	Curiosity_T	,221	,045	,261	4,878	<,001

a. Dependent Variable: Perceived_Value

Appendix D – PROCESS macro via SPSS

Table 33: Process for Mediator Perceived Value, with NFU as independent and ATT as dependent

```
Run MATRIX procedure:
****** PROCESS Procedure for SPSS Version 4.2 *******
       Written by Andrew F. Hayes, Ph.D.
www.afhayes.com
   Documentation available in Hayes (2022).
www.quilford.com/p/hayes3
*****************
Model : 4
   Y : ATT
   X : NFU
   M : PV
Sample Size: 321
*****************
OUTCOME VARIABLE: PV
Model Summary
      R-sq
                    F
                            df1
                                 df2
             MSE
                                           р
            ,6336 4,2283 1,0000 319,0000
,1144 ,0131
                                          ,0406
Model
       coeff
                               LLCI
             se
                   t
                                       ULCI
                          р
             ,1364 24,2540 ,0000
                               3,0402
                                       3,5770
constant 3,3086
      ,1120
            ,0545 2,0563 ,0406
                               ,0048
                                        ,2191
*****************
OUTCOME VARIABLE: ATT
Model Summary
      R-sq
            MSE
                    F
                            df1
                                  df2
                                            р
            ,4208 168,0022 2,0000 318,0000 ,0000
      ,5138
Model
                                            ULCI
      coeff
               se
                       t
                                   LLCI
                              р
constant ,8128
              ,1875
                     4,3355
                           ,0000
                                   ,4440
                                          1,1817
NFU
      -,0402
              ,0447
                     -,9004
                           ,3686
                                   -,1281
                                           ,0477
              ,0456
                     18,2911
                                   ,7448
       ,8346
                           ,0000
                                           ,9243
OUTCOME VARIABLE: ATT
```

Model Summary

R ,0469	R-sq ,0022		F ,7033		df2 319,0000	р ,4023
Model						
	t 3,5741	se ,1590 ,0635	22,4	785 , 000	3,2613 3,0716	
*****	TOTAL, D	IRECT, A	ND INDIR	ECT EFFECT	S OF X ON Y	****
Total e	ffect of 2	X on Y				
Effect ,0532			t 8386	,4023	LLCI -,0716	ULCI ,1781
Direct	effect of	X on Y				
Effect -,0402	,044°	_	t 9004	р ,3686	LLCI -,1281	ULCI ,0477
	t effect(: Effect	•		LCI Boot	-тт.ст	
	,0935					
****** ANALYSIS NOTES AND ERRORS ************						

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

Table 34: Process for Mediator Perceived Value, with NFC as independent and ATT as dependent

Run MATRIX procedure:

****** PROCESS Procedure for SPSS Version 4.2 ********

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4

Y : ATT X : NFC M : PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model	Summary					
R	R-sq	MSE	F	df1	df2	р
,2263	,0512	,6091	17,2241	1,0000	319,0000	,0000
Model						

	coeff	se	t	р	LLCI	ULCI
constant	2,8928	, 1698	17,0384	,0000	2,5587	3 , 2268
NFC	,2310	, 0557	4,1502	,0000	,1215	,3406

OUTCOME VARIABLE: ATT

Model Summarv

R ,7163	R-sq ,5131	MSE ,4213	F 167 , 5809	df1 2,0000	df2 318,0000	,0000
Model	coeff	se	t	q	LLCI	ULCI
constant NFC PV		,1952 ,0475 ,0466	4,0950 -,6325	,0001 ,5275 ,0000	,4152 -,1236 ,7449	1,1831 ,0635 ,9282

OUTCOME VARIABLE: ATT

Model Summary

R R-sq MSE F df1 df2 p
,1379 ,0190 ,8463 6,1865 1,0000 319,0000 ,0134

Model

	coeff	se	t	р
LLCI	ULCI			
constant	3,2191	,2001	16,0856	,0000
2,8253	3,6128			
NFC	, 1632	, 0656	2,4873	,0134
,0341	,2923			

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y ******

Total effect of X on Y

Effect se t p LLCI ULCI ,1632 ,0656 2,4873 ,0134 ,0341 ,2923

Direct effect of X on Y

Effect se t p LLCI ULCI -,0301 ,0475 -,6325 ,5275 -,1236 ,0635

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,1933 ,0505 ,0963 ,2958

******** ANALYSIS NOTES AND ERRORS ************

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 35: Process for Mediator Perceived Value, with Curiosity as independent and ATT as dependent

Run MATRIX procedure:

