

Creating Value Through Taste: The design of an Attribute Costing Based and Value-Engineering Menu for a local Fine Dining Establishment.

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<p>The primal objective of this study was to identify the set of value-creating attributes from which patrons at a local fine dining establishment derive the utmost benefit; subject to yielding the optimal cost-to-benefit reward to the establishment. These were then to be embodied in a niche menu design, through menu-items capturing these value-creating attributes.</p> <p>A predominantly quantitative approach was taken to identify these value creating attributes; a survey approach was taken to obtain responses from 107 respondents from a pool of current, and past establishment patrons. A questionnaire was used as the research tool comprising a number of brief defined-response questions and Likert-scale statements. The Friedman non-parametric test statistic was then used to analyse the significance of attributes rankings and the statistical significance of the elicited results.</p> <p>The chef's expertise was then deployed to match the relevant benefit-yielding attributes to the respective menu items. An attribute costing technique was then utilised to derive the relevant cost to provide the attribute-embodiment menu items to the end customer. The management accounting technique of Value Engineering was then put into practice to identify the set of menu items that give the best cost-to-benefit payoff to the establishment through the computation of a value index. Such mix of value-creating menu items was then incorporated into a new menu design, which would be deemed to be the value optimal mix for the establishment.</p> <p>The inclusion of artisan products, ethically-sourced foods and the availability of a "Paleo" or low-carbohydrate option on the menu were the top 3 ranked value-creating attributes. The availability of a vegetarian, and a gluten-free option, together with use of exotic commodities also garnered reasonable significance. These evidence a thorough change in patron attitudes, shifting from more traditional and extravagant mind-set to a more minimalist and substance-oriented preference set.</p> <p>Value is created in the fact that this research work utilises an array of statistical and management accounting techniques to identify a value-creating menu. This is consistent with the modern reality whereby restaurant management has become a multidisciplinary and trend-driven process.</p>	
Keywords Attribute Costing, Menu design, Value Engineering, Fine dining establishments	

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1 Introduction

1.1 Introduction

The fine dining experience is distinct from the phrase 'eating out'. This distinction is embedded in the fact that whereas the former may entail emphasis, on any dining experience, with the motives of satisfaction and self-nourishment. The fine dining experience entails the dimension of a certain refined product that has the objective of feasting the diner's senses in a holistic manner.

1.2 The Menu & the fine dining experience

The main focal point of a restaurant is the food and dining experience, which is composed by many elements, such as food and beverages, atmosphere, social factors and the managerial style which operates the restaurant. What the customers will ultimately gain from dining in restaurants, is reflected in their memories and overall perception of the meal experience. The menu plays an integral part of that experience which is reflected on the customers, value of perception (Hansen et al., 2005).

The menu is an important tool, as it is a mechanism of communicating to the clients, what the establishment has to offer and sell at a set price. It also portrays the concept and style of the restaurant and the level of professionalism of its work force. Furthermore the menu can direct the customer's attention to the items that the establishment want to sell more. (Kincaid and Corsun, 2003).

A number of studies have shown that, compiling a menu is an element of restaurant management that requires conducting critical managerial activities, such as planning, pricing, designing and analysing (Jones and Mifli, 2001; DiPietro et al., 2004; Ottenbacher and Harrington, 2007; Bernstein et al., 2008). In his empirical study, Kivela (2003) states that "the menu has become a significant element of food-beverage production with the quality of directly affecting demand, income and cost. A well designed menu can subsequently lead to the increase of sales and profitability of the establishment". The study emphasizes the traditional approach that restaurateurs and chefs have approached the process of menu planning, which is generally based of their gastronomical knowledge and their personnel perception of the local market and current food trends, which may not necessary be reflective of the clients' wants and needs

The main principles and objectives of the menu are to:

- Meet & exceed guest's expectations.
- Attain its marketing objectives.
- Set and attain the quality standards.
- Be cost effective.
- Well balanced with regards to flavours, taste, textures, colour and nutritional value.
- Be accurate, in compliance of the EU Food Information for Consumer Regulations No 1169/2011.

