



Protein Bars and Packaging: A Sequential
Explanatory Research to investigate the impact of
packaging on consumer perceptions and intention to
purchase in Ireland.

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Abstract

Background: There has been an increasing demand for protein bars in the European markets over the past decade which arises a need for companies to focus and create rightful package for their products as most of these brands offer similar value to the consumers in the market; and packaging is the only way by which these companies can differentiate their products in the retail environment.

Purpose: The purpose of this paper is to explore the perceptions of consumers from different cultural backgrounds towards packaging of protein bars. It mainly emphasizes on developing an understanding of how specific cultural groups assess a protein bar; providing insights into their purchase patterns and shopping behaviors in the retail store and most importantly identifying the factors that influence their purchase decisions.

Methodology: A Sequential Explanatory Research design combining both quantitative and qualitative methods was used to investigate the impact of packaging on consumers from different cultural backgrounds (Europeans, Asians, and Africans) and genders. The data for the quantitative analysis in the first phase was collected from 236 respondents through a structured survey; The SPSS software and R studio were used for statistical analysis. 30 interviews with consumers from different cultural backgrounds were conducted in the second phase for the qualitative analysis. The views of the respondents were interpreted through thematic coding. Triangulations of the results are presented for cross verification.

Findings: The findings of this research through both methods reveal that there are significant differences between the perceptions of consumers from different ethnic backgrounds. It is observed that consumer purchase decisions are highly influenced by one particular attribute such as the nutritional benefits derived; the price attribute or the flavor when they intend etc to purchase a protein bar.

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1. Introduction

This chapter focuses on how the word ‘protein’ became a buzzword in the modern society that is selling a variety of products in the health-conscious consumer market and discusses the reason why most of the companies are now emphasizing on creative packaging and labeling of their products. A decade ago, consumers expressed a lot of interest in healthy snack items that highlighted ‘low fat’ or ‘low sugar’ and attributed protein food only to muscle building. However, Mr. Van De Velde, Senior Vice President of Food Marketing and Innovation for Kellogg’s has said that there has been a paradigm shift in the recent years as people are now embracing low carbohydrate diets and looking for protein and fiber-rich foods that can instantly give them energy (Nassauer,2013). Protein bars are one of those attenuated products which attempt to offer different meanings to different people that are all positive, says Barry Calpino, Vice President of breakthrough innovation for Kraft Foods Group .For instance, a mother might believe that food with protein can give her child the energy needed for a game of soccer and at the same time be helpful for her in the process of weight loss, an office employee may see an energizing protein bar as a better option over a chocolate bar at 5 pm and a fitness freak may consume a protein bar regularly to build or recover a certain muscle. Although protein bars have existed in the market since the 1990s, it is only over the last 5 years that they are increasingly being perceived as a healthier option over the confectionery bars by the mainstream consumers and not just by bodybuilders or athletes.

According to Mordor Intelligence (2018), the global protein market was valued at \$ 468.72 million in 2016, witnessing a compounded annual growth rate of 3.58%; the category of protein bars accounted for almost 56% of the total protein products in 2016. As organizations are making numerous efforts in designing, developing and promoting their products in this specific category, it is essential that their promotional measures productively reach the target audience.

Thus, it is imperative to understand consumer perceptions that motivate and drive their preferences towards a particular brand of protein bar over others.

1.1. Research purpose

The quintessential idea for this research is to understand the perceptions of consumers towards the packaging of protein bars in Dublin, Ireland. Firstly, the study intends to analyze the effectiveness of product aesthetics and attributes (of protein bars) that are remarkably essential for the purpose of branding and communication purposes (Silayoi and Speece, 2007). According to Connolly and Davidson (1996), about 73 percent of the purchase decisions are made at the point of sale on impulse, which makes it extremely important for companies to be aware of consumer perceptions towards their packaging. The package of an FMCG (Fast Moving Consumer Good) product is a crucial factor in the process of consumer decision making as it communicates the features and benefits of the product and at the same time influences the purchase intentions of the consumers to a great extent (Kupiec and Revell, 2001). Consumer intentions intrinsically depend upon the degree of satisfaction that they expect from a product, which is customarily determined by the package apart from the visual advertisements they get to see. Thus companies must take consumer perceptions into serious consideration which can thereby be used to design effective and innovative packaging for the success of their products.

Secondly, this investigation would allow an individual to evaluate the various components of a package that consumers from different cultures pay attention to when they select a bar of protein. Consumers assess and interpret the package in different ways, which is a result of rising incomes and extensive competition in the market that enables them to consume a product according to their own tastes and preferences (de Mooij, 2007). The research is also an attempt to analyze the differences between the perceptions of men and women towards the selection of a protein bar.

1.2. Significance of the study

It is worthy to note that health and convenience are two essential factors which are driving today's breakfast and snack product market. Time- strapped consumers in the 21st century have developed the need for nutritious and convenient breakfast foods. Burrington (2004) elaborated that protein products contain BCAAs (Branch Chained Amino Acids) that are very unique in amino acids and have the ability to provide instant energy to the human body. Moreover, research shows that a higher intake of protein on a regular basis can help individuals with weight management by preserving muscle mass.

One of the recent studies conducted by Straits (2019) shows the increasing protein bar consumption (Figure.1) in the North American markets which is expected to grow by 6.25 % during the forecast period 2019- 2026 as per the study. Interestingly, Mintel (2017) has revealed that 22% of Irish consumers have purchased a protein bar in the past three 3 months; they have stated a staggering 237% increase of protein bar sale between 2012 and 2016 in Ireland and UK alone. All the above mentioned statistical pieces of evidence clearly demonstrate that hectic work schedules and sedentary lifestyles are leading consumers to look at healthier options available in the market; where most of them are showing an interest in purchasing protein bars to supplement their regular diet pattern.

It is important to understand that protein bars by different companies offer more or less the same value to the consumers. It is supremely the packaging and the brand, which influences a consumer to purchase a protein bar in the first instance. No notable research till date has explored the perceptions towards packaging of protein bars which are gaining immense popularity in the digital era. The study conducted as a part of this research is significant as the researcher makes an attempt to understand the perceptions of consumers from different cultural backgrounds and between genders towards protein bars and its packaging in particular. The study intends to dig deeper into the realm of factors (such as age, culture, and gender) to understand if the perceptions of consumers are dependent on any of those factors. The results of the study can, therefore, be significant for industry

practitioners who can implement them in their package designing and promotional strategies.



Figure.1 American protein market (Source - Mordor Intelligence, 2019)

2. Literature Review

Overview

This section has been comprehensively structured in a way that the readers are able to visualize the evolution of protein bars over the years to how we see them today in the retail outlets. It is essential for the readers to understand the various terms used in this study before guiding them through the gaps in the existing literature thus preliminary definitions have been elucidated in the beginning. The researcher in this section attempts to articulate upon existing theories and opinions of various scholars which have been elaborated and discussed in the form of related themes such as the influence of packaging on perceptions, importance associated with the visual and informational components of the package, consumer culture theory to name a few.

2.1. Preliminary definitions

Perception:

Pickens (2005) defines perception as the process by which individuals interpret and organize a response in order to produce a meaningful experience of the world. According to him, this process involves 4 stages that are stimulation, registration, organization, and interpretation. It is the stimulation state that primarily leads to the initial processing of information by the consumers through sensory factors such as sight , touch, smell or taste to name a few.

Branding:

O'Malley (1991, p.107) defined brand as “a name, symbol, design or some combination which identifies the product of a particular organization as having a substantial, differentiated advantage”. Norris (1992) states that a ‘specific brand’ to some consumers may seem like the best of all the available alternatives, while others may respond to it only because they are familiar to it (Dodson, 1991).

A brand essentially builds the image of a product (Montgomery and Wernerfelt, 2002) which ultimately influences the perceived worth of a product.

2.2. Beginning and evolution of protein bars

Protein bars initially made an athletic appearance in the year 1986 and were introduced to the consumers as 'Power Bars' across the American markets. These bars boasted a unique formula that claimed to provide high levels of protein to the athletes and soon created a new segment of athletic protein supplements replacing many of the traditional protein diets (The Bar Shack, 2017).

With changing trends in the health-conscious consumer market, the protein bar manufacturers altered the promotional strategies and positioning of the bars which have today enabled them to enjoy the mass market appeal as a nutritional snack bar. Protein bars initially were marketed to people like hikers and runners who required higher energy levels to meet the demands of their endurance-based activities (Saxena, 2017). However, today most of the consumers who purchase a protein bar represent that segment of the society who are conscious about health and fitness and are not willing to consume a glorified snack bar just because it is easily available or tastes better. These individuals look for an energy source that is long-lasting and not just a short term fix. The researcher, therefore, believes that this is a vibrant and interesting area of research as the trend towards a healthy lifestyle is not going to fade away any time soon.

It is important that marketers understand and are aware of the needs that consumers are trying to meet when they purchase a bar of protein from a retail store. According to Maslow's hierarchy of needs, individuals are motivated to achieve certain goals that stimulate their desire to consume or purchase a product that would necessarily satisfy their needs (McLeod, 2019). However, Gambrel and Cianci (2003) in their research reveal that hierarchy of needs based on a collectivist culture is different from the original model proposed by Maslow which strengthens the worth of this study as the researcher is looking at cultural perspectives towards consumption of a protein bar.

Consumption of protein bars can be mainly attributed to three tiers in Maslow's hierarchy chart which are identified as physiological needs (hunger), social/ safety needs and self esteems needs. Where safety/ social needs are characterized by one's belongingness to a particular group (fitness or health) and self-esteem refers to an individual's desire for more recognition and appreciation in the society he/she is a part of (Maddi, 1977; Maslow, 1970).

Wilson (2019) in one of the recent articles stated that more than half of UK consumers are seeking ways to add "extra protein" to their everyday diets. According to the results of the market research conducted by cereal brand Weetabix, the protein bars of the brand which are more expensive than the original Weetabix recorded a £7 million sales in the year 2018 (The Guardian, 2019). "When the box says 'Protein', shoppers say I'll take it" was an article in the Wall Street Journal which emphasized on the benefits of protein and the ubiquitous addition of various protein products such as protein bars, protein shakes, protein noodles and cookies too, which shows that consumers in the western world are being groomed to look at protein as the apex of healthy eating.

2.3. Influence of packaging on perceptions

Consumers in most of the cases judge the quality of the product according to its package apart from the price component and thereby form perceptions based on visible product aesthetics. Consumers perceive a product to be superior if the package is of high quality and sense it to be inferior if the package is of poor quality (Underwood *et al.*, 2001). He further articulates that consumers imagine the aspects of a product in terms of its taste and feel when they look at the pictures on a package, which is contemplated to be an effective stimulus as compared to textual content. Imram (1999) highlights how consumers perceive certain colors and associate them with product attributes such as flavors and nutrition benefits, for example, green to being organic and pure. Grossman and Wisenblit (1999) claim that brands can achieve a positive image by manipulating package variables such as brand name appearance, nomenclature, use of incident light or even package that would allow consumers to view the food which can all influence the consumers to create a positive attitude for the product. A study conducted on 326 drinkers in the US found out that participants evaluated beers purely on the basis of the

brand labels on them rather than the actual taste of the beer (Allison and Uhl, 1994). This experiment thereby leads to the conclusion that perceptions influence consumer brand preferences than the real products attribute. In one of the studies conducted by Lampert and Glantz (2017), it was found that consumers perceived cigarettes packages in red and darker colors to be full of flavor and stronger as compared to packages in white and lighter colors. The study also revealed that consumers perceived lighter colors to be less harmful as compared to the darker colors which reiterate that consumer perceptions play a significant role in consumer purchase decisions.

However, Vakratsas and Ambler (1999) stated that different consumers perceive different packages in different ways. This statement is conspicuous in the supermarkets as evaluation of attributes becomes less important in low involvement decision making. “At the lowest level of involvement, compliance, an attitude is formed because it helps in gaining rewards or avoiding punishments from others” (Solomon *et al.*, 2002, p.134). This means that consumers are subject to change their preferences when many options are available to them and tend to select the product that highly captures their attention (Mohebbi, 2014). Adding to which, Nancarrow *et al.*, (1998) argues that the package itself is the product in the first place for consumers who make low involvement purchases, where the initial contact with the product has lasting impressions on the consumers. Furthermore, the authors postulate that it is extremely important for firms to enunciate design and other features of the package that stand out as compared to other offerings on the shelves of a retail store.

According to Silayoi and Speece (2004), most of the consumers purchase products under high levels of perceived time pressure and intend to purchase fewer products. When consumers scan through the retail aisles in such circumstances, it is only the differential packaging, positioning, and placement of the product that helps the consumers in recognizing a product or missing out on them (Herrington and Capella, 1995).

Packaging, in reality, is considered as the 5th P in the Marketing mix after Product- Price- Place and Promotion (Nickels and Jolson, 1976). Griffith *et al.*, (2003) in their research focus on how companies must monitor the changes in the tastes and preferences of the

consumers before planning the marketing and packaging strategies. Loucanova *et al.*, (2016) states that all the six functions of packaging (protection, rationalization, guarantee, economic, communication and ecological functions) as identified by Zhang *et al.*, (2001) lead to different perceptions and influence the decision making process of the consumers.

2.4. Significance of packaging elements

Prendergast and Pitt (1996) assert that both visual and informational elements on the package are an emphatic contrivance in communicating product attributes to the consumers which provide a foreground for this research as to relate the importance of understanding consumer perceptions for effective and efficient communication. One of the psychological researches conducted by Rettie and Brewer (2000) claim that brain laterality towards an asymmetry results in the formations of perceptions and attitudes towards package designs and patterns. The research also points out that consumers recall ability is influenced by the lateral positioning of the packaging elements apart from the generally recognized features such as font size, style or color. The study concluded that consumer's recall ability can be maximized if the pictorial details are positioned on the left - hand side of the product.

It has been identified that consumers often perceive elongated packages to be larger and do not revise their volume judgment even after experiencing them to be different for a long period of time provided that the discrepancy is not very large (Raghubir and Krishna, 1999). For example, Prendergast and March (2007) in their research state that low priced generics are packaged in a large size which in most of the cases are perceived as 'excellent value for money' by the consumers, which implies that package size has a stronger influence when the evaluation of product quality is difficult or confusing.

In Coulson's (2015) opinion, consumers are moving towards healthier lifestyles which have brought labeling into prominence in the modern era. The informational elements in the form of labels allow consumers to precisely evaluate a product among the various alternatives available in the market. Information presentation is a key element of the package layout and therefore firms should be creative in these aspects. However a study conducted by Mitchell and Papavassiliou (2010) on food labeling shows that 90 percent

of the respondents agreed that informational elements (which emphasize on ingredients, nutrition value and origin) should be laid out in a similar way for all the food products thus making it easier and convenient for the consumers to read and understand.

Hughes *et al.*, (1998) emphasize on the involvement levels of the consumers which reflects the degree of personal relevance towards a product purchase decision that is internally related to the consumer's self-concepts, goals or moral values. This means that if products do not meet consumer needs (Maslow's hierarchy) and stimulate interest in them, they do not pay attention to them. The lack of commitment and interest infers that the informational elements on the package would relatively carry less importance for a certain segment of consumers.

On the other hand, the highly involved consumers carefully evaluate the details mentioned on the package, thereby relying on this information to form their attitudes and purchase intentions. However, McWilliams (2017) argues that consumers, in fact, do not look at any informational content and mainly rely upon the visual imagery and pictorial elements of the package. Therefore there is a research gap identified to analyze if consumers specifically look at the informational or visual content in the purchase of a protein bar.