****** PROCESS Procedure for SPSS Version 4.2 *******

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4

Y : ATT
X : Curi
M : PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model	Summary					
R	R-sq	MSE	F	df1	df2	р
,2901	,0842	,5880	29 , 3203	1,0000	319,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	2,7722	, 1541	17,9904	,0000	2,4691	3,0754
Curi	, 2454	, 0453	5,4148	,0000	, 1562	,3345

OUTCOME VARIABLE: ATT

Model	Summary					
R	R-sq	MSE	F	df1	df2	р
, 7159	, 5125	, 4219	167,1806	2,0000	318,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	,7424	, 1853	4,0074	,0001	, 3779	1,1069
Curi	-,0040	,0401	- , 0988	, 9214	-,0829	,0749
PV	,8312	,0474	17 , 5274	,0000	, 7379	, 9245

OUTCOME VARIABLE: ATT

Model Summary

R R-sq MSE F dfl df2 p
,2040 ,0416 ,8268 13,8529 1,0000 319,0000 ,0002

Model

	coeff	se	t	р	LLCI	ULCI
constant	3,0468	, 1827	16,6739	,0000	2 , 6873	3,4063
Curi	,2000	,0537	3,7220	,0002	,0943	,3057

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *******

Total effect of X on Y

Effect ,2000	se ,0537	t 3 , 7220	,0002	LLCI ,0943	ULCI ,3057
Direct ef	fect of X c	n Y			
Effect	se	t	р	LLCI	ULCI
-,0040	,0401	- , 0988	,9214	- , 0829	,0749

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,2040 ,0457 ,1188 ,2957

******** ANALYSIS NOTES AND ERRORS ************

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 36: Process for Mediator Perceived Value, with NFU as independent and PI as dependent Run MATRIX procedure: ****** PROCESS Procedure for SPSS Version 4.2 ******* Written by Andrew F. Hayes, Ph.D. www.afhayes.com Documentation available in Hayes (2022). www.guilford.com/p/hayes3 ***************** Model : 4 Y : PI X : NFU M : PV Sample Size: 321 ****************** OUTCOME VARIABLE: PV Model Summary MSE F R-sa df1 df2 р ,6336 4,2283 1,0000 319,0000 ,1144 ,0131 ,0406 Model coeff LLCI ULCI se t р ,0000 3,0402 constant 3,3086 ,1364 24,2540 3,5770 ,1120 ,0545 2,0563 ,0406 ,0048 ,2191 ************ OUTCOME VARIABLE: PI Model Summary R-sa MSE F df1 df2 р ,7385 114,3600 2,0000 318,0000 ,4183 ,0000 ,6468 Model LLCI coeff t ULCI se р ,0227 ,2484 ,0915 ,9272 **-,**4659 ,5114 constant ,0033 ,0002 **,**9974 **-,**1162 NFU **,**0592 **,**1166 ,9081 ,0604 15,0239 **,**7892 1,0271 ,0000 ************** TOTAL EFFECT MODEL ************* OUTCOME VARIABLE: PΙ Model Summary R-sq MSE F df1 df2 р

1,2588

,0055

,0741

1,7620

1,0000 319,0000

,1853

Model

	coeff	se	t	р	LLCI	ULCI
constant	3,0274	, 1923	15,7453	,0000	2,6491	3 , 4057
NFU	,1019	,0768	1,3274	,1853	-,0491	,2529

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *******

Total effect of X on Y

Effect	se	t	р	LLCI	ULCI
,1019	,0768	1,3274	,1853	-,0491	,2529
•	•	•	,	,	•
Direct	effect of X or	n Y			
Effect	se	t	р	LLCI	ULCI
,0002	,0592	,0033	,9974	-, 1162	,1166

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,1017 ,0543 -,0022 ,2110

******* ANALYSIS NOTES AND ERRORS ***********

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 37: Process for Mediator Perceived Value, with NFC as independent and PI as dependent Run MATRIX procedure: ****** PROCESS Procedure for SPSS Version 4.2 ******* Written by Andrew F. Hayes, Ph.D. www.afhayes.com Documentation available in Hayes (2022). www.guilford.com/p/hayes3 ***************** Model : 4 Y : PI X : NFC M : PV Sample Size: 321 ****************** OUTCOME VARIABLE: PV Model Summary MSE F R-sa df1 df2 р ,6091 17,2241 1,0000 319,0000 ,2263 ,0512 ,0000 Model coeff LLCI ULCI se t р constant 2,8928 ,1698 17,0384 ,0000 2,5587 3,2268 ,2310 ,0557 4,1502 ,0000 ,1215 ,3406 ************ OUTCOME VARIABLE: PI Model Summary df2 R-sa MSE F df1 114,9556 2,0000 318,0000 ,7369 ,4196 ,0000 ,6478 Model LLCI ULCI coeff t se р **,**5265 ,1359 ,2581 ,5989 **-,**3719 ,6436 constant ,5265 ,5989 -,8324 ,4058 ,0714 -,1760 NFC **-,**0523 **,**0629 ,0616 14,9355 ,0000 **,**7986 1,0409 ,9198 OUTCOME VARIABLE: PI Model Summary MSE df1 df2 F R-sq