The following factors must be taken into consideration when devising a menu:

- Logical menu sequence based on the classical menu sequence so that the meal will have a good flow and is well balanced.
- Adapting the menu according to the season.
- Variety and combination of ingredients: inexpensive or secondary cuts, combined with luxurious and prime cuts of meat.

In Malta and Gozo, there are 684 licenced restaurants, collectively catering for 28,261 covers MTA (2016). The Malta Tourism Authority (MTA), which in turn falls under the responsibility of the Ministry for Tourism, is the regulatory body for licencing and grading restaurants in Malta and Gozo. Restaurants are graded according to the 'Catering Establishments Regulations' (Subsidiary Legislation 409.15 to the Malta Travel and Tourism Services Act)

In 2008 MTA launched 'The Quality Assured (QA)' seal. The QA seal covers three key tourism business operations, namely restaurants, visitor attractions and destination management companies (DMCs). This is a voluntary scheme which gives recognition to these hospitality sectors that offer high levels of quality, consistency and professionalism. In the case of the restaurant sector the assessment is done by a set of criteria, covering service, hospitality, food and ambience.(MTA: Restaurant Quality Assured Seal Audit Criteria), which is done by an onsite audit carried out by the MTA quality assurance executives and a number of mystery diners. A total of 106 restaurants in Malta and Gozo have been awarded the (QA) seal.

Other means in which restaurants in Malta and Gozo are rated include, the local independent restaurant guide 'The Definitive(ly) Good Guide to Restaurants'. This guide assess each restaurant for the quality of food, service and ambience, the overall result is captured by the weighted average of these ratings out of a possible 50. The grading is carried out by a survey which in 2015, had 1973 participants, that had dined out on average 2 times per week, totalling 205,192 dining experiences in a year. The guide lists the top 150 restaurants

in Malta and Gozo. Trip Advisor ® which is globally recognised, established source of appraising restaurants. The reviews which are posted, have an influential aspect on the frequency of diners that a restaurant attain.

However one is to note that one must interpret the latter two methods of 'rating' with a certain degree of caution, due to the fact that there is no theoretical grounding in attributing the results and that there is a degree of anonymity in the number of responses of the survey questioners that are submitted. Reviews are generally subjective to the personal perspectives and experiences that diners encounter, rather than a generic form of grading criteria.

In the last 3 years Malta has experienced an economic upturn in the tourism sector (MTA 2015). In 2015 tourist arrivals in Malta were up 5.3 % in the first half of this year compared to the same period in 2014, as stated by the World Tourism Organization (UNWTO) (Times of Malta, 2015). A survey conducted by the Malta Hotels and Restaurants Association (MHRA), in the winter of 2015-2016 which are considered as 'shoulder months' restaurants in Malta, experienced a 3% increase of people dining out compare to the same period in 2014-2015. All these factors have contributed in the growth and stabilization of the Maltese, restaurant sector, which has resulted in generating investment in the local economy.

1.3 Value Creation

The term value, evokes connotations of worth, attaining something that is sought. This may be partially captured in monetary terms, nevertheless confining value to simply a monetary amount detracts from the broader sense of the word. Value in a fine dining restaurant, can be sourced from various factors, such as the quality of food and wine that are served, the décor and ambience of the establishment, and the quality of customers service that is offered. Enhancing customer satisfaction is one way a fine dining restaurant establishment can create value, keeping cost effectiveness and financial management aside. Academics in the hospitality management sphere, make reference to the "Five Aspects of a Meal Model" (FAMM) (Gustafsson et al., 2006). This tool outlines a methodical approach in the planning of the service delivery of the meal by enhancing customer satisfaction, effectively creating value.

From a perhaps more accounting-oriented viewpoint, value is maximised to the extent that it accrues to the ultimate owners of the entity, by way of positive net cash inflows. This brings about the implication that minimising costs and promoting cost effectiveness also creates value.