2.4.1. Kano's theory of attractive packaging

Packaging function over the years has intensified dramatically as compared to its previous function of merely facilitating storage and protecting the actual product (Jacobs, 1999). Kano and Takahashi (1979) in their research have presented discussions about how companies in the modern world will have to strive to develop, design and provide high-quality packaging to delight their consumers. Professor Kano who was inspired by Herzberg's Motivation - Hygiene theory, along with his co-workers developed the model of attractive quality of packaging (Figure.2) which aims to understand consumer perceptions that evaluate the quality attributes of a product (Kano, 1995). He argues that companies create mediocre products mainly because of their inability to assign relative importance to the right quality attribute as they consider all the attributes to be equally important. Kano's theory basically explains the relationship between the degree of

sufficiency and customer satisfaction derived from a definite single quality attribute. Kano through his research predicts that product attributes are dynamic and change from being indifferent, to attractive, to one dimensional(benefits that lead to satisfaction) to must-have; Lee and Newcomb (2007) in their research adding on have stated that packaging plays a crucial role in communicating the product benefits at every stage as claimed in Kano’s theory. Judd *et al.*, (2012) indicate that consumers buy the benefits that a product offers and search for solutions that create value for them.

Research has shown that consumers make a choice within seconds when they are shopping (Berger *et al.*, 2003) and packaging is their first interaction with the brand that communicates its value and quality. Kano’s theory suggests a perspective of quality where a single attribute is defined in different categories based on a relationship between the physical fulfillment and perceived satisfaction of the consumers.

The researcher thus has taken this theory as a base for some of the questions in the survey questionnaire which aims to understand the perception towards the quality of protein bars.

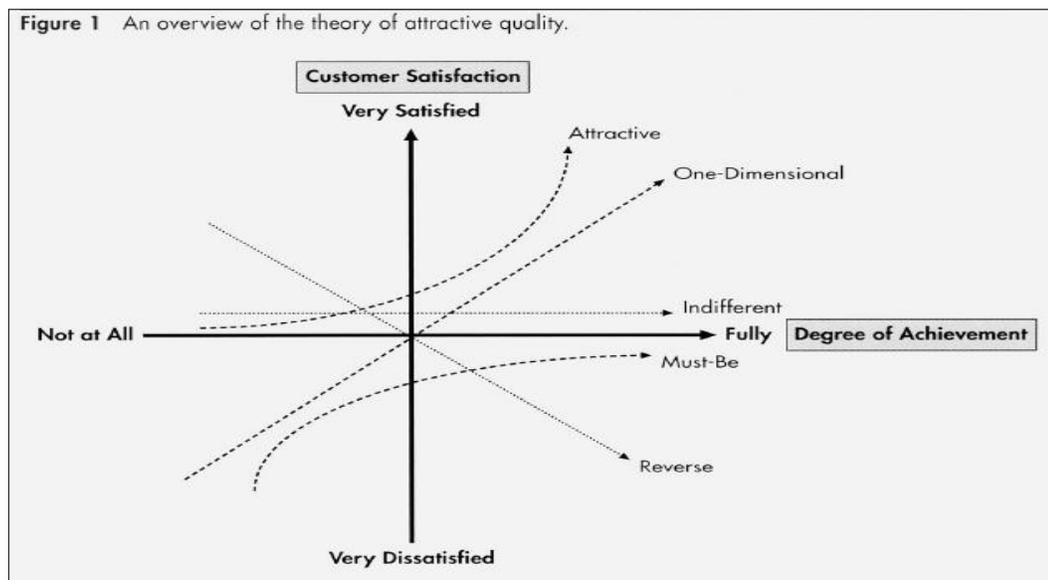


Figure.2 Kano’s theory of packaging (Source- Martin and Whitell, 2005)

2.4.2. Perceptions towards packaging in different cultures.

Most of the studies on consumer responses towards food packaging have been conducted in the Western and Asian regions of the world which shows that consumers in different cultures have different responses towards packaging elements. Supporting which Suh and Kwon (2002) assert that culture immensely influences the consumer decisions which reinforce this study with reference to the existence of differential perceptions towards the packaging of protein bars. On the contrary, Walles (2015) in his professional judgment claims that the basic consumer trends are all similar across cultures and only specific individual responses differ in terms of different products, which is in agreement with the researcher's opinion when it comes to consumption of the protein bars. Song and Im (2018) in their research in Thailand discovered that 84 percent of the respondents were willing to pay a 'reasonably' higher price just to get a nicer package if the food quality of the product was equally high. This may not be the case in the European or American markets. On the other hand, package of the product is associated with status in the Indian markets where consumers would buy products in nicer packages as it projects their status to others in the society.

Many of the research scholars assume the evidence of convergence (standardized marketing across cultures) in the European continent due to the growing economic integration which may or may not be true as the consumption patterns across the various European countries are very different in the researcher's opinion. A research gap is identified here as no intense study till date has been done particularly focusing on the packaging of protein bars in Ireland.

Figure 3 illustrates the statistical evidence of the market value of protein products in the UK in the year 2007, 2012 and 2017, where a constant increase in the sales of protein products can be clearly seen. In 2007 the market value was estimated at around £73 million and reached an astonishing £358 million in the year 2017 (Statista, 2019). Sheth (2011) in his study particularly articulates on how brands in the western world are developing competitive product packaging (Frank and Watchravesringkan, 2016) to be successful in markets with different cultures and ethnicities.

2.4.3. Consumer Culture Theory

A research conducted in the United States of America over the consumption of branded protein bars revealed that close to 0.34 million consumers ate more than 5 packages of protein bars in the last month (Statista, 2018), which means that the demand for protein bars in the American markets is only going to increase in the future and is mainly attributed to the consumers shift towards healthier lifestyle in the suburb regions. Some of the eminent scholars have tried to address the socio-cultural, ideological and experiential dimensions of consumption (Overby *et al.*, 2004). The Consumer Culture Theory (CCT) was developed to understand the dynamic relationship between the market place and consumer actions in a cultural setting (Pittard *et al.*, 2007). The CCT aims to explore the heterogeneous cultural meanings that exist within the framework of market capitalism and globalization (Devi et al, 2015).

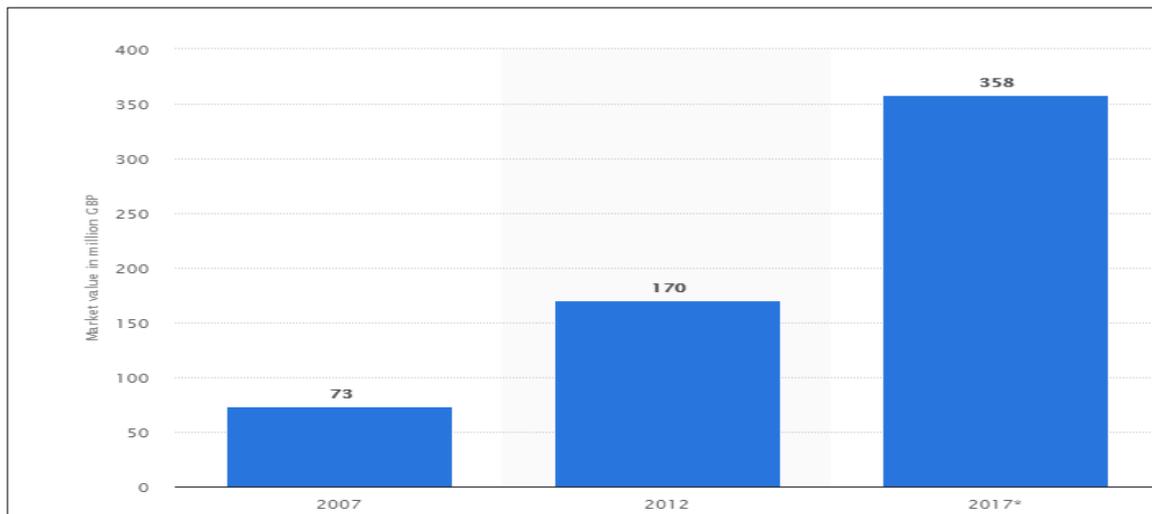


Figure 3 :Consumption of protein bars in America (Source: Statista, 2018)

CCT thus provides a very strong theoretical foundation to this research as it mainly aims to conceptualize the interconnection between the commercially produced texts and images that consumers use to understand their environment (Kozinets and Handleman, 2004). He further claimed that consumers negotiated their own meanings according to specific social situations and also highlights how local cultures are increasingly being influenced due to globalization. Geertz (1983) conveys that CCT assumes culture as a

very important fabric in terms of the customer experience and emphasizes upon the “dynamics of fragmentation” (Featherstone, 1991) or “hybridization” in different traditions or ways of life (Firat and Venkatesh, 1995). The CCT after years of phenomenal research, therefore, has been developed fundamentally to analyze how certain manifestations in the consumer culture can constitute, sustain or transform the consumption patterns in the marketplace.

The theorists in the consumer culture, in reality, do not study consumption patterns; they conduct ethnographic studies within a particular cultural context that facilitate in generating new or extending the existing theoretical insights. Sherry and Kozinets (2001) strongly argue that CCT concentrates on the socio-cultural and experiential aspects of consumption which cannot be determined by quantitative methodologies such as database modeling or surveys as they fail to produce results with empirical evidence. Adding on Wells (2003) observes that understanding ‘lifestyle orientations’ and ‘consumer symbolism’ is critical while implementing successful marketing strategies. Belk’s (1989) seminal research on ‘consumption and possession’ practices corroborates the phenomena identified in the CCT tradition which essentially confers of the aesthetic - hedonistic and ritualistic aspects of consumption.

2.5. Perception of consumers towards packaging symbolism in the process of brand communication

Packaging symbolism is generally related to factors such as convenience, ethnicity, environmental consciousness, prestige and other valuable aspects of a package (Underwood, 2003). He claims that the visual imagery on the package in the form of designs, colors or shapes are critical elements in the shared social assumption of a brand. In his research, Besier (2015) discusses the pro-environmental element in packaging which is becoming huge in the digital era and is often seen as a distinctive feature in the consumer decision-making process.

Interestingly, De Magistris *et al.*, (2011) in their research analyzed the consumer preferences for wine in two countries and found that the Americans gave importance to the quality of the wine and related it with their previous experience on the other hand,

Spaniards emphasized on product aesthetics such as packaging and information on the labels to buy a bottle of wine. Adding to which, Elliot and Barth (2012) discovered that wine consumers in the 19 - 22-year category evaluated the quality of wine on the basis of names, images, and designs on the bottle and also associated brand personalities to their purchase decisions.

Clear evidence of different perceptions among consumers is seen here which is subjective to different cultures. Packaging not only communicates the product features but more importantly projects the brand's image and personality to the consumers which can be one of the influencing factors for purchase (Teddlie and Tashakkori, 2009) . This piece of research would also focus upon the brand preferences of the consumers in terms of selecting a specific brand of protein bar for the first time (due to the influence of the package). Past research has acknowledged that the effort put in designing the package of a product is worth as consumers pay attention to the aesthetic designs and are evoked by it (Kreuzbauer and Malter, 2005). Further, Bloch *et al.*, (2003) established that consumers choose a brand based upon the aesthetics and value derived from the designs on the package. There is no study till date that specifically focuses on protein bars and its branding strategies through packaging, thus a gap is identified.

The further sections would consist of the intended research questions and the methodology that would be used in this particular research.

2.6. Gaps in the existing literature

Kapferer (2008) in his research affirmed that consumer preference towards a particular brand is built over a period of time which is in coherence with their repeated purchases: however, this research intends to learn if this concept is applicable when consumers purchase a bar of protein also and if they intentionally search for their specific brand. Further, Keegan *et al.*, (1992) through their '*Black Box Model*' demonstrated that the consumer mind is similar to a black box which processes the information available in the external environment in order to make a purchase decision (Keller, 2008) that refers to the tangible and intangible features of a product. Thus drawing from this theory, the researcher intends to study if the packaging of the protein bars (tangible) in reality

influences the consumer purchase decisions. The tangible parameters of the *Black box model* refer to elements the Marketing mix and the intangible parameters principally are the attitudes, cultural systems and beliefs of the consumers.

Woo and Won (2007) in their research emphasized on the ‘importance of country of origin of the consumers’ to understand the perceptions behind such purchase intentions which is the very foundation of this research as the main objective is to analyze and interpret the perceptions of consumers towards the packaging of protein bars and how is it different among consumers from different cultural backgrounds.

2.7. Conceptual Framework and Conclusion

The researcher reiterates that the success of a brand does not merely depend on the tangible aspects of the product such as the price, packaging, product range or specifications, etc but essentially builds over time due to the intangible factors of the consumers such as age, cultural backgrounds, beliefs, peer influences and attitudes to name a few. However, no study has linked these components to understand the perceptions of the consumers towards protein bars which are increasingly being consumed by different types of people in the modern era. In this study, we look at the specific attributes that consumers take into consideration to buy a protein bar in order to contemplate as to which one specifically needs to be highlighted on the package such that it creates value for the product in the minds of the consumers.

The researcher as a part of this study developed a framework which aims to identify the perceptions of the consumers linked with their cultural backgrounds and gender. The likeliness of selecting a protein bar among the many options available can be observed through survey and interview responses. The following factors and possible perceptions in terms of purchasing a protein bar have been illustrated in figure 4.

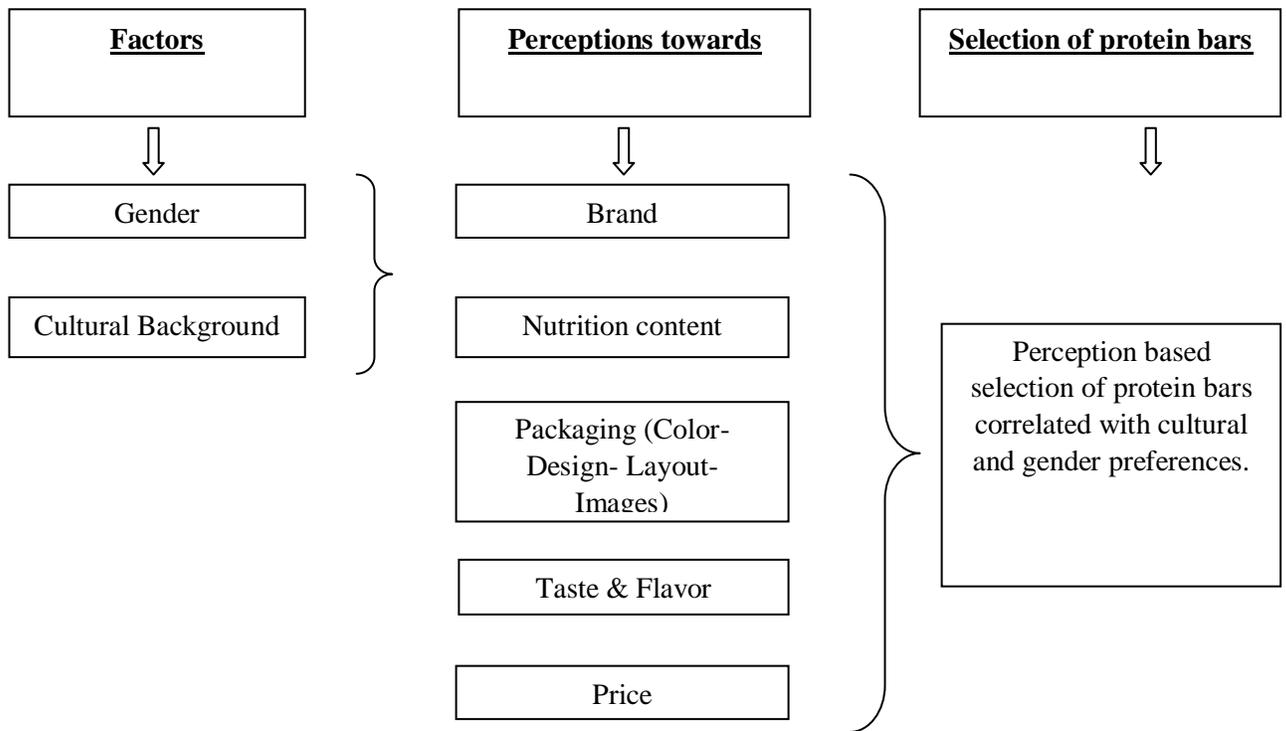


Figure 4: Linking the perceptions of consumers to how they select a bar of protein - Conceptualizing the research framework.

3. Research Objectives

- A. What product attributes do consumers take into consideration when they purchase a protein bar and if there is any difference on the basis of their cultural backgrounds?

Sub-objective (1) - What do consumers look for in a protein bar when they intend to purchase one from the retail store?

- B. How are the perceptions of men different from women towards packaging of protein bars?

Sub-objective (2) - Which product attribute of the protein bar mainly grabs the attention of consumers in the retail shelves?

4. Research Methodology and Research Design

Overview

The researcher planned an explanatory sequential design (Jhonson, 2007) for this study, which predominantly was driven by collection and analysis of quantitative data in the initial phase followed by qualitative data collection and analysis. The need for such an approach is justified as the researcher feels that the broad patterns and relationships uncovered through the quantitative methodology needed cross-validation and required further exploration as the quantitative analysis itself was not able to provide deeper insights in terms of understanding the perceptions of the consumers towards protein bars. Bryman and Bell (p.648, 2015) state that “confidence in the findings derived from one investigation can be enhanced by using different methods of measuring a concept”. A structured survey questionnaire with 23 questions was sent to students in different colleges in Ireland. The initial questions essentially aimed to gain general information about the respondents such as age, country of origin and gender as these were important to frame the variables that lead to different perceptions. The questions in the survey were systematically constructed to lead the respondents gradually through all the questions to understand their perceptions at different levels (questionnaire attached in the Appendix).

4.1. Research Philosophy

This piece of work is a cross-sectional study that is elucidated as a ‘Sequential-Explanatory research’ design which is based on the philosophical underpinnings of ontology and analyzed through a pragmatic approach. Kelemen and Rumens (2008) contend that pragmatism supports the fact that there can be many different ways to interpret the world we live in, and that no single viewpoint can ever give the true picture of an entire scenario (i.e. the existence of multiple realities). The researcher chose the mixed methods approach as it is increasingly being advocated within the marketing and management disciplines. This methodology in practice overcomes the weaknesses

associated with one method and provides scope for a richer approach to data exploration, analysis, and interpretation.

The ground for this research is based on the fact that consumer perceptions acutely influence their purchase decisions which further reflect on their choice for a specific brand in the market (Ilaw, 2014). This comes from a study which states that perceptions not only determine our everyday purchase patterns but in reality also govern the major decisions in our lives such as selecting a university for higher education (Zain *et al.*, 2013) or a hospital for medical treatment (Heiss *et al.*, 2007).

Perceptions allow individuals to interpret the world around to form illustrations that may not be isomorphic to the real world of an individual. Therefore it is crucial to understand these perceptions and also the factors that lead to the formation of perceptions to be able to cater to the consumers in the best way and thereby work on internal marketing strategies for organizational success.

4.2. Research Approach

The researcher principally took a deductive approach in the first phase of quantitative analysis to statistically test the data collected and later incorporates an inductive approach for the qualitative analysis in order to develop richer theoretical perspectives than what already exists in the literature (Greene *et al.*, 2007). The **QUAN**→qual sequence (Figure.5) has been applied in this research where surveys were the main source of data collection and interpretation, followed by semi-structured interviews which had a subsidiary role, mainly to cross-validate the findings derived from the quantitative analysis (Johnson and Onwuegbuzie, 2004). Hanson and Grimmer (2009) found that nearly 12-13 percent of all the articles published in the major marketing journals were a result of mixed methods research. Further, Alise and Teddlie (2010) stated that the proportion of empirical research using mixed methodologies in the United States has increased by almost 15 percent over the past decade. These findings therefore strongly suggest that mixed methods research is progressively being used due to its distinctive strategy that provides credibility to the research through two very different perspectives and thereby justifies the researcher's approach to this study for sound results.

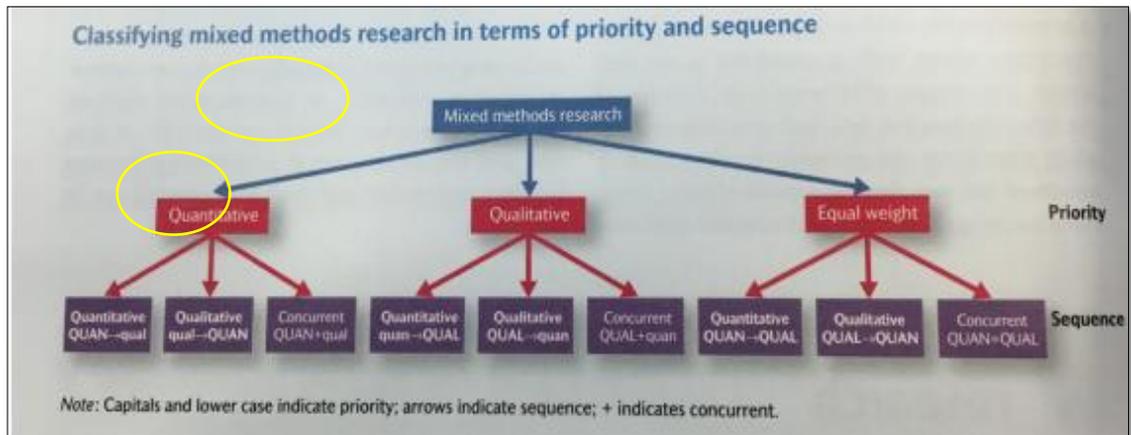


Figure 5. Methodology implemented in this research (Bryman *et al.*, 2008)

Taking a clue from different academic studies and industry practices conducted in the past, the researcher has carved a new way to identify and explore the consumer perceptions towards packaging of protein bars mainly by conducting surveys and interviewing consumers from different regions. Moreover, an in-depth interview was conducted with an industry level expert to get deeper insights from a company’s point of view to learn more about the strategic planning and market research behind the package designing processes.

The end result of this study is to demonstrate the correlation between the perceptions of consumers from different cultural backgrounds towards the packaging of protein bars to reality in terms of validating and investigating their understandings through an introspective survey which was statistically analyzed. The results obtained from the quantitative analysis were later verified with the results of the qualitative data to evaluate if they were converging or not (Guest, 2013) which is defined as the point of triangulation in this study.

The researcher used the SPSS statistical software and the R studio to interpret the numerical data collected through surveys in the first phase of this study. The data obtained is defined as categorical data which refers to data classified into sets/categories

according to the characteristics that have been used to describe a particular variable (Brown and Saunders, 2008). On the contrary, the second phase of the study was carried out with a reflexive approach to evaluate and interpret unconscious responses towards the visual stimuli (package) and thereby comparing it with the available theoretical concepts and the results from the quantitative analysis. The main motive here was to identify themes and patterns in the data collected through the interviews to understand deeper meanings behind the perceptions of the consumers toward the packaging attributes and thus a thematic analysis was done. “A thematic analysis is a technique used to analyze qualitative data that involves the search for themes, or patterns occurring across a data set” (Saunders *et al.*, 2016, p.729). There are different ways to approach the thematic analysis in qualitative research; however, Braun and Clarke’s six-phase framework (Figure.6) was in this research as it requires an organized and unvarnished *modus operandi*; and is highly preferred by the qualitative researchers.

Step 1: Become familiar with the data,	Step 4: Review themes,
Step 2: Generate initial codes,	Step 5: Define themes,
Step 3: Search for themes,	Step 6: Write-up.

Figure 6 :Braun and Clarke’s six-phase framework.

4.3. Research Strategy

Several researchers have connected various factors such as age, demographics and income levels to understand the perceptions of consumers towards different aspects of packaging for various products. Moreover, both quantitative and qualitative methods individually have been used to analyze the consumer perceptions towards product packaging where some scholars have primarily focused on package attributes through statistical testing, and others supremely focused on the perceptions and attitudes of the consumers or the factors leading to their perceptions. The researcher finds that the quantitative findings were parallel with the quantitative findings in most of the situations. However, there is scope for further research here, as studies conducted in the past

were on different products at different time intervals and in different regions which can be one of the reasons for the similarity or the differences.

The researcher confirms that there is no research till date done to the understand consumer perceptions towards protein bar packaging in particular and that previous studies have focused on cereal bars and energy bars especially in the western parts of the world. The next section hereby will explain the research process and procedures in detail.

4.3.1. Collection of primary data:

Phase I

The researcher in the first phase of quantitative analysis used an open-source known as 'Google Forms' to collect data through surveys. The survey questionnaire was designed to understand what product attributes of a protein bar influenced the purchase decisions of the consumers and what packaging attributes mainly grabbed their attention when the protein bars are placed on the retail shelves. The questions in the survey were framed on the basis of the theories stated in the literature review and various other theoretical concepts related to the importance of packaging. The survey was sent to students in National College of Ireland, Dublin Business School, and Trinity College Dublin. The student support team of NCI also helped the researcher by circulating the survey to the entire international student body in the college which facilitated a staggering response rate from 236 individuals which is more than sufficient for the statistical analysis. The survey questionnaire was sent to respondents through email and the social networking application 'Whatsapp' which took about 10 minutes to complete.

The student population was specifically chosen for this study as the researcher's everyday observation in college was convincing to state that the students were very well aware of the protein bars. Some students consumed the protein bars as a quick snack whereas others consumed it after a gym session, and thus the protein bars were not new to them. The consumers, in general, were not chosen for the sample as there could be high chances of the survey reaching an audience who might probably not be aware of a protein bar at all. The snowball sampling technique was used to reach the student population in

different colleges where the respondents recruited other individuals to take part in this study which is greatly appreciated as getting responses from 236 individuals within such a short time slot was not easy.

Phase II

The researcher in the second phase of qualitative analysis conducted in-depth interviews with a sample of **30** students. Students were randomly requested in the college premises to participate in the interviews if they were interested. 10 students each from Europe, Africa, and Asia were interviewed which ensured that there is equal representation of all cultural backgrounds with an equal number of men and women such that the sample is unbiased (Figure.7). These were face to face semi-structured interviews with 6 questions with each individual. The main idea was to understand the perceptions of the consumers towards the packaging of protein bars and if it differed according to gender and region of origin or cultural backgrounds. The respondents were first asked to describe their experience of buying a protein bar, as to what made/makes them buy a specific brand among the many alternatives available in the retail outlet. Furthermore, they were shown 4 different brands (similar flavors were chosen to ensure that all the protein bars more or less offered the same level of satisfaction to the respondents) and were asked to choose one and explain why they selected it (qualitative questionnaire attached in the appendix). The design and layout on the package of each brand being different from each other assured that the respondents took time to evaluate individual packaging in order to give honest and genuine opinions.

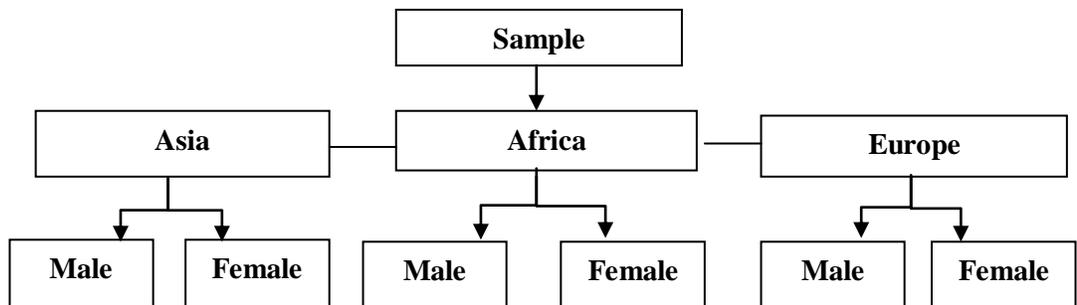


Figure.7 Sample design for the interviews

The questions in the interview were open-ended which allowed the respondents to express their opinions freely. A purposive sample was used at this stage to ensure a true representation of individuals from different regions for proper interpretation of the data collected.

“Purposive sampling is a procedure in which the judgment of the researcher is used to select the cases that make up the sample” (Saunders *et al.*, 2016). The interviews were conducted within the college premises, as it was convenient for both the researcher and the respondents to access classrooms for a one to one discussion about the protein bars.

The mobile application known as ‘Otter’ was used to record the interviews, which transcribed the content simultaneously. Rundh’s (2016) famous study which mainly focuses on packaging elements in value creation for consumers used case studies and interviews to analyze data for analysis and interpretation. And thereby the researcher believed that this approach in the second phase would be the best approach to get deeper insights into the minds of the consumers.

Triangulation:

Qualitative researchers avoid numbers and focus more on what can be learned about people on an individual level rather than the shared social and cultural experience (Fuller, 2017). On the contrary, quantitative researchers argue that the results of a study are not considered valid and reliable if it cannot be numerically proven. Thus, it is fair to state that a combination of research methods make the study seem more ‘objective’ (Schoonenboom and Johnson, 2017). The technique of ‘triangulation’ enables the use of different samples, time frames, methodological approaches to provide us with greater faith in the findings (Barnham, 2015). “The concept of triangulation was initially borrowed from the navigation and land surveying techniques which determined a single point in space with the convergence of measurements that are taken from two distinct points”(Rothbauer,2008, p.892).

In behavioral studies, the term triangulation has been defined as a “method of cross-checking data from multiple sources to search for irregularities in the data collected”

(O'Donoghue and Punch, 2003, p.76). Altrichter et al., (2008) contended that a triangulation approach in research gives a much more balanced and detailed picture of a particular scenario. Methodological triangulation was used in this research where two different methods were used for data collection- survey and interviews.

The results from both qualitative and quantitative data were compared at a later stage to check if there were any similarities or not. The triangulated findings finally in the discussions section are compared with the existing literature and theories for a comprehensive discernment (Figure.8)

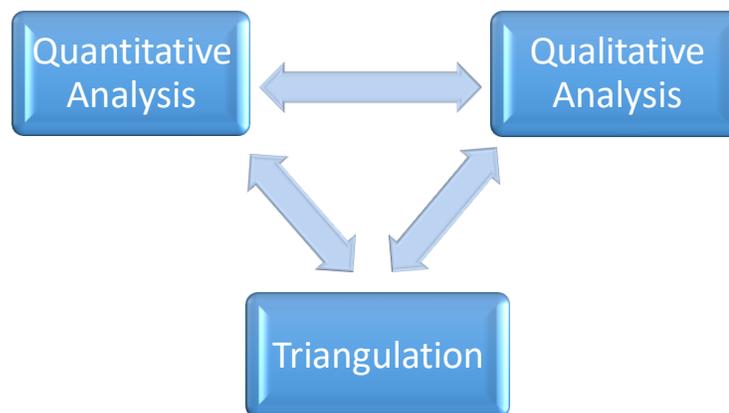


Figure 8: Triangulation approach used in this research

4.3.2. Nature of the data

Phase I

The data collected in the first phase of this research is quantitative in nature. The students were asked to fill in a survey that was designed using the 'Likert Scale' to get an idea about what consumers (students) felt about certain attributes of the protein bar. The questions particularly emphasized on what packaging attributes mattered to them (colors, font size, texture, information content, etc) and why they consumed protein bars if they assessed the quality of a protein bar based on its packaging, etc. All the data gathered was saved in excel sheets and a codebook was later made for analysis in the SPSS software.

Phase II

The data collected in the second phase of this research is qualitative in nature. The respondents in this stage were asked to explain their journey of buying a protein bar from the moment they step into a retail outlet until the final purchase. Each interview was conducted for about 10-12 minutes inside the college premises. The display of different brands of protein bars enabled the researcher to carefully observe the respondents during the interview as to what aspects were they mainly paying attention to.

The interviews were recorded through the 'Otter' mobile application which transcribed the content at the same time and facilitated coding easily. This content was later converted into word files to find themes emerging from the various interviews.

4.3.3. Approach to Data Analysis

- I. The data collected in the first phase of this research being quantitative in nature required statistical analysis. A codebook was made using the SPSS software to explain the different parameters used to answer the primary research questions. Most of the studies on packaging in the past have been conducted using statistical tests by defining hypothesis in context, thus the researcher on similar lines began the study with a quantitative approach to answer the questions central to the research. The data collected from the students of three different colleges can be extrapolated to students in general; thus this is an inferential statistical analysis. The hypothesis was proposed and tested for relevance using an extension of the Kruskal Wallis 'H'- Test which is known as the 'Scheirer - Ray- Hare test' in R. The analysis only focuses on the Asians, Africans, and Europeans.

“The Kruskal - Wallis test is a non- parametric alternative to the between-groups analysis of variance which enables us to compare the scores on some continuous variables for three or more groups” (Pallant, 2016). The 'Scheirer - Ray- Hare Test' is a statistical test that is used to examine if a single component is affected by two or more variables; it is considered as one of the non- parametric tests which is equivalent to the one-way analysis of variance. The R studio was used to

test the hypothesis in this section as the SRH test can only be used in R. The R studio is an integrated suite of software solutions that are extensively used for statistical analysis, graphical displays and data manipulation and is highly regarded by many renowned statisticians (R -project.com, 2019).

The researcher would like to highlight that some studies have specifically focused on understanding the factors leading to perceptions in the minds of the consumers. For example, Srinivas *et al.*, (2014) in their research attempt to find out if age should be considered as an important factor behind the perceptions of consumers in the luxury market. Their results revealed that different age groups perceived product aspects at different levels; that the perceived social, functional and individual value after purchasing a luxury product differed among different age groups. The authors used the Kruskal Wallis - H test with a statistical significance value of 0.005 which observed that there was a high difference in the snob value of the perceptions among different age groups (0-25, 26-30, 31-35, 36-40 and more than 50 years). The use of Kruskal Wallis test, therefore, is the most suitable for this study.

The first question '*What product attributes do consumers take into consideration when they purchase a protein bar?*' was analyzed on the basis of students from different regions (Asia- Africa and Europe). The Kruskal Wallis test is specifically used for 'between groups' analysis and thus different people must be in each of the different groups. The test does not require the data to be derived from a specific distribution and can be used for both ordinal and continuous variables, which thereby makes it the best test for this study. The 'H- test' value derived will be measured with the Chi-Square critical value at 95% confidence level to test the statistical significance. If the derived 'H' value is greater than the Chi-square critical value at the corresponding degree of freedom, then the null hypothesis proposed will be rejected; and in the opposite scenario, it can be concluded that the null hypothesis cannot be rejected as there is no evidence present. The same procedure will be followed to answer the second question

‘Which product attribute grabs the attention of the consumers when they see a protein bar on a retail shelf?’ which will be analyzed on the basis of gender.

II. The data collected in the second phase of this research is qualitative in nature wherein the interviews were audio-recorded and subsequently transcribed on a mobile application known as ‘Otter’. Careful attention was paid not just to what the respondents said during interviews but also the way they said it. The data was derived from the interviews to answer the sub-objectives –

1. *What do consumers look for in a protein bar when they intend to purchase one from the retail store ?*
2. *Which product attribute of the protein bar mainly grabs the attention of consumers in the retail shelves?*

The data in the form of different transcripts was integrated into a systematic format to identify key themes and patterns for further exploration which were later tested with existing theories mentioned in the literature review and relationships were drawn.

The researcher conducted a *pilot test* with 2 individuals before the actual interviews to assess if the flow of the question flow was understandable to the respondents and to ensure that the real interviews got completed within 10-12 minutes.

The researcher also got an opportunity to interview the Marketing Director of Glanbia, Ireland - Mr. Robert Blythe who has an experience of 17 years in the industry. Glanbia is an Irish global nutrition company which is operating in more than 32 countries (Glanbia.com, 2019). The company offers a wide range of protein bars to the consumers and is in a leading position in the sports nutrition market. The interview was conducted at the Glanbia office in Dublin to mainly understand the company’s perspective towards packaging of protein bars. The information collected through this interview was used to supplement the triangulated results of the study.

Thus, the main questions of this particular research drive the entire study whereas the sub-objectives have been analyzed through a thematic analysis to verify the results of the quantitative results and to dig deeper into the perceptions of the consumers.

4.3.4. Ethical considerations

The data collected for the purpose of this research does not contain any sensitive information related to the respondents who participated in the survey and the interviews and is anonymously presented in the study. The respondents were informed in advance that the research is being conducted as a part of the academic curriculum and the information collected will only be used for the study intended. The participants were asked to read the information sheet which provided all the details of the research being conducted and only participated in the interview if they wished to. The consent of the participants was taken in the form of their signatures in a document and remains safe. The participants had the choice to leave the interview at any point of time if they didn't wish to continue further. All the data gathered through the interviews is with the researcher and has been saved in a USB device in the strictest confidentiality.

4.3.5. Limitations

The results of this particular research cannot be extended to other industries as the study only focuses on the perception of consumers towards packaging of protein bars in Ireland. Secondly, they should not be generalized as the sample size is very small when compared with the entire population of Ireland. The sample only represents the student population of 3 different colleges and thus it is important to know that the results of the study may not be applicable to the general consumers. Hiller (2010) states that most of the perceptual and mixed-method studies are to be conducted in longer durations, as a lot of time is required to analyze and interpret the data. However, this research had a time limitation of three months and was completed within the given time period.

Conclusion:

Thus, with reference to all the literature available to date, this particular topic would allow the researcher to meaningfully contribute to the existing body of knowledge. The research in terms of understanding the consumer perceptions towards the packaging of protein bars will provide insights as to how companies can innovate and design their products in order to appeal to the mass market and thereby lead the success of a brand. The quantitative data analysis and findings are presented in the next section of this research.

5. Quantitative Data Analysis and Findings

Overview

This segment briefly presents the analysis and results obtained in two different phases where the first phase of the study is quantitative analysis followed by the qualitative analysis. The findings have been triangulated to compare the survey results from 236 respondents with the interview results from 30 respondents of different cultural backgrounds. The analysis has been presented in a systematic manner to ensure that the readers get an overall understanding of this research.

5.1. Checking the reliability of the scale

There are many pre-existing validated questionnaires available which could have been used by the researcher; however, a thorough review of literature of this study required designing a new questionnaire to ensure that accurate and appropriate data is collected to find solutions for the research objectives in context. Reliability and validity are two important characteristics of a scale that determine the quality of the data collected (Briggs and Cheek, 1986). The reliability of a scale reveals how error-free the dataset is and thereby provides confidence to the research being conducted. The internal consistency of a scale is used to assess the degree to which all items/contents in a scale ‘hang together’. The internal consistency can be measured in many ways but the *Cronbach’s Coefficient Alpha* using the IBM SPSS software is the most preferred and is highly regarded by eminent research scholars. The Cronbach’s Alpha test projects an average correlation between all the items in the scale where higher values indicate greater reliability and validity of the data obtained through a questionnaire. Nunnally (1978) states that a minimum level of 0.7 indicates good content and constructs validity of the data collected.

The researcher designed a questionnaire using the ‘Likert scale’ with 23 items (Figure.9) to understand the perceptions of the consumers at different levels and tested the data obtained with the Cronbach’s Alpha test which gave a result of 0.909 (Figure.10) confirming that the data obtained through the questionnaire is valid and reliable in its best format.

Item Statistics			
	Mean	Std. Deviation	N
Price_Attribute	2.43	1.288	236
Brand_Attribute	2.83	1.324	236
Nutrition_Content_Attribute	2.56	1.494	236
Quality_Taste_Attribute	2.31	1.353	236
LOGO_Attribute	2.93	1.265	236
Convenience_Storage_Attribute	2.73	1.203	236
Attention_to_detail	2.89	1.369	236
Influx_Information	2.59	1.246	236
Little_Information	3.36	1.357	236
Nutrition_Content_QA	2.17	1.396	236
Packaging_QA	2.77	1.195	236
Price_QA	2.44	1.221	236
Brand_QA	2.68	1.233	236
Taste_QA	2.22	1.221	236
Strength_Power	2.50	1.263	236
Health_Benefits	2.29	1.309	236
Fitness_Goals	2.41	1.332	236
Refreshment	2.56	1.302	236
Color	2.75	1.216	236
Design_shape	2.89	1.141	236
Images	2.83	1.188	236
Texture	2.80	1.193	236
Unique_packaging	2.69	1.229	236

Figure.9 Items in the questionnaire and the Cronbach's Alpha Score

Scale: ALL VARIABLES			
Case Processing Summary			
		N	%
Cases	Valid	236	100.0
	Excluded ^a	0	.0
	Total	236	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.909	.909	23	

Figure.10 Cronbach's Alpha Score obtained.

5.2. Demographic presentation of the sample

The demographics of the respondents in the survey represent 34.4% female and 64% male (Figure.11) and their age groups have been illustrated in Figure.12

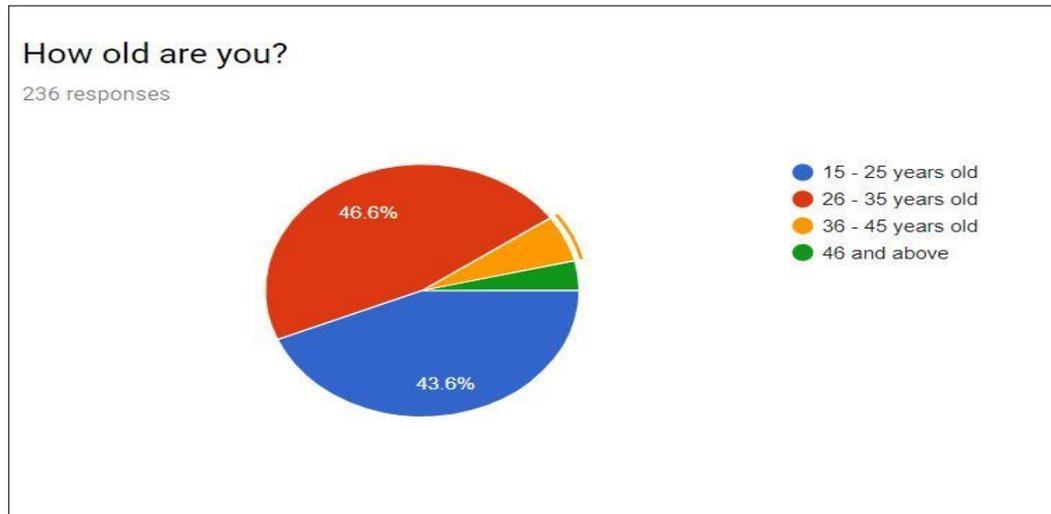


Figure.11 Age distribution of survey respondents

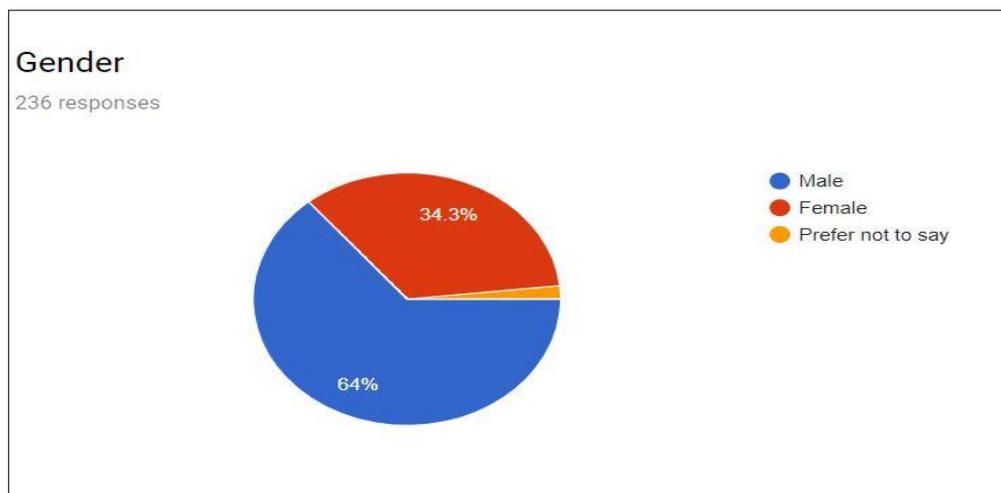
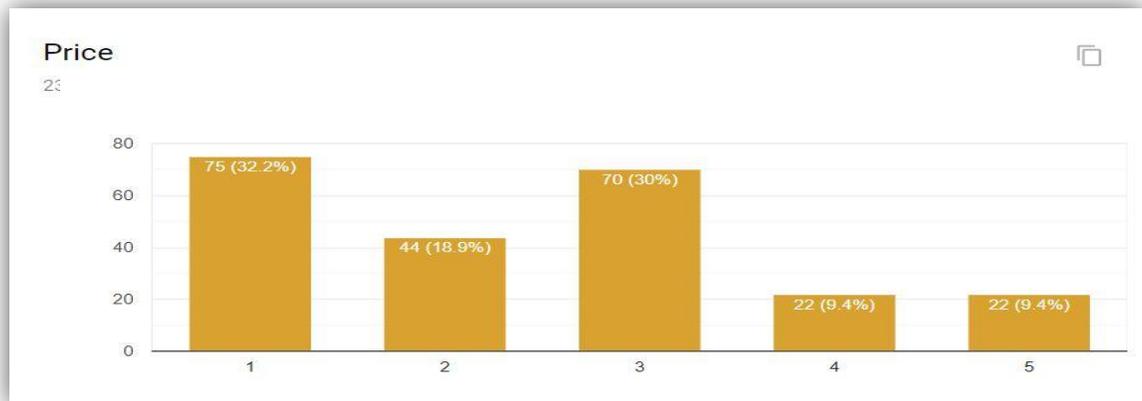


Figure.12 Gender distribution of survey respondents

5.3. Research Objective 1

A. *What product attributes do consumers take into consideration when they purchase a protein bar and if there is a difference between their perceptions in terms of their cultural backgrounds?*

The researcher's observation conveys that consumers predominantly look at the price, nutrition content, taste / flavor, brand and packaging when they purchase a protein bar from a retail store. The overall analysis of consumers, in general, concedes that 32.2% of the individuals strongly agree that price is crucial for them, 35.3% specifically look at the nutrition content, and 39.1% have expressed a strong inclination towards the taste and flavor of the protein bar (Illustrated in Figure.13). However, the principal goal here is to know if there is any difference between the perceptions of consumers from different cultural backgrounds towards these attributes.



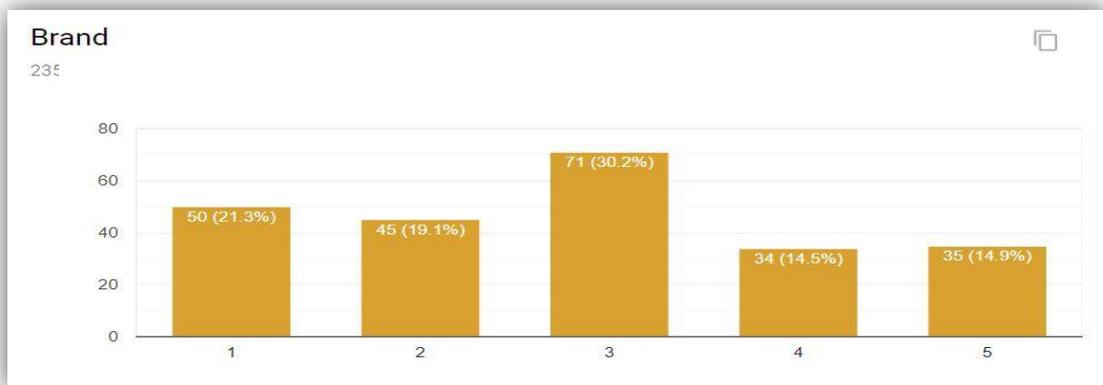
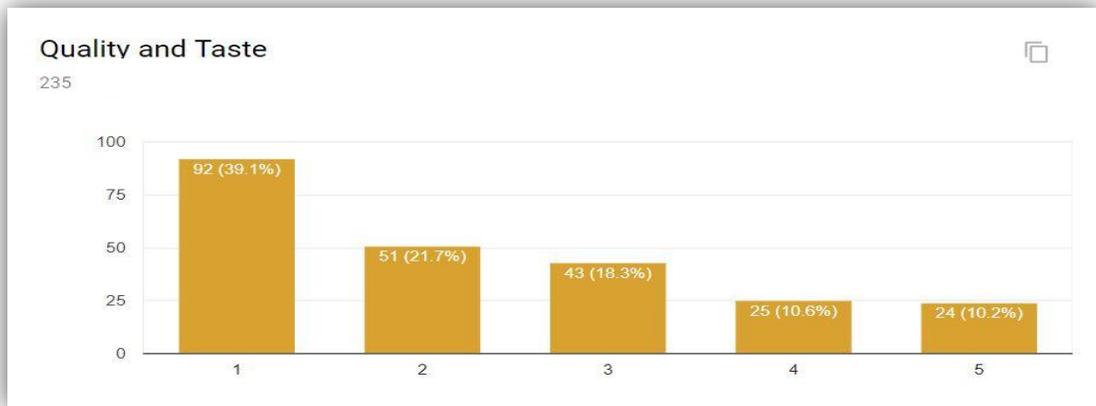
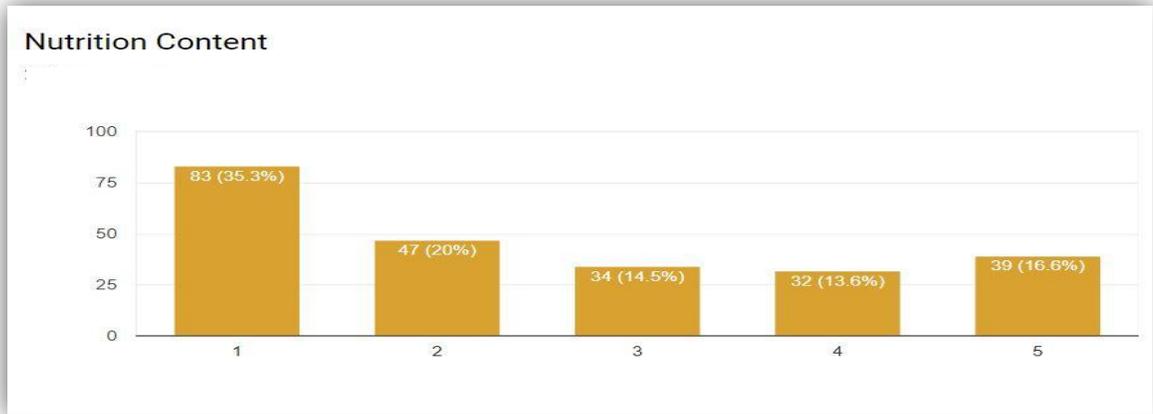


Figure.13 Graphical presentation of consumer attribute preferences.

Figure 14 shows the cultural backgrounds / the countries of origin of the respondents who participated in the survey; however, the study will only consider the consumers from Asia, Africa, and Europe as respondents from other parts of the world are very small in number and therefore insignificant for this research in particular. The researcher tests the hypothesis to know if there is any difference between the perceptions of the consumers by applying the Scheirer- Ray- Hare (SRH) test as it considers multiple factors and multiple levels at the same time unlike the Kruskal Wallis H test that only considers one attribute and one factor at a time. The R studio was used to run the SRH test as it is not supported by the SPSS software.

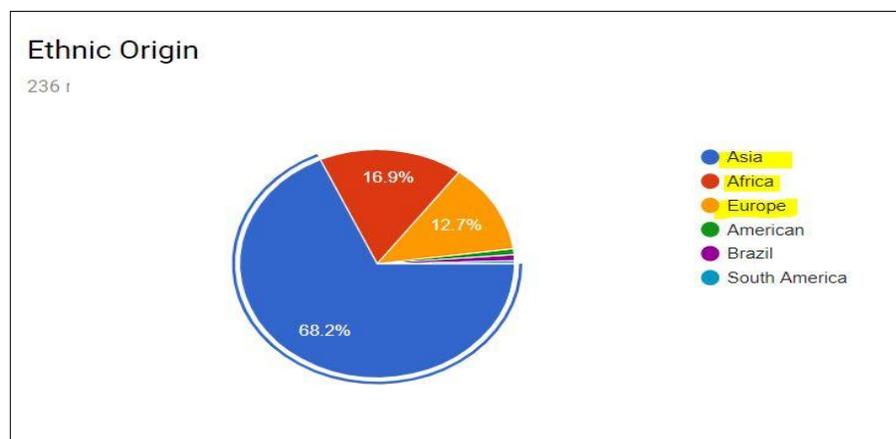


Figure.14- Cultural backgrounds of the survey respondents

Hypotheses - Thus, considering the literature review, conceptual framework and the research objectives the researcher hereby framed the following hypothesis in the first phase of quantitative analysis of this study.

H₀ - There is no significant difference between the perceptions of consumers from different cultural backgrounds.

H_a - There is a significant difference between the perceptions of consumers from different cultural backgrounds.

Output of the test:

The researcher demonstrates 95% confidence level in the data which is justified by the Cronbach's Alpha reliability score that statistically proves the data collected as valid and reliable with the result obtained as **0.909**. Thus, if the critical value or the P-value as it generally is called after conducting this statistical test is greater than the cut-off value set (which is 0.05) will mean that the null hypothesis has to be rejected and the alternate hypothesis has to be accepted. On the contrary, if the P-value is less than 0.05 then the null hypothesis will be accepted and the alternate hypothesis will be rejected.

The relative importance of attributes in a protein bar:

The researcher to answer the first objective relates the cultural background of consumers as the dependent variable with their perceptions towards different attributes of the protein bar as independent variables which is illustrated in the conceptual framework by using the SRH test in the R studio. The P-value derived from the test is 0.07423 (Figure .15) which is greater than the significance level of 0.05, therefore we reject the null hypothesis (H_0) and accept the alternate hypothesis (H_1) which statistically validates that there is a significant difference between the perceptions of consumers from different cultural backgrounds.

```
> scheinerRayHare(Value ~ Region + Attribute , data = EthnicityAttributeData)
DV: Value
Observations: 1416
D: 0.9497201
MS total: 167206

      Df    Sum Sq    H p.value
Region      2    345593    2.176 0.33684
Attribute    5   6883301   43.346 0.00000
Region:Attribute 10   2700517   17.006 0.07423
Residuals  1398  214771042
```

Figure.15 Output - SRH test on the basis of cultural backgrounds

Thus, there arises a need to find out the individual relationship between the consumers from a specific ethnic background and their preferred attributes when they purchase a protein bar. To get deeper insights the researcher applied the *Pearson's Chi-Square Test* of independence in the SPSS software to find the correlation between the two categorical variables with more than two levels.

The R studio was used to split the original data set to combine the data in the form of input from two different cultural groups. The following three possible combinations were constructed -

Dataset 1 - Asia and Africa

Dataset 2 - Europe and Asia

Dataset 3 - Europe and Africa

Each of the new datasets is now tested with the Pearson's Chi-Square test at the same significance level of 0.05. The combined datasets were tested on the basis of five different attributes with the SRH test that are brand, price, nutrition content, taste/ flavor and images on the package. The following hypothesis is framed to analyze the three data sets and the analysis is presented orderly in different sections. The findings from the tests are discussed in the next section.

Asia and Africa Analysis

Null hypothesis defined:

H₁: There is no relationship between the Asian - African [AA] consumers and the price of the protein bars

H₂: There is no relationship between the AA consumers and brand of the protein bars

H₃: There is no relationship between the AA consumers and nutrition content of the protein bars

H₄: There is no relationship between the AA consumers and the taste of the protein bars.

H₅: There is no relationship between the AA consumers and the images on the protein bar.

- The alternate hypothesis will be the converse of the null defined individually.

Findings:

The first data set is tested with Pearson's Chi-Square to every individual attribute of the protein bar displayed on the package separately as mentioned in the conceptual framework. The results clearly indicate (Output - Figure 16) that there is a statistical significance between the consumers of Africa- Asia and the price attribute. The P-value derived with price attribute is 0.001 which is less than the critical value of 0.05 and therefore we reject the null hypothesis. It can be confidently stated that the Asian and African consumers are essentially concerned about the price when they intend to purchase a protein bar. On the contrary, the P-value obtained with other attributes is more than 0.05 which leads us to accept the null hypothesis.

P-value with the brand is 0.400 [null hypothesis accepted] which confirms that there is no significance between the brand attribute and the Asian- African consumers.

P-value with nutrition content is 0.064 [null hypothesis accepted], which again shows that there is no significant correlation between this attribute and the Africa- Asia consumers. However, it is important to notice that the deviation is not very high as compared with other attributes.

P-value with taste is 0.274 [null hypothesis accepted, no significance].

P-value with images on the package is 0.068- [null hypothesis accepted, no significance]. Which means that these consumers are not concerned about the images on the packaging nonetheless the deviation is not very high from the critical value of 0.05.

Ethnicity * Price_Attribute

			Price_Attribute					
			1	2	3	4	5	Total
Ethnicity	Africa	Count	22	2	9	1	6	40
		Expected Count	12.7	7.0	12.7	3.6	4.0	40.0
	Asia	Count	42	33	55	17	14	161
		Expected Count	51.3	28.0	51.3	14.4	16.0	161.0
Total		Count	64	35	64	18	20	201
		Expected Count	64.0	35.0	64.0	18.0	20.0	201.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.803 ^a	4	.001
Likelihood Ratio	18.768	4	.001
N of Valid Cases	201		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.58.

Ethnicity * Brand_Attribute

			Brand_Attribute					
			1	2	3	4	5	Total
Ethnicity	Africa	Count	8	8	11	4	9	40
		Expected Count	8.6	7.0	12.9	6.0	5.6	40.0
	Asia	Count	35	27	54	26	19	161
		Expected Count	34.4	28.0	52.1	24.0	22.4	161.0
Total		Count	43	35	65	30	28	201
		Expected Count	43.0	35.0	65.0	30.0	28.0	201.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.043 ^a	4	.400
Likelihood Ratio	3.829	4	.430
N of Valid Cases	201		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.57.

Ethnicity * Nutrition_Content_Attribute

			Nutrition_Content_Attribute					
			1	2	3	4	5	Total
Ethnicity	Africa	Count	8	7	11	4	10	40
		Expected Count	14.1	7.4	6.4	4.8	7.4	40.0
	Asia	Count	63	30	21	20	27	161
		Expected Count	56.9	29.6	25.6	19.2	29.6	161.0
Total		Count	71	37	32	24	37	201
		Expected Count	71.0	37.0	32.0	24.0	37.0	201.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.884 ^a	4	.064
Likelihood Ratio	8.727	4	.068
N of Valid Cases	201		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.78.

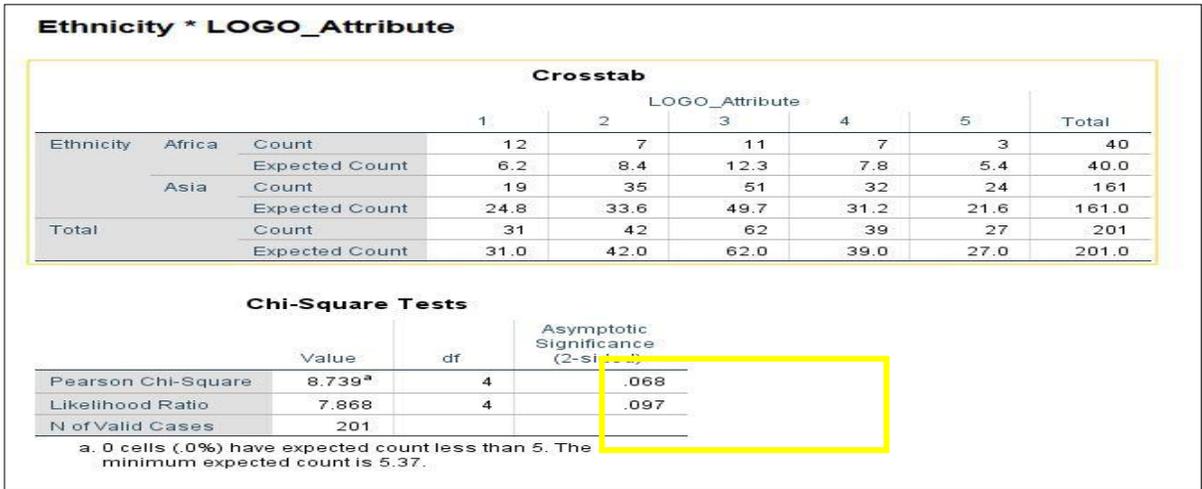
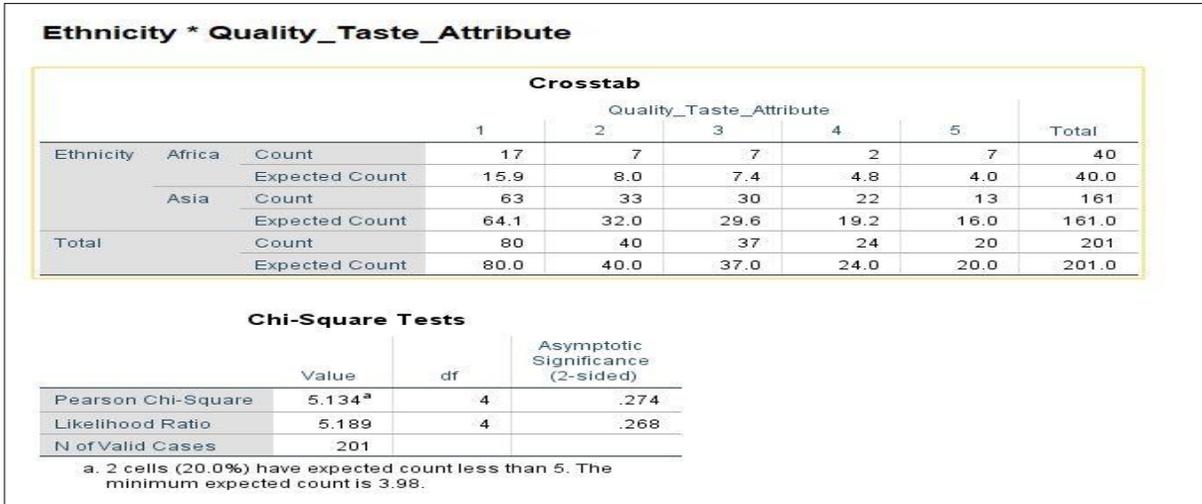


Figure.16 – Output from Dataset 1

Asia and Europe Analysis

Null hypothesis defined:

H₁: There is no relationship between the Asian- European [AE] consumers and the price of the protein bar.

H₂: There is no relationship between the AE consumers and brand of the protein bar.

H₃: There is no relationship between the AE consumers and nutrition content of the protein bar.

H₄: There is no relationship between the AE consumers and the taste of the protein bar.

H₅: There is no relationship between the AE consumers and the images on the protein bar.

- The alternate hypothesis will be the converse of the null defined individually.

Findings

The second dataset of Asian and European consumers tested with the Pearson’s Chi-Square show different results (Output- Figure.17) wherein the P-value derived with every individual attribute is more than the critical value of 0.05 which leads us to accept the null hypothesis to state that there is no significant correlation between the Asian and European consumers and the attributes of the protein bar.

P-value with the price is 0.256 [null hypothesis accepted, no significance].

P-value with the brand is 0.220 [null hypothesis accepted, no significance].

P-value with nutrition content is 0.121 [null hypothesis accepted, no significance].

P-value with taste is 0.305 [null hypothesis accepted, no significance].

P- value with images on packaging is 0.112 [null hypothesis accepted, no significance].

Ethnicity * Price_Attribute							
Crosstab							
Count		Price_Attribute					Total
		1	2	3	4	5	
Ethnicity	Asia	42	33	55	17	14	161
	Europe	14	9	6	4	2	35
Total		56	42	61	21	16	196

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.322 ^a	4	.256
Likelihood Ratio	5.582	4	.233
N of Valid Cases	196		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.86.

Ethnicity * Brand_Attribute

Count		Brand_Attribute					Total
		1	2	3	4	5	
Ethnicity	Asia	35	27	54	26	19	161
	Europe	7	10	7	4	7	35
Total		42	37	61	30	26	196

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.731 ^a	4	.220
Likelihood Ratio	5.583	4	.233
N of Valid Cases	196		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.64.