,0125 1,2499 4,0345 1,0000 319,0000

,1118

,0454

Model	
-------	--

	coeff	se	t	р	LLCI	ULCI
constant	2 , 7965	,2432	11,4988	,0000	2,3181	3 , 2750
NFC	, 1602	, 0797	2,0086	, 0454	,0033	,3171

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *******

Total effect of X on Y

se	t	р	LLCI	ULCI
, 0797	2,0086	,0454	,0033	, 3171
ct of X or	n Y			
se	t	р	LLCI	ULCI
,0629	- , 8324	,4058	- , 1760	,0714
	,0797 ct of X or se	,0797 2,0086 ct of X on Y se t	,0797 2,0086 ,0454 ct of X on Y se t p	,0797 2,0086 ,0454 ,0033 ct of X on Y se t p LLCI

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,2125 ,0555 ,1071 ,3228

******** ANALYSIS NOTES AND ERRORS ***********

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 38: Process for Mediator Perceived Value, with Curiosity as independent and PI as dependent

Run MATRIX procedure:

****** PROCESS Procedure for SPSS Version 4.2 ********

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4
Y : PI
X : Curi
M : PV

Model

PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model	Summary					
R	R-sq	MSE	F	df1	df2	р
,2901	,0842	,5880	29,3203	1,0000	319,0000	,0000

	coeff	se	t	р	LLCI	ULCI
constan	t 2 , 7722	, 1541	17,9904	,0000	2,4691	3 , 0754
Curi	,2454	,0453	5,4148	,0000	,1562	,3345

OUTCOME VARIABLE: PI

Model Summary

R	R-sq	MSE	F	df1	df2	р
,6474	,4191	, 7376	114,7062	2,0000	318,0000	,0000
Model						
	coeff	se	t	р	LLCI	ULCI
constant	,0918	,2450	, 3747	,7081	- , 3902	, 5738
Curi	- , 0337	, 0530	- , 6347	, 5261	- , 1380	,0707

,9197 ,0627 14,6663 ,0000 ,7963 1,0431

OUTCOME VARIABLE: PI

Model Summary

R R-sq MSE F df1 df2 p
,1617 ,0261 1,2326 8,5645 1,0000 319,0000 ,0037

Model

	coeff	se	t	р	LLCI	ULCI
constant	2,6414	,2231	11,8391	,0000	2,2025	3,0804
Curi	,1920	,0656	2,9265	,0037	,0629	,3211

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y ******

Total effect of X on Y

Effect	se	t	р	LLCI	ULCI
, 1920	,0656	2,9265	,0037	,0629	,3211
Direct eff	ect of X o	n Y			
Effect	se	t	р	LLCI	ULCI
- , 0337	, 0530	- , 6347	, 5261	- , 1380	,0707

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,2257 ,0480 ,1349 ,3223

******* ANALYSIS NOTES AND ERRORS ***********

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 39: Process for Mediator Perceived Value, with NFU as independent and WTP as dependent

Run MATRIX procedure:

******* PROCESS Procedure for SPSS Version 4.2 *******

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4

Y : WTP X : NFU M : PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model Summary

R R-sq MSE F df1 df2 p ,1144 ,0131 ,6336 4,2283 1,0000 319,0000 ,0406

Model

coeff se t LLCI ULCI р 24,2540 constant 3,3086 ,1364 ,0000 3,0402 3,5770 ,0048 ,1120 ,0545 2,0563 ,0406 ,2191

OUTCOME VARIABLE: WTP

Model Summary

R R-sq MSE F df1 df2 p ,4857 ,2359 ,6803 49,1010 2,0000 318,0000 ,0000

Model

coeff se t LLCI ULCI р 1,1321 **,**6631 ,2384 2,7816 ,0057 ,1941 constant ,1026 ,0568 1,8064 ,0718 -,0091 ,2144 NFU 9,4731 ΡV ,5496 ,0580 ,0000 ,4354 ,6637

OUTCOME VARIABLE: WTP

Model Summary

R R-sq MSE F df1 df2 p ,1426 ,0203 ,8696 6,6205 1,0000 319,0000 ,0105 Model

	coeff	se	t	р	LLCI	ULCI
constant	2,4814	, 1598	15 , 5277	,0000	2,1670	2 , 7958
NFU	,1642	,0638	2,5730	,0105	,0386	,2897

****** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *******

Total effect of X on Y

Effect	se	t	р	LLCI	ULCI
,1642	,0638	2,5730	,0105	,0386	,2897
•	•	•	•	,	•
Direct ef	ffect of X c	n Y			
Effect	se	t	р	LLCI	ULCI
, 1026	,0568	1,8064	, 0718	- , 0091	,2144

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI PV ,0615 ,0341 -,0035 ,1323

******** ANALYSIS NOTES AND ERRORS ************

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 40: Process for Mediator Perceived Value, with NFC as independent and WTP as dependent

Run MATRIX procedure:

****** PROCESS Procedure for SPSS Version 4.2 ********

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4

Y : WTP X : NFC M : PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model Summary

R	R-sq	MSE	F	df1	df2	р
,2263	, 0512	, 6091	17,2241	1,0000	319,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	2,8928	, 1698	17,0384	,0000	2,5587	3 , 2268
NFC	,2310	, 0557	4,1502	,0000	, 1215	,3406

OUTCOME VARIABLE: WTP

Model Summary

R	R-sq	MSE	F	df1	df2	р
, 4777	,2282	, 6872	47,0010	2,0000	318,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	,8442	, 2492	3 , 3871	,0008	, 3538	1,3346
NFC	,0088	, 0607	, 1456	,8844	- , 1106	, 1283
PV	,5596	,0595	9,4098	,0000	,4426	,6766

OUTCOME VARIABLE:

WTP

Model Summary

R R-sq MSE F df1 df2 p

,1151	,0132	, 8759	4,2817	1,0000	319,0000	,0393	
Model	coeff	se	t	р	LLCI	ULCI	
constant NFC		,2036	12,0983 2,0692	,0000		2,8636 ,2695	
*****	TOTAL, DI	RECT, AND	INDIRECT	EFFECTS	OF X ON Y	*****	
Total ef	fect of X	on Y					
Effect	se		t	р	LLCI	ULCI	
,1381	,066	8 2,0	692	,0393	,0068	, 2695	
Direct e	ffect of	X on Y					
Effect	se		t	р	LLCI	ULCI	
,0088	,060	7 ,1	456	,8844	- , 1106	, 1283	
<pre>Indirect effect(s) of X on Y:</pre>							
		BootSE ,0353	BootLLCI,0646				
********** ANALYSIS NOTES AND ERRORS ***********							

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

Table 41: Process for Mediator Perceived Value, with Curiosity as independent and WTP as dependent

Run MATRIX procedure:

****** PROCESS Procedure for SPSS Version 4.2 *******

Written by Andrew F. Hayes, Ph.D.

www.afhayes.com

Documentation available in Hayes (2022).

www.guilford.com/p/hayes3

Model : 4

Y : WTP
X : Curi
M : PV

Sample Size: 321

OUTCOME VARIABLE: PV

Model Summary

R	R-sq	MSE	F	df1	df2	р
,2901	,0842	,5880	29,3203	1,0000	319,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	2,7722	, 1541	17,9904	,0000	2,4691	3 , 0754
Curi	,2454	, 0453	5 , 4148	,0000	, 1562	, 3345

OUTCOME VARIABLE: WTP

Model Summary

R	R-sq	MSE	F	df1	df2	р
, 4793	, 2297	,6858	47,4234	2,0000	318,0000	,0000

Model

	coeff	se	t	р	LLCI	ULCI
constant	, 9489	,2362	4,0169	,0001	,4841	1,4136
Curi	-,0420	,0511	-,8205	, 4125	- , 1426	, 0587
PV	,5760	,0605	9,5249	,0000	,4570	,6949

OUTCOME VARIABLE:

WTP

Model Summary

R	R-sq	MSE	F	df1	df2	р		
,0999	,0100	, 8787	3,2172	1,0000	319,0000	,0738		
Model								
	coeff	se	t	р	LLCI	ULCI		
					2,1750			
Curi	, 0994	, 0554	1,79)37 , 073	- , 0096	, 2083		
*****	TOTAL, DI	RECT, ANI	O INDIREC	CT EFFECTS	OF X ON Y	*****		
Total e	ffect of X	on Y						
Effect	se		t	р	LLCI	ULCI		
,0994	,0554	1,79	937	,0738	- , 0096	,2083		
	effect of							
	se				LLCI			
- , 0420	,0511	-,82	205	,4125	- , 1426	, 0587		
<pre>Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI</pre>								
	,1413							
= -	, = = = 0	,	,	, –				

****** ANALYSIS NOTES AND ERRORS ***********

Level of confidence for all confidence intervals in output: 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000