Value Engineering can be said to be the intentional manipulation of a product and or service, with their respective particular attributes to ensure that said this tool was first pioneered by General Electric Co in the years following the end of the Second World War. Designed as a tool for improvement, in the case of a concept design, value engineering enables delivery of product attributes and functions that meet client needs at the lowest overall cost possible (Society of American Value Engineers, 2016). This is possible through inclusion of value adding attributes to the product.

If we are to take upon the perception that value derived by the fine dining establishment can be captured through an array of attributes, therefore, we can build and cost a menu in such a way, that the menu items incorporate to the best extent possible, the attributes that one can identify as being value creating. One can then isolate the possible costs incurred by the business in providing this attribute, through a process called attribute costing. Drury (2012) defines attribute costing as: “The costing of specific product attributes that appeal to customers”.

This study adds value to both academic literature and local menu design practice by being, the first study conducted on the local restaurant sector, having an attribute costed and value engineered menu design. This study will have the beneficial value to the entrepreneur and the chef in designing the menu through a scientific approach, rather than perception, thus portraying and integrating, the needs and expectation of its customers. The study will also identify, the current food trends that customers perceive, to be reflective in the menu design, this assures that menu items with attributes, that are too costly with limited customer benefits do not make onto the menu.

1.4 Research Questions

Which are the key attributes that the establishment’s target clientele value most in fine dining experience?

How can the above client’s expectations be embodied within a new menu design, to create value to the establishment?

The Research Project shall take up the following structure:

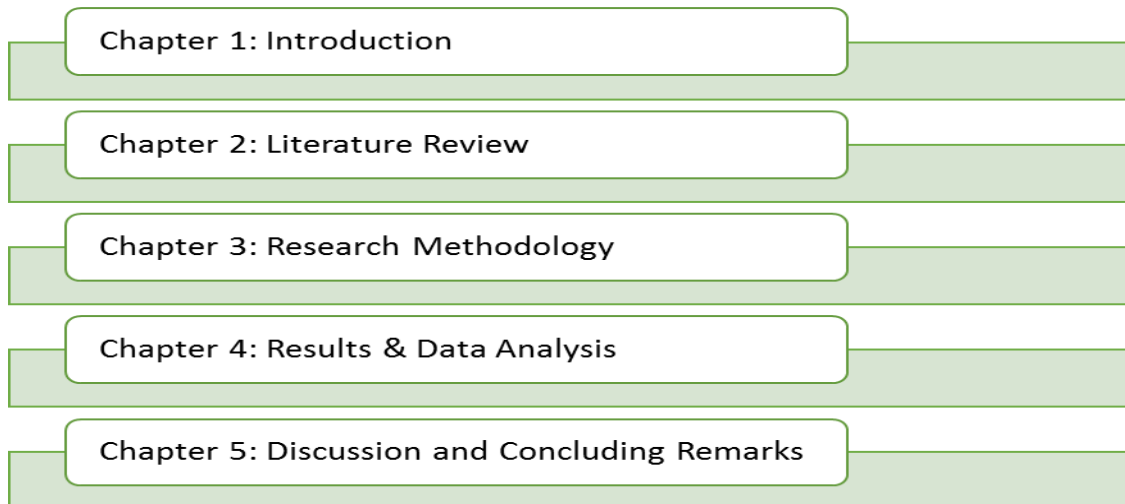


Figure 1. Research Structure

Chapter 1: This introduction chapter is concerned with acquainting the reader with core definitions, and the concepts of attribute costing (AC) and Value Engineering, (VE), together with an outlook on Menu design and the Maltese fine dining sector.

Chapter 2: This Chapter gives the reader an in-depth insight into previous academic and technical case studies and literature concerned with the research project matter.

Chapter 3: Here an outline is given into the quantitative and qualitative hybrid method used to collect and analyse data to construct the AC and VE menu design. Together with the ethical considerations addressed.