Ethnicity * Nutrition_Content_Attribute

Count		Nutrition_Content_Attribute					Total
		1	2	3	4	5	
Ethnicity	Asia	63	30	21	20	27	161
	Europe	13	10	2	8	2	35
Total		76	40	23	28	29	196

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.303 ^a	4	.121
Likelihood Ratio	7.751	4	.101
N of Valid Cases	196		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.11.

Ethnicity * Quality_Taste_Attribute

Count		Quality_Taste_Attribute					Total
		1	2	3	4	5	
Ethnicity	Asia	63	33	30	22	13	161
	Europe	13	11	6	1	4	35
Total		76	44	36	23	17	196

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
→ Pearson Chi-Square	4.829 ^a	4	.305
Likelihood Ratio	5.684	4	.224
N of Valid Cases	196		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.04.

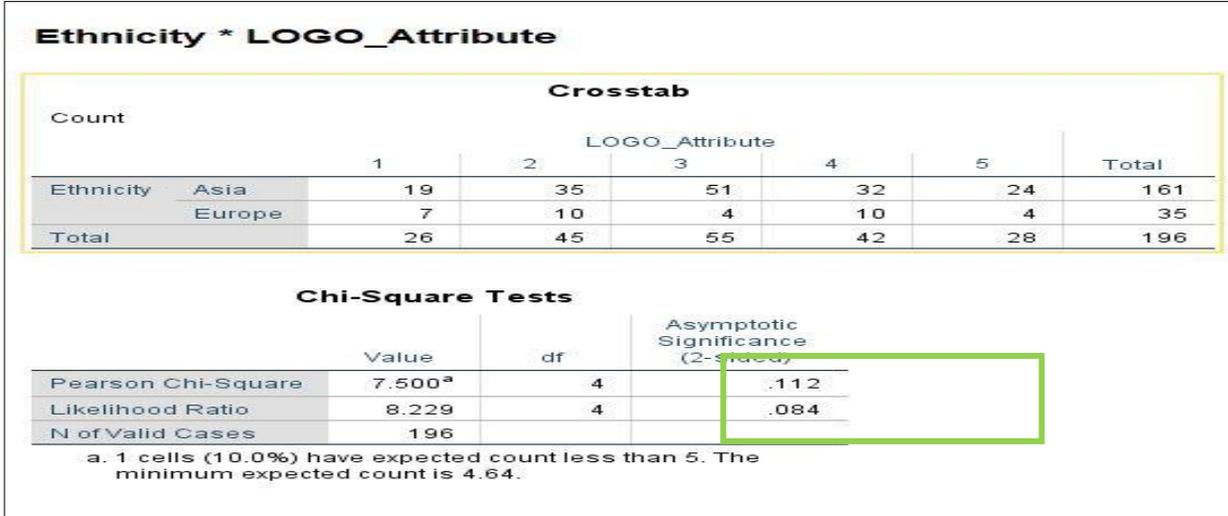


Figure.17 - Output from Dataset 2

Europe and Africa Analysis

Null hypothesis defined:

H₁: There is no relationship between the European - African [EA] consumers and the price of the protein bar.

H₂: There is no relationship between the EA consumers and brand of the protein bar.

H₃: There is no relationship between the EA consumers and nutrition content of the protein bar.

H₄: There is no relationship between the EA consumers and the taste of the protein bar.

H₅: There is no relationship between the EA consumers and the images on the protein bar.

- The alternate hypothesis will be the converse of the null defined individually.

Findings

The third data set tested with the same attributes of the protein bar indicates (Output - Figure.18 that there is correlation between the European - African consumers and the price attribute as the P-value derived here is 0.035 which is less than critical value of 0.05, therefore we reject the null hypothesis and accept the alternate hypothesis.

P-value with the brand attribute is 0.894 [null hypothesis accepted, no significance].

P-value with nutrition content is 0.04, which statistically demonstrates that the Europeans and Africans are concerned about the nutrient content displayed on the package of the protein bar.

The P-value derived is less than 0.05, which leads us to reject the null hypothesis to state that there is a correlation between the African - European consumers and the nutrition content attribute.

P-value with Taste is 0.676 [null hypothesis accepted, no significance].

P-value with images on the package is 0.242 [null hypothesis accepted, no significance].

► **Ethnicity * Price_Attribute**

Count

Crosstab

		Price_Attribute					Total
		1	2	3	4	5	
Ethnicity	Africa	22	2	9	1	6	40
	Europe	14	9	6	4	2	35
Total		36	11	15	5	8	75

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.345 ^a	4	.035
Likelihood Ratio	10.902	4	.028
N of Valid Cases	75		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.33.

Ethnicity * Brand_Attribute

Count

Crosstab

		Brand_Attribute					Total
		1	2	3	4	5	
Ethnicity	Africa	8	8	11	4	9	40
	Europe	7	10	7	4	7	35
Total		15	18	18	8	16	75

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.099 ^a	4	.894
Likelihood Ratio	1.103	4	.894
N of Valid Cases	75		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.73.

Ethnicity * Nutrition_Content_Attribute

Count

Crosstab

		Nutrition_Content_Attribute					Total
		1	2	3	4	5	
Ethnicity	Africa	8	7	11	4	10	40
	Europe	13	10	2	8	2	35
Total		21	17	13	12	12	75

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.348 ^a	4	.006
Likelihood Ratio	15.441	4	.004
N of Valid Cases	75		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.60.

Ethnicity * Quality_Taste_Attribute

Count

Crosstab

		Quality_Taste_Attribute					Total
		1	2	3	4	5	
Ethnicity	Africa	17	7	7	2	7	40
	Europe	13	11	6	1	4	35
Total		30	18	13	3	11	75

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.328 ^a	4	.676
Likelihood Ratio	2.343	4	.673
N of Valid Cases	75		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.40.

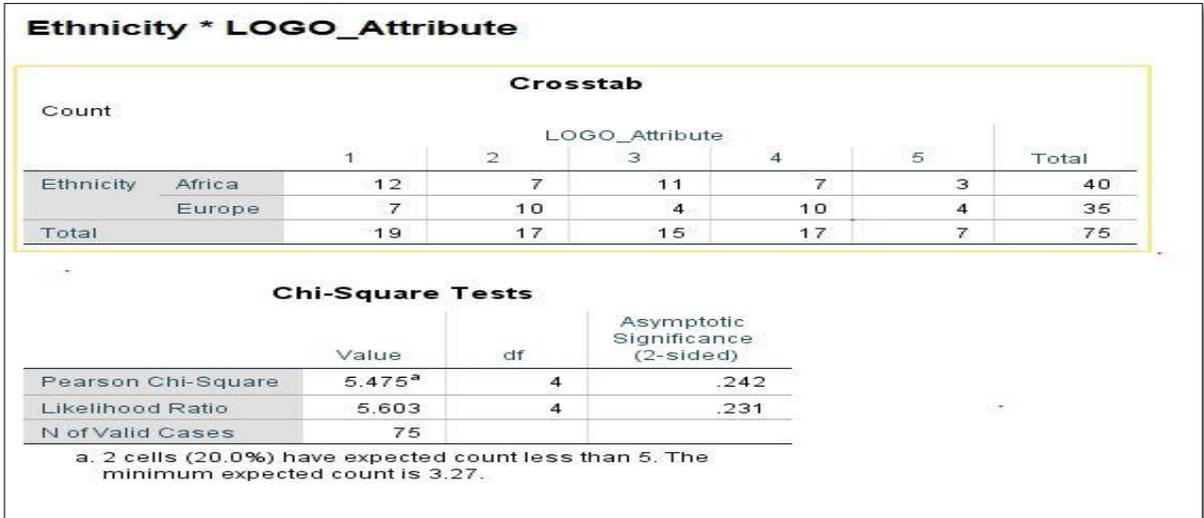


Figure.18 - Output from Dataset 3

Table.1 is a compendium of findings from the above section that will facilitate the reader to clearly understand the preferences of consumers towards the attributes of a protein bar on the basis of their cultural backgrounds. The rejection of the null hypothesis in two cells confirms a strong preference of the consumers. Hence, the statistical test proves that Asian consumers consider price as the most important factor when they intend to purchase a protein bar, whereas it is both price and nutrition content for African consumers. Moreover, it is compelling that European consumers only give importance to the nutritional content of the protein bar and are not really concerned about other attributes.

Combined Dataset	Price	Brand	Nutrition content	Taste	Images on package
Africa and Asia	Null Rejected	Null Accepted	Null Accepted	Null Accepted	Null Accepted
Europe and Asia	Null Accepted	Null Accepted	Null Accepted	Null Accepted	Null Accepted
Europe and Africa	Null Rejected	Null Accepted	Null Rejected	Null Accepted	Null Accepted

Table.1 Summary of Pearson Chi Square Analysis

Research Objective 2:

B. How are the perceptions of men different from women towards packaging of protein bars?

Thus, the SRH test is used again in the R studio to know if there is a difference between the perceptions of men and women towards the packaging of protein bars. A different set of attributes are selected in this analysis to get a deeper understanding towards the packaging features. The following attributes were considered in this test to analyze if men and women viewed the protein bar package in the same way.

Design and Texture

Images and Pictures

Colour

Size and Shape

The following hypothesis was framed for the second research objective:

H₀ - There is no significant difference between the perceptions of men and women towards the packaging of protein bars.

H_a - There is a significant difference between the perceptions of men and women towards the packaging of protein bars.

Output of the test:

The P-value derived (Output- Figure.19 in this test is **0.99365**, which is greater than the critical value of **0.05** and leads us to reject the null hypothesis to state that there is a significant difference between the perceptions of men and women towards the packaging of protein bars. In the researcher's opinion, further investigation is needed to understand the differences between the perceptions of men and women. Hence, the qualitative analysis based on interviews has been used in the next section to analyze the differences between the perceptions of men and women.

```
> scheirerRayHare(Value ~ Gender + Attribute, data = GenderAttributeData)

DV: Value
Observations: 944
D: 0.9416513
MS total: 74340

      Df  Sum Sq    H p.value
Gender    3  146702 2.0957 0.55279
Attribute  3  115738 1.6533 0.64736
Gender:Attribute  9  129371 1.8481 0.99365
Residuals 928 65620412
```

Figure.19 - Output for the second research objective with SRH test

Conclusion

The quantitative results based on survey responses thus present the statistical results of consumer perceptions towards the various attributes of packaging of protein bars. The sub-objectives of this research have been analyzed through qualitative research in the next section.

6. Qualitative Data Analysis and Findings

Overview

In the second phase of this study, 30 face to face interviews were conducted with respondents from different cultural backgrounds. In-depth conversations facilitated the collection of rich data which has been very insightful for this research. This segment elaborates on the sub-objectives of the research:

- What do consumers look for in a protein bar when they intend to purchase one from the retail store?
- Which product attribute of the protein bar mainly grabs the attention of consumers in the retail shelves?

The research in the course of this phase also attempts to identify the difference between the perceptions of men and women towards the packaging of protein bars. An equal number of men and women were interviewed to ensure that the sample is a fair representation of the student population in the research context. The respondents during the interview were asked to pick one protein bar among the four different options available to them (Figure.21). All the four brands more or less were very similar in terms of nutrition content and flavor, and the visible difference to the consumers is mainly the price and the package (Images- color combinations- texture- font and overall content layout) of the protein bars.

The researcher identifies the following themes from the dataset to interpret experiences and perceptions of consumers that uncover meanings in specific contexts and circumstances. These themes (Figure.20) have been used to compare and present the perceptions of men and women in different cultural backgrounds. Interesting segments of the interviews which have been used to create themes are presented in the appendix of the research (thematic codebook) .

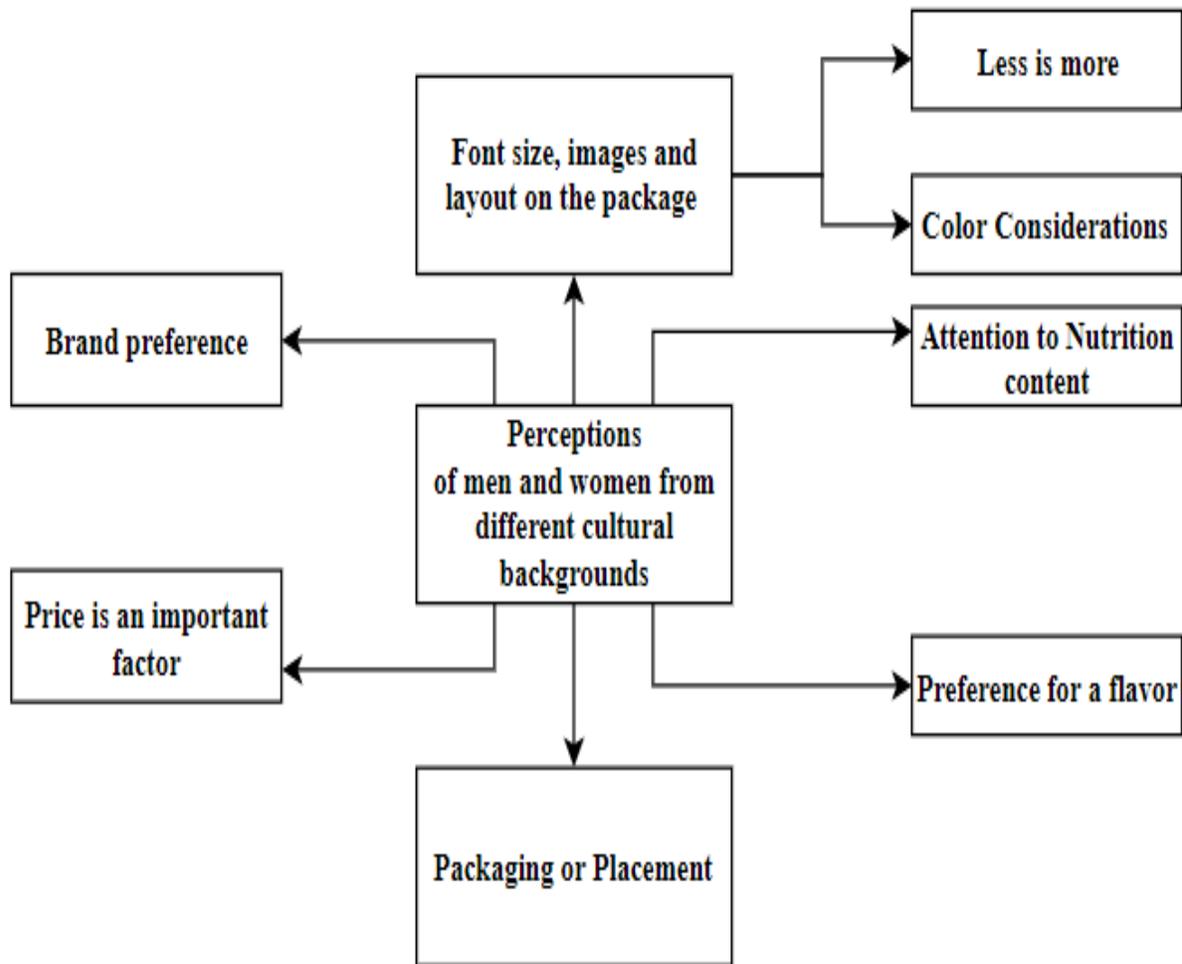


Figure.20 Themes framed for the qualitative analysis



Figure.21 Protein bars displayed to the respondents

The interview findings reveal that there is not much difference between the perceptions of men and women in case of certain attributes of the protein bar such as nutrition content and price. However, subtle variations were noticed among respondents from different cultural backgrounds towards the packaging features of the protein bar which however in the researcher's opinion are not very significant. A detailed discussion has been presented through the themes identified in the interviews in this chapter.