Chapter 4: In this chapter the survey and attribute costing and value engineering menu exercise results are presented. Finally presenting the reader with the designated value-optimal menu design and suggested pricing.

Chapter 5: Here the results presented upon in Chapter 4 are deliberated and discussed presenting insights comparing and contrasting, such findings to work discussed in Chapter 2. This chapter then brings the study to a conclusion with presenting key take-aways and avenues for further research.

For the purpose of citing literary works, the Harvard system of citation and referencing was utilised throughout the presentation of this research project.

1.5 Presentation on the Commissioning of the Case Study and Study Outline:

The Medina Restaurant has been established for the last 35 years, having a mainstay in Malta's fine dining scene. The Medina embrace's the concept of 'Cuisine Moderne', having traits of Mediterranean and local influences. The restaurant is situated in the northern part of Malta in an 11th century Norman house in historical medieval city of Mdina. The restaurant has a diverse client base, catering for cooperate and locals clients, travellers and Destination Management Companies (DMC) which market the restaurant for high-end corporate groups. A new market niche which this restaurant embarked on is catering and hosting weddings especially foreign clientele.

The Medina restaurant is classified as a medium size business entity employing, 10 full-time staff and 16 part-time staff, managed by the Winston's Medina Restaurant Company Ltd, under the guidance of Mr Noel Debono, the managing director.

The Medina restaurant has won numerous awards in the Maltese hospitality sector, from 2007, the Medina was ranked as one of the best ten restaurants in Malta and Gozo by the The Definitive(ly) Good Guide, winning the best restaurant in Malta and Gozo for two consecutive years 2014 and 2016. Other awards include Malta Hotels and Restaurants Association (MHRA), "Recommended Label", 2011, the Medina Restaurant was the first restaurant to receive this award, in recognition of achievement in professional management, quality food and high standards and the MTA, QA seal ranking first for, best service and hospitality in 2015, 2016. My association the Medina is through my past employment where I was the executive chef for the last 10 years.

2 Literature Review

2.1 Introduction

An in-depth insight into prior research, provides the researcher with a theoretical underpinning to better understand the research issues at hand. In respect of a more project oriented endeavour, past projects of a similar nature and related academic literature helps provide the project developer, with the rudimentary principles from which the project design can be founded on, together with guidance about what can go wrong in project execution and possible remedies to mitigate any obstacles that might arise.

The literature review chapter shall be divided into three principal sections: The first section is concerned with acquainting the reader with key concepts and methodical approaches to menu design. This, together with the recent local and international trends evident in fine dining establishments in recent years. The second section, shall provide an insight into the fundamentals behind the value engineering approach to menu design. The third and final section shall discuss and elaborate upon the role of attribute costing, in deriving the costs of the desired attributes that are identified by means of the value engineering exercise.

2.2 The Menu Design Process

The menu is of the most powerful mediums of communicating the dining experience, on offer by an establishment. It is more than just an itemised list of dishes on offer, as it helps build customer expectations, prior to the actual dining experience. Research by (Johns and Kivela, 2001; Hansen, Jensen and Gustafsson, 2005), all argue that the primary product of restaurants is the meal experience, which is constituted by many components. This is inclusive of the food and beverage product and service, atmosphere, social factors and management. What the customer gains from consumption in restaurants is their memories and overall perception of the meal experience. Given that the menu is therefore an integral part of this experience, as it helps substantiate client perception, a well-constructed menu may thoroughly help differentiate amongst different competitors of the same market segment.

In the “Five Aspects of a Meal Model” (Gustafsson et al., 2006), the aspect of the menu is embodied in the ‘product’ which is amplified in the core of the model along with the ‘room’ and ‘meeting’ aspects’ of the model. The research identifies certain attributes attaining to the ‘product’ such as: the theoretical and practical competence of the employees, the meal form be it a canteen or an a la carte, the food and the methodology applied in cook-

ing it, using elements of creativity, the application of the sensory analysis, elements of microbiology and menu planning. All these attributes are interlinked in the delivery of the 'product' giving the customers, an enjoyable dining experience.

As previously stated (Kivela, 2003) identifies the traditional approach in-which restaurateurs and chefs embark on the process of menu planning. He conversely criticizes this approach and proposes the concept and application of, a Menu Planning Qualitative Variables (MPQV) approach in menu planning, which considers the gastronomical, marketing and menu mechanics variables.

The majority of literature that delves into menu analysis models, mainly focus on the ability to evaluate menus in terms of the impact on the entity's cost structure and the menu items' popularity or impact on the menu items' demand, gauged by their relative popularity by way of a matrix. (Miller, 1980; Kasavana and Smith, 1982; LeBruto, Quain and Ashley, 1995; Cohen, Ghiselli and Schwartz 2006). In their research (Taylor, Reynolds and Brown, 2009), approach the subject by applying a Data-Envelopment Analysis (DEA) to their model, applying a multidimensional method which evaluate, individual menu items based on attributes of labour and profitability factors, to analyse menu items performance. The study suggest that a (DEA) based model is not constrained by the limitations of traditional matrix approaches of earlier models, but supports a more resilient approach by incorporating more cost determinants than traditional menu engineering approaches.

Menu success can be gauged by its ability to generate increased interest in the dining establishment, translate into increased patronage and ultimately increased revenue. Nevertheless, existing literature identifies other variables that come into play when it comes to enhancing menu success, other than menu design itself.

The restaurant industry is characterized by its high rate of competitiveness. "It is fundamental for restaurants to try and develop a special gastronomical experience for increasingly demanding customers." (Berenguer, Gil and Ruiz, 2009). To attain and enhance this competitive, edge, restaurants must be innovative in the delivery of the overall dining experience. The innovation development process can be defined as a formal blueprint, roadmap or though process for driving a new project from the idea stage through to marketing launch and beyond (Cooper and Edgett, 1999). In the research by (Ottenbacher and Harrington, 2007), focuses on the innovation processes in Michelin star restaurant kitchens, when creating new dishes. These processes encompass the stages of idea generation, screening, concept development and test, commercialization, implementation and evaluation. In the research they state that in the idea generation process, Michelin starred chefs, perceive,

customer's ideas, have a minimal effect as a source of inspiration when creating new dishes(17%), citing that the two most attributes which Michelin starred chefs, seek as a source of inspiration are: visiting a colleagues restaurant (84%) and reading cooking literature (75%).

2.3 Menu variables and Considerations

Menu pricing is a crucial factor of the overall menu success, which can be summarized as: the formulation of menu item prices in response to both sales, cost and profit objectives of the firm and the perception and expectations of the customers. When considering menu pricing the following variables should be considered such as, price perception of customers, price sensitivity (price elasticity), pricing methods and most definitely psychological pricing. (Iglesias and Guillen, 2002) argue the importance of customers' perception of menu item prices. In their study they state that the customers' total price perception, consists of: the perceived monetary price and perceived non-monetary price, heightening that customers' also consider reference price and compare it to the actual price of the menu item when making purchasing decisions.

The concept of menu design concept is creation of an attractive menu card that not only provides information, but also directs customers' attention to the items that the establishment wants to sell more. (Ozdemir, 2012). Studies identify that menu design elements comprising of the design characteristics, colour, fonts, texture and size, of the menu card, the position, label and description of the menu items on the menu card.