6.1. Attention to nutrition content:

Consumers who are health conscious and regularly visit the gym showed high interest in the nutritional value they derived from the protein bars irrespective of their gender. The European consumers searched for information regarding contents and ingredients on the package to decide on a protein bar among the four options they had. When asked, what grabs your attention towards a protein bar? One of the respondents said:

“The bar that gives me maximum protein and has less sugar content will interest me”. Moreover, some of them particularly questioned if the protein bars were ‘Gluten Free’ which recapitulates that the European consumers are very cautious about their diet unlike the Asian and African consumers when it comes to protein bars.

The Grenade bar failed to impress most of the European consumers as the package did not communicate the protein content clearly as compared to the other brands that explicitly display the same on the front in visible fonts. On the contrary, most of the Asian consumers who purchased the protein bars on impulse said that they do not pay much attention to the nutrition content. The bright colors grabbed their attention towards the protein bars as most of them chose the Fulfill bar which has an attractive golden color. Elliot and Maier (2007) in their research highlight that colors convey symbolic meanings to consumers at a subconscious level which have cognitive implications that strongly influence the consumer perceptions which is evident in the case of protein bars. The fulfill protein bars are available in many flavors that are differentiated by different colors (Figure.22) One of the consumers (Asian) said:

“I always see the Fulfill bars in M&S and a get confused to select one as there are so many colors and flavors and all of them look tasty”

Some of the respondents mentioned that they have only seen the Fulfill bars as compared to the other brands. It is fair to state that the bright colored packaging and placement of the Fulfill bars in the retail stores grabbed the consumer attention which still retained in their memory. The Fulfill bars as observed in most of the retail stores are always placed at the eye level of the consumers and are easily noticeable.



Figure.22 Range of Fulfill Protein Bars

The African consumers consider the nutritional value in the protein bar; however, as compared to the European consumers they are not very cautious about the calories and other information provided on the package. The researcher observes that they particularly are attracted by the images on the package as most of them preferred either the PhD protein bar or Fulfill protein bar as the images presented on both the protein bars are appealing and promising. The nutrition content is not very carefully assessed by these consumers and get impressed by shinier and glossier packages in case of impulsive purchases.

Nutrition value in bigger fonts, brighter colors and attractive images on the package can thus be considered as the main attributes that grab the attention of the consumers in the retail stores.

6.2. Price is an important factor:

Although price is a crucial factor for all consumers as students, the interviews divulge that the Asians are highly sensitive to the price attribute of a protein bar. They appreciate all the information provided on the package but their final decision to purchase a protein bar mainly depends upon the price. Many articles in the past have proved that Asian countries like India, Pakistan and Bangladesh are very price-conscious markets in terms of different products. Figure.23 is an illustration of different products in the Indian markets that display the price in bold fonts which significantly support the findings of this research. “Communicating the price of a product to the consumer is as important as communicating the attributes in the Indian markets,” says Ms. Priyanka Verma, Marketing Head of Hindustan Unilever Ltd . The respondent (African) in one of the interview:

“The Grenade protein bar looks good but I also like the Fulfill bar- Would want to know the price of both the protein bars and then choose the best one”

The African consumers are not very cautious about the price but do consider it importantly to make a purchase decision. It is observed that some of the Asian and African consumers who are not aware of the protein bars compared it with the price of other confectionary bars available in the retail store which reiterates that price is an important factor for both men and women. Nonetheless, it is worth to mention that Asian and African women paid more attention to price as compared to men; as in certain situations, men still looked at the images on the protein bar and selected the PhD whereas the women only preferred the economic option.



Figure.23 Products in the Indian markets

The European consumers interestingly did not pay any attention to the price. *“The package is more important than the placement in my opinion because the consumers will prefer buying a product because of the package and not the placement”* said one of the consumers, which reflects that the European consumers are fascinated by the package designs and the presentation of the information content rather than the price or the placement of the bars.

6.3. Brand preferences

Research suggests that designs and images related to a brand influence the consumer perceptions towards a product (Lieven *et al.*, 2015). This statement remains true in case of the protein bars as well because it is observed that consumers who were familiar with a particular brand preferred selecting it over other options. For example one of the European consumers expressed that:

“Brand is very essential; If I know that a brand is good then I might not consider other options - In this case my choice is Optimum” The women mentioned that she regularly purchased the ‘Optimum Nutrition (ON) products and trusts the brand and therefore would not be interested in any other brand if ON is available in the store. The in-depth conversations with some of the European respondents indicate that they would rather prefer the extra effort to go to another retail store if their brand was not available in one. This shows that these consumers are strongly attached to their brands and would not compromise with any other substitute.

Some of the African consumers also demonstrated a strong affinity towards their brands and stated that they would not waste their time to look for other options if their favorite brand is available in the retail store. In this case, the Optimum bars were chosen by most of the European and African consumers who very well recognized the ‘ON’ logo on the package. A consumer conveyed that:

“ON is a very good brand and I have been using their products since a very long time, they provide quality products and can be easily found on the retail shelves as they are mostly black in color”.

The Asian consumers contrarily did show any interest in the brand of the protein bars. For the Asians, a brand is considered important and is meticulously evaluated in case of high involvement purchases such as automobiles, etc and is not important for low involvement purchases like the protein bar. No significant difference is identified between the perceptions of men and women towards selecting a brand of protein bar as consumers who knew the brand selected it and others who had no idea did not.

6.4. Font size, Images, and Layout on the package:

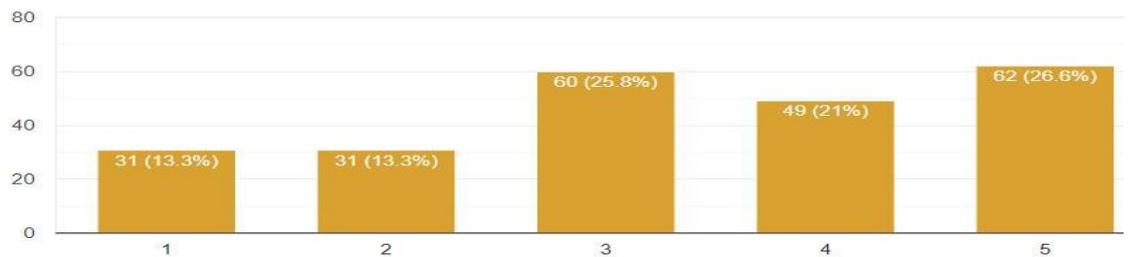
Grohmann *et al.*, (2013) in their research highlight that fonts used on the package of a product grab the attention of the consumer and can also communicate the message in a creative way. Typography and the overall content layout help a brand to differentiate itself from others in the marketplace which is very evident among the four brands of protein bars used in the interviews.

One of the European consumers conveys that: *“I will not purchase the Fulfill protein bar because there is a lot of information on the package; it is very clumsy and looks inauthentic”* and preferred the Optimum protein bar as it provides the minimal and necessary information in a clean and sophisticated manner. Furthermore, some of the African and Asian consumers selected the Grenade bar stating that the package *“is clear and maybe contains a lot of chocolate (laughs)”*.

6.4.1. Less is more

The interviews reveal that most of the consumers prefer minimal and important information on the package. The arrangement of the words should be protuberant and legit which can influence the consumers in different ways as they paid attention to bigger texts in the center and the left side of the package. It is observed that slight variations in font size and style on the package help consumers to spot important information. The PhD and Optimum bars in this regard display precise content in attractive fonts and also have a lot of empty space in the background that projects the images elegantly.

A little information



A lot of information

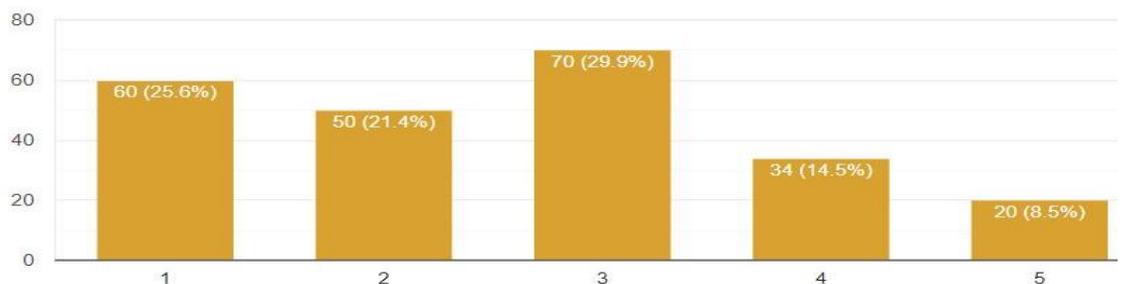


Figure.24- Preference for less or more information on the package

However, Figure.24 explains that the results obtained from the quantitative analysis are not parallel with the qualitative findings. The survey result illustrates that 25.6% of the consumers strongly agree with the need to have a lot of information on the package and 25.6% strongly disagree with little information on the package which is contradictory with the qualitative findings where most of the respondents only preferred the required information on the protein bar.

6.4.2. Color Considerations

A tremendous amount of research has been done in the past to understand the impact of packaging colors on taste and flavor perceptions of the consumers. In the domain of food consumption, the meaning of a particular color is closely associated with the natural characteristics of the food such as red relates to cherry flavor, yellow to mango and lemon flavors. Dubose *et al.*, (1980) state that the color and taste association in many cases goes beyond the actual existence and further influences the preference of the consumers. Brown color depicting the chocolate flavor is evident in all the four brands used for the interviews.

Colors greatly influenced African and Asian consumers as compared to the Europeans. The bright gold-colored Fulfill bars grabbed the attention of many respondents who curiously picked the bar to read further about the product. Walsh *et al.*, (1990) in their research highlight that warm colors are associated with hedonic attributes which can stimulate the sensory characteristics of the consumers such as taste of tanginess; which similarly is also seen in the case of protein bars where the dark brown colored packaging allured many respondents who liked the chocolate flavor.

6.5. Preference for a flavor

All the respondents who participated in the interviews glanced at the flavor of the protein bar irrespective of their cultural backgrounds and gender. Where some selected a bar of protein solely on the basis of its flavor others only preferred a peek. Interestingly, the African and Asian consumers are influenced more by the flavor of the protein bar as compared to European consumers.

The difference between the European and African perceptions towards the Optimum protein bar is engrossing as their preference depends on the flavor of the bar:

“I don’t understand what Rocky Road on the Optimum bar means and it does not look genuine, would like to taste the Hazelnut bar” (African consumer)

“I will select the Optimum bar as it looks finer and premium, and there isn’t a lot of chocolate and sugar like others” (European consumer)

It can be observed that the African consumer ignores the brand and calls it the ‘Hazelnut bar’ and selects it, on the other hand, the European consumer avoids the protein bars because of the flavors mentioned on the package. The researcher here opines that the overindulging images on the PhD bar led consumers to perceive it more as a chocolate bar than a protein bar and is possibly the reason for not selecting it. The Asian consumers looked at the flavors but focus more on the price of the protein bar as compared to any other attribute of the protein bar.

6.6. Packaging and placement in the retail environment.

The researcher through observation discovers that right placement of the protein bars on the retail shelves can be highly beneficial for the companies as consumers in most of the cases irrespective of their gender and cultural background did not look at the racks below and assumed these brands to be of low quality and inappropriate; They did not give any strong justification behind these perceptions. It is also noticed that consumers who purchased protein bars on impulse do not necessarily look at all the brands available to them. They pay specific attention to brands placed at the eye level and a little lower but do not consider the protein bars placed in the bottom racks.

Protein bars are mostly displayed near the cash counters or the entrance in the retail outlets where they are visible and highly noticeable. A majority of the respondents stated that packaging is more important as compared to the placement of the protein bars with the following expressions:

“The packaging has to be attractive enough because even if it is placed well, I might not look at it if it is not attractive or appealing”

“The package is more important than the placement in my opinion because the consumers buy the product in the package which is more personal and not the placement”

Nonetheless, the researcher on the basis of her observation in five different retail stores would accentuate that the placement of protein bars is equally important as the packaging. Most of the Fulfill bars and Optimum bars positioned at the eye level were preferred and got sold in higher quantities as compared to other brands like Grenade, PhD, and Hike which were placed in the bottom racks. The protein bars are specially placed in a different section in the retail store that distinguishes them from other confectionary bars which helped the consumers to identify them easily.

Conclusion:

Thus, results from the qualitative interviews clearly answer the research objectives to discern that consumers from different cultural backgrounds have different preferences towards the attributes of a protein bar which are communicated to them through the package. It is noticed that a majority of the African and Asian respondents give importance to price and are attracted by the bright colored - glossy packaging and flavors of the protein bars. On the contrary, the European respondents preferred the brands they knew and paid more attention to the nutrient content on the package; the design and layout also mattered to them as they did not like searching a lot for the required information. The second objective emphasized on finding out which attribute mainly grabbed the attention of consumers in the retail store; and the research reveals that it is the colors, brand and most importantly the placement of the protein bars that facilitates the consumers in spotting them. Moreover, the perceptions of men and women were different only in certain aspects but remained very similar in the context of this study. The next section is a brief summary of the interview with the industrial expert which highlights the company’s perspective towards packaging of protein bars and the consumer perceptions.

7. Interview with the Industry Expert

The researcher interviewed the Marketing Director of Glanbia which manufactures the Optimum protein bars, to get insights from a company's perspective in designing the package of a protein bar. According to Mr. Robert Blythe, the packaging of the protein bars is fundamental which allows them to clearly differentiate between product formats and in communicating the message to the potential consumers. He enunciates that the purchase of a protein bar is occasional and varies according to different individuals. The company defines three main specific needs for which their protein bar can be consumed:

- 1) Healthier choice Vs mainstream confectionary
- 2) Functional reason (Muscle recovery and building)
- 3) Close to sports needs.

He says:

“The package should have an attractive appetite appeal and at the same time communicate the nutritional benefit to the consumers”

The company's overall strategy is to use a single black color for all its products which gives a distinct image to the brand in the retail environment and acts as a color navigation system in guiding the consumers. He also conveys that 'branding' is the most profitable element of their business. Furthermore, they differentiate between their protein bars through slight variations in the border colors, flavors, and images. They emphasize on the right placement of the protein bars in the store in terms of 'Shelf Ready Packaging' that facilitates a 45-degree angle display of the protein bars allowing better visibility to the consumers.

Glanbia has a fully-fledged innovation function that regularly monitors the consumer trends and market landscapes known as the market ecosystems. Regular shopper journeys are conducted to understand and analyze the consumer movements in the retail stores. Interestingly, according to him, culture and gender do not play any role in the process of designing the package of a protein bar.

He states that *“Protein bars are benefit led products that are purely for human needs; It is non-ethnic and non-gender, however, a good quality package always has a subliminal impact on the consumers which is very important”* and that consumers who are in a particular need state will only look for the benefits they derive; shiny and glossy packaging will not make any impact on such consumers. *“Having said that, impulsive purchases in most of the situations are determined by the package design and quality”*

Price is crucial according to him as consumers use this aspect to deselect a product even before selecting it. *“Product visibility, right price with a creative package and fundamentally delivering the promise stated is the key to success of any brand of protein bar”*

Thus the insights from the company’s perspective will be used in the triangulation to compare the overall results in the next section.

8. Triangulation

In this section, the researcher compares the results from qualitative and quantitative analysis to cross-validate the findings. The study through both methods confirms that there is a significant difference between the perceptions of consumers from different cultural backgrounds towards the packaging of protein bars.

The European consumers both in the quantitative survey and qualitative interviews showed a strong inclination towards the nutritional benefits and the brand of the protein bar and did not pay a lot of attention to any other attribute of the protein bar. It is evident that the shinier and glossier packaging did not influence their purchase decisions. Furthermore, most of them selected the Optimum and Fulfill bars only because they were familiar with the brand or had seen it before in the retail stores. It is also observed that their purchases in most of the cases are planned as they demonstrate a high understanding of the nutritional contents in the protein bar and are very health cautious. These consumers expect minimal and necessary information on the package and do not get impressed by non-functional attributes such as images on the package or flavor of the protein bar.

On the other hand, the statistical test in this research proves that Asian consumers are highly price sensitive. Their purchase decisions mainly depend on the price of the protein bar; however, the qualitative analysis reveals that they are attracted by flavor, bright colors and images on the package of the protein bar as well. The researcher here would highlight that these consumers would not purchase a protein bar just because they like the packaging as price plays a very important role in their cultural setup.