- In relation to the strategic positioning (also referred to as the sweet spot) of menu items, thus leading to the generation higher sales. Research by (Sobol and Barry, 1980) investigates the effect of menu item positioning, citing the association of the entree location on a menu board with item sales and found that the placement of entrees on a menu board significantly and positively influences item sales. However there seem to be some conflicting views regarding this matter. Studies by (Kincaid and Corsun, 2003; Reynolds, Merritt and Pickney, 2005) found that positioning menu items in sweet spots has no significant value.
- Research by (Dayan and Bar-Hillel, 2011) show that customers are more likely to order menu items positioned at the top or the bottom of the menu card rather than the ones positioned in the middle. Gaze-motion studies; (Kotschevar and Withrow, 2008; Pavesic, 2011) investigate the eye motion, by which customers move their eyes across the menu card thus indicating the primal positing of menu items on the menu card. However recent studies (Choi, Lee and Mok, 2010; Yang, 2012) have

evidently shown, that restaurant menus may consist of sweet spots, where the first gazes of customer focus on.

- The menu label refers to the re-naming of menu items using evocative labels instead of using regular names. In their findings (Wansink, Ittersum and Painter, 2001; Lockyer, 2006) state that menu labelling of menu items, significantly influence the customers positive image in the sense of what is to come, which contributes to the increase of sales.
- Menu item description is the relevant and sufficient information of the menu items that are communicated to the customer on menu card, which are expected to accurately reflect the dish presented (Hartwell and Edwards, 2009). The empirical findings demonstrates, the importance of the menu item description, which will positively influences the probability of the customer choosing that item. (McCall and Lynn, 2008) Similar study by (Shoemaker, Dawson and Johnson, 2005) conclude that the information in the menu item description has a positive impact on the customers' value perception.
- Conclusive study by (Guéguen, Jacob and Ardiccioni, 2012), demonstrates the effect of pictures on customers choice of menu items. They found that by placing pictures of the sea on the menu card, significantly increased the consumption of fish dishes

With the steady increase of the global culture of 'eating out, which is primarily fuelled by the increase in spending power and the lack of skills and time to cook. Owing to the vast media exposure of the food scene, people are more knowledgeable and conscious of the food that they consume, making the process of transforming food into innovative and creative menu items (dishes) more complex and challenging. Today customers are more health conscious in the study by (Choi and Zhao, 2010) show that health issue is the second most important factor which influences consumers' behaviour when selecting restaurants in South Florida. The study concluded that the health issue attributes mainly consisted of low calorie, meals that support personal dietary plan and variety of healthy.

Owing to the increase of the 'healthily eating' trends, recent research show that, placing the nutritional information of the menu item on the menu card, can contribute to the positive attitudes by informing the customers about healthier options available. (Hwang and Lorenzon, 2008; Roberto, Larsen, Agnew, Baik and Brownell, 2010; Yoon and George, 2012).

The 'quality' of food is a dominant factor in the dining experience since it is a necessary condition to satisfy the needs and expectations of customers (Teng and Chang, 2013). Furthermore findings of research conducted by (Lewis, 1981; Auty, 1992; Cullen, 2005) indicate that food quality is the first or second most important restaurant selection factor. An emerging factor that is steadily gaining ground is the implementation of organically grown and ethically sourced foods (Makatouni, 2002).

The plating of food is in itself, an abstract work of art, having attributes to flavour, textures and colours. Gone are the day when food towers dominated food design concept. Current food design trends have taken the 'minimalist', concept in food design, 'leaving the food speak for itself'. This approach focuses more on the values of the food product, respecting the pristine nature of the ingredients. (Deroy, Michel, Piqueras-Fiszman and Spencer, 2014).

2.4 The Menu and the Value maximisation objective of a fine dining establishment

In the more regimental financial dimension to the word value, this word is simply the capture of possible future economic benefits accruing to the owners of the value generating asset. Essentially any business transaction, product or service can have an impact on the entity's value, which can be either: positive and value enhancing or less favourably so, value detracting. One of the most commonly held assumptions in financial and business literature is that of the value maximisation objective.

From a manager's perspective this entails, taking all of the necessary decisions, without restraint, that would ultimately lead to the best possible market value of the entity. (Jensen, 2002) The menu decision and the end menu, as identified in previous literature are two activities that impact restaurant value. (Kincaid & Corsun, 2003), state that the menu contributes to restaurant firm's performance through generating profit for the firm and providing value and satisfaction to the customer. This impact has a twofold emanation, insofar as the menu items have an impact on the cost structure of the firm (by way of the cost of ingredients, labour cost and process costs taken to deliver the end dish) and also on the firm's revenues by way of the impact on customer demand by means of the market signalling effect conveyed by the menu's characteristics, but also by way of the impact of pricing on market demand. The objective to maximise entity value is evidently not a motive confined to one specific line of management or department. An effort to optimise entity value through enhancing and rethinking the entity's processes and products is a global effort that mandates the synergic and collaborative efforts of multiple disciplines and personnel. One such effort is embodied in the value analysis exercise.

2.5 Value Engineering

Value Engineering (VE) or Value Analysis may be defined as the analysis of attributes that impact a product's value contribution and their costs, so that the product embodies the desired attributes and functions to a desired standard of quality and cost efficiency (Drury, 2012). Lane Davis (2004) identifies that the value engineering process uses "analytical, creative and evaluation techniques on a multi-discipline basis". This value engineering effort fulfils the value maximisation objective by redesigning the desired product functions, in a way that their value yield and cost efficiency is maximised. The roots of value engineering are deeply embedded in the seminal efforts of Larry Miles at the General Electric Corporation. In times of post-war economic degeneration and scarcity, the principle of value engineering was brought to practice in redesigning lower ranking military items, to a higher degree of resilience and functionality under these conditions of scarcity. This was only made possible by means of a rigorous functional analysis exercise which is the crux of any value engineering through. The core advantages of successful implementation of a value engineering exercise include: Incorporating value-optimising oriented values into staff, minimising redundant processes and non-value adding product functions, improving resource allocation and consolidating the entity's cost structure (INVEST, 2016).

Obvious applications of VE are evident in the engineering, construction and manufacturing industries, where a project and engineered product orientation, make the use of VE readily evident. (Chougule and Kallurkar, 2012) report that in application to the construction of a universal testing machine , evident excess weight reduction, cost savings and increments in value are attained with a net saving of 20.84%, after taking into account incremental costs and benefits. Applying this mind-set into the menu and product design process of a fine dining establishment, one can verily see that its application helps give the establishment a competitive edge.

Adapted to accommodate the idiosyncrasies of menu engineering at a fine-dining establishment, VE encompasses the following phases (Lane Davis, 2004):

- i.) Goal Definition: The purpose of designing a new menu must be thoroughly considered here. Core questions to ask at this stage include: identifying the menu's target audience, any performance expectations and recent performance both of the establishment and the current menu(s) on offer. This is essential so as to avoid undertaking non-necessary analyses or non-productive efforts in the VE exercise.

- ii.) Information Extraction: Understanding the menu design process and obtaining and assessing the various cost estimates of potential menu items and attributes. Further to this data regarding menu item functionality is to be obtained at this phase. It is important that data here is collected wisely, being cautious as to the collection of redundant or irrelevant data and even insufficient volumes of data. The paramount role of attribute costing in this phase shall be delved into in greater detail further on.
- iii.) Function Analysis: Being the crucial fulcrum of whether the VE effort yields success or otherwise, this most fundamental step in value analysis necessitates that potential menu items are scrutinised in terms of their functionality and the processes needed to deliver such functionality. Functionality here may be defined as the ability of that menu item to meet a target customer's needs to the best degree possible. This could be a particular prominent taste, a particular cultural dimension or even a desired calibre of nutritional value, amongst others. The collaborative efforts of the restaurant manager, the management accountant and the establishment chef and potentially others must come to a confluence at this point. Menu items must not only be considered in dimensions of revenue and costs, but also in terms of the resources and processes needed to be deployed to deliver them. Innovation, a benchmarking exercise and considering a tear-down approach to scrutinising existing and possible new food preparation and delivery processes are some considerations that come into play here.
- iv.) Development: Following