Most of the respondents interviewed had not seen or heard of a protein bar back in their home countries and started consuming them only in Ireland. Protein products are not widely marketed in Asia and thus a majority of these consumers purchase the protein bars on impulse where packaging plays an important role. They specifically looked at the flavorful images on the package and did not pay much attention to the nutrition content in the protein bar. However, a small percentage of the Asian consumers who visited the gym

on a regular basis checked for the nutrition content but still considered the price aspect. These consumers preferred purchasing the Fulfill bar or the PhD bars repeatedly and did not want to try other brands where price and the flavor can be the possible reason behind their preference.

Lastly, the African consumers considered the nutrition content and price in both the qualitative and quantitative analysis. These consumers mostly preferred the bright colored protein bars and then looked into the nutritional value of the bar. Price is considered important but is not as high as for Asian consumers. Most of them selected the Fulfill gold color protein bar and also mentioned that they have noticed it in many retail stores, which proves that these consumers are attracted to the brighter colors where Fulfill bars are excellently placed. It is worthy to notice that in all the 10 interviews conducted, the African respondents only selected the Grenade or the Fulfill bar and none chose the Optimum bar, and stated different reasons for their rejection. Both impulsive and planned purchases were observed among this group of consumers.

The quantitative findings of the second objective in this research show that there is a significant difference between the perceptions of men and women as the **P**-value derived is 0.99365, which leads us to reject the null hypothesis and accept the alternate hypothesis. The qualitative research, in contrast, explains that there are no significant differences between the perceptions of men and women towards the packaging of protein bars. Most of the respondents who went to the gym irrespective of their gender only considered the nutritional benefits; slight variations were identified only in the case of impulsive purchases in terms of flavor preferences. These results are in line with the information obtained from the industry expert Mr. Robert Blythe who stressed that protein bars are non-gender and purely cater human needs in different states.

Furthermore, the qualitative analysis also elaborates on the importance of placement of protein bars in the retail store as most of the respondents stated that the visibility of the protein bar as in attractive packaging is essential; however the observation in the retail stores conveys that the placement of the bars is more important than just the package. Deviations are also identified in terms of the information content as the survey results

show that consumers expect a lot of information on the package whereas the respondents in the interviews preferred minimal and necessary information on the package. These European respondents rejected the Fulfill bars and conveyed that there is excessive information on the package which gives it an inauthentic appearance whereas one of the African consumers rejected the Optimum bar because there was limited content on the package. Thus, clear variation in consumer perceptions can be seen towards different packaging attributes of the protein bar.

The mixed-methods approach thus cross verifies the analyses and find substantial differences in the second phase of this research. The discussion chapter in the next segment would corroborate all the findings with the existing literature and offer final conclusions of this research to the readers.

9. Discussion and Conclusions

The principal aim of this study was to identify the perceptions of consumers of different ethnicities (Africans, Asians and Europeans) towards packaging of protein bars; to analyze the difference between the perceptions of men and women; and to get profound insights into the consumer minds when they purchase a protein bar. Although, there have been numerous studies on packaging in the past, none have studied the protein bars and its packaging till date; and specifically a cultural analysis is one of the first in this subject.

The qualitative results of the sub-objectives in this study are in line with the findings of Underwood *et al.*, (2015) who in their research highlight that consumers imagine the benefits of a product in terms of its taste and feel when they look at the pictures on a package. Most of the African and Asian respondents who were not aware of any of the brands displayed to them squarely selected the Fulfill or the PhD bars on the basis of the images presented on their package. He further articulates that consumers perceive a product to be superior if the package is of high quality else consider it to be inferior. However, this was not found to be true in case of the protein bars as consumers were attracted towards the images, flavor or the nutritional benefits of the protein bar but basically did not pay any attention to the quality of the packaging in terms of the texture or design factors.

Allison and Uhl (1994) in their research assert that perceptions influence consumer brand preferences than the real product attributes, which was practically observed during the interviews in this research as some of the European and African respondents preferred the Optimum brand as they associated it to their previous experience with other products of the same brand. Even when they did not know the Optimum bar, they still wanted to try it and did not change their preference though many options were available to them which is similar to Mohebbi's (2014) findings which focuses on electronic products. He states that consumers did not want to shift brands when it comes to electronic goods in the American markets and only preferred their brand when they are fully satisfied with the product offering. In this case all these consumers were very familiar with the ON brand.

However, it is worth to highlight that consumers who are unaware of any brands tend to change their preferences when many options are available and select the product that highly captures their attention which is mostly evident in impulsive purchases. In such scenarios attractive packaging plays a very significant role.

Bech- Larsen (1996) in their research concluded that consumer's recall ability can be maximized if the pictorial details are positioned on the left - hand side of the product. But all the protein bar brands used in the interviews have the images displayed on the right side of the package which is a variation observed as per the academic theories on placement of imagery on packaging. The brands differentiated their protein bars with slight color variations, imagery and design layout for consumer recognition

Mitchell and Papavassiliou (2010) in their study emphasize on food labeling which was a very interesting subject in this research as the quantitative findings show that the European and African consumers precisely look at the nutritional contents presented on the package of the protein bar. Consumers expected the information on the package to be minimal and very clear. McWilliams (2017) argues that consumers do not look at informational content and mainly rely upon the visual imagery and pictorial elements of the package which is entirely contradictory to the findings of this research. Here the researcher opines that it is extremely important for companies to develop creative and innovative packaging so as to remain distinct on the shelves in the retail stores at the same time provide just the right information to the consumers.

The cultural perspectives of consumers in this research is also supported by Suh and Kwon (2002) who assert that culture immensely influences the consumer decisions which was precisely explained in the findings section of this research and cross verified with a triangulation approach. Consumers make a choice for a product within seconds when they are shopping (Berger *et al.*, 2003) which remained true in the case of protein bar selection as well, where the respondents picked their choice in no time; and preferences were based on different attributes that varied from culture to culture.

The consumer culture theory (Pittard *et al.*, 2007) that fundamentally analyzes consumer behaviours in different cultural setups and marketplaces is the foundation of this

research. The researcher postulates that the socio-cultural, ideological and experiential dimensions of consumers cannot be entirely considered while designing the package of a protein bar; however their preferences as required should be well understood and catered to in the best possible ways by companies. As Frank and Watchravesringkan (2016) have stated, companies in the western world must focus on competitive product packaging to be successful in markets with increasing international culture. Results of this study can be used by companies to understand the consumer perceptions towards packaging of protein bars in Ireland.

The researcher would also like to highlight that rich information for this research was obtained from the qualitative research as compared to the quantitative methodology where the analysis was only based on the numerical data from the surveys. Deeper conversations with the respondents in the interviews revealed many unknown components that consumers considered while purchasing a protein bar. Packaging acts as a silent salesman in the retail stores that protects, preserves and presents the product to the consumers, thus making it extremely important for companies to consider all the aspects of a package to become a successful brand in the market place.

Recommendations for future research:

This study can be replicated to analyze the cultural differences for other consumer products between different regions which were not considered for this research due to limited time and unavailability of respondents representing other cultures such as Hispanics, Australians, Americans etc , as they can bring new insights into the existing body of knowledge.

This study only focuses on the student population, thus future studies can be specifically be conducted on consumers in general emphasizing on other generational cohorts such as the millennials, generation X etc. As the results of this research strongly demonstrate the cultural preferences of consumers towards particular attributes of the protein bar packaging, a constructive qualitative research can be undertaken as an ethnographic study in a Ph.D to deeply investigate the factors responsible for such perceptions in consumers.

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Appendices

Thematic codebook used in the qualitative analysis:

ASIA:

Male	Female
<p>“According to me, price is the most important factor and I would definitely choose the one with the lowest price”</p> <p>“Will prefer the protein bar that has high nutrition content but also not very expensive as I am a student”</p> <p>“ The Grenade protein bar looks good but I also like the Fulfill bar- Would want to know the price of both the protein bars and then choose one”</p> <p>“I would choose the chocolate protein bar because I like chocolate and I have seen this brand somewhere before”</p> <p>“ How informative the package is essential, like I don't find a lot of information on the PhD bar whereas the Grenade bar is lot more informative, so I will choose it and not the PhD bar</p>	<p>“I would choose the PhD smart protein bar may be because it has attractive images on the package so it must taste good”</p> <p>“I would choose the optimum protein bar but it looks a little expensive so it would either be it or the Fulfill bar as it looks like a good one as well”</p> <p>“The optimum bar looks very fancy and may be doesn't taste very good, will select the PhD bar; it looks chocolaty and tastier”</p> <p>“ I buy the fulfill bar every day after my gym session so would blindly pick it and not any other”</p> <p>“I will not pay more than 2 Euros for a protein bar so will mostly select the one which is less than 2 Euros. I might also look at the brand if I have seen or heard of it before”</p> <p>“ The placement is needed because what is the point if I can see the protein bar at all or if it is hidden somewhere”</p>

AFRICA:

Male	Female
<p>“ I think a protein bar should be big in size and great in price - for me to select it; I would choose something that looks big to me which will be Grenade in this case”</p> <p>“ I am a design person so will expect the images and colours to be good enough to attract my attention to select a protein bar”</p> <p>“ I think I will only consider price because I am student but previously I had never seen or heard about a protein bar in Nigeria”</p> <p>“Both placement and packaging are equally important in my opinion because</p> <p>“The packaging has to be attractive enough because even if it is placed well in the retail store I will not buy it if it is not attractive”.</p> <p>“ I feel that the Grenade has a nice blend of colours- I like all the shades of brown and it looks like a quality product”</p>	<p>“ I guess the Grenade bar focuses more on fudge brownie and must be containing a lot of sugar which is not very healthy ; I like the fulfill bar, it has good nutritional content and is attractive and big”</p> <p>“ Something with high protein would be my choice and in this case all of them offer about 20 grams of protein but the sugar content also seems to be high; Then I might choose the optimum bar as I know the ON brand and it is a good one” .</p> <p>“Price and good nutrition content will be my choice; I would go with the fulfill bar because I like the name fulfill, that it will keep me full a long time” .</p> <p>“I like the images on the PhD bar and would like to taste it”.</p> <p>“I don’t understand what Rocky Road on the Optimum bar means and it is does not look genuine”.</p> <p>“I don’t like Hazelnut will not go with the fulfill protein bar; so I might buy the optimum bar; seems to be premium.</p>

EUROPE:

Male	Female
<p>“Brand is very essential; If I know that a brand is good then I will not consider others - In this case my choice is Optimum”.</p> <p>“The nutrition content on the optimum bar is not clear; I have to search for the contents. The Grenade bar has its content written in a clear format which is easy to read; I might buy the Grenade bar”.</p> <p>“I don’t like a lot of sugar in my food so would select the PhD bar as it only has 1.4 gram of sugar which is the least among everything else”.</p> <p>“Will not select Grenade, neither optimum nor fulfill – I think I will go with the PhD bar; It is a quality product and tastes good. I have tried it before.</p> <p>“ I will not say that price is a concern for me if the protein bar is fulfilling what I need”</p>	<p>“I like the premium looking optimum protein bar; it has good design, looks classic and branded” .</p> <p>“The package is more important than the placement in my opinion because the consumers will prefer buying a product because of the package and not the placement”</p> <p>“ The Grenade bar is not a quality product because it is very shiny and glossy; I have seen my friends eating the fulfill bar and would like to try it”</p> <p>“ Right protein at the right time can help the body in many ways; I ensure that I take the correct amount of protein in my everyday diet- I only buy the optimum bar so will choose it”.</p> <p>“I purchase protein bars rarely; and here I would select the fulfill bar as I have seen it a lot of times at the counter as compared to others”</p> <p>“ PhD bar because I am used to eating this bar since a very long time”</p>

Email sent to Robert Blythe for interview:

Dear Robert,

Greeting of the day!

I am Naina currently pursuing my MSc Marketing from National College of Ireland. I got your reference from Mr. Dave Cormack who is my supervisor for the final dissertation.

In this regard, I would like to tell you that my topic for the research is ' Perception of consumers towards packaging of Protein Bars in Ireland'. I am doing a cultural analysis to understand the similarities between perceptions of consumers from different cultures, whereby I want to know what exactly are the consumers considering when they buy a protein bar as an impulsive purchase as all the protein bars in the market more or less offer the same thing to the consumers.

Therefore, can I kindly request you to give me an appointment according to your convenience and availability to get some expert insights from the industry which can add immense value to my dissertation, please?

Looking forward to hearing from you.

*Warm Regards,
Naina*

Survey questionnaire

Age: **Gender:** Male [] Female []

Ethnicity: European [] African [] Asian []

1. I go to the gym regularly?

Yes [] No []

2. I have purchased a protein bar?

Yes [] No []

3. Do you plan to purchase a protein bar or is it an impulsive purchase?

A planned purchase [] Impulsive purchase []

4. How much time do I need to select a protein bar from the retail?

Less than 2 minutes [] More than 2 minutes []

5. Which of the following attributes do you consider before purchasing a protein bar?

Price

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brand

Strongly Agree Agree Neutral Disagree Strongly Disagree

Information content

Strongly Agree Agree Neutral Disagree Strongly Disagree

Quality

Strongly Agree Agree Neutral Disagree Strongly Disagree

Font style and size

Strongly Agree Agree Neutral Disagree Strongly Disagree

Pictures and Images

Strongly Agree Agree Neutral Disagree Strongly Disagree

Convenience and storage

Strongly Agree Agree Neutral Disagree Strongly Disagree

Flavor

Strongly Agree Agree Neutral Disagree Strongly Disagree

6. I pay attention to minute details on the label of the protein bar?

Strongly Agree Agree Neutral Disagree Strongly Disagree

7. How much information should the package of a protein bar provide?

Lot of information

Strongly Agree Agree Neutral Disagree Strongly Disagree

Little information

Strongly Agree Agree Neutral Disagree Strongly Disagree

8. Which product attributes would you consider to assess the *quality* of the protein bar?

Nutrition content

Strongly Agree Agree Neutral Disagree Strongly Disagree

Packaging

Strongly Agree Agree Neutral Disagree Strongly Disagree

Price

Strongly Agree Agree Neutral Disagree Strongly Disagree

Brand

Strongly Agree Agree Neutral Disagree Strongly Disagree

Taste

Strongly Agree Agree Neutral Disagree Strongly Disagree

9. What needs are you trying to meet when you purchase a protein bar?

Health Benefits

Strongly Agree Agree Neutral Disagree Strongly Disagree

Strength and Power

Strongly Agree Agree Neutral Disagree Strongly Disagree

Fitness Goals (Recovery)

Strongly Agree Agree Neutral Disagree Strongly Disagree

Refreshment

Strongly Agree Agree Neutral Disagree Strongly Disagree

10. Which packaging feature of a protein bar *grabs your attention* on the retail shelves?

Colour

Strongly Agree Agree Neutral Disagree Strongly Disagree

Design and shape

Strongly Agree Agree Neutral Disagree Strongly Disagree

Images and pictures

Strongly Agree Agree Neutral Disagree Strongly Disagree

Texture

Strongly Agree Agree Neutral Disagree Strongly Disagree

Design and Shape

Strongly Agree Agree Neutral Disagree Strongly Disagree

11. Do you think unique package of a protein bar would affect your purchase decision?

Strongly Agree Agree Neutral Disagree Strongly Disagree

Interview questionnaire

Can you tell me something about yourself? - Occupation, Where are you from, Hobbies, Everyday Routine etc.

1. Have you ever purchased/seen a protein bar?
2. If yes, can you describe your journey from entering the shop to purchasing a protein bar in detail?
- If No, Will you be able to describe an imaginative journey from entering the shop to purchasing a protein bar in detail?
3. Explain what factors do you consider to assess the quality of a protein bar and why?
4. Does the packaging of the protein bar grab your attention or is it the positioning of the bars in the retail stores and why? Explain
5. Which of the protein bars among the following would you choose and why?
6. Which element of packaging do you pay attention to and why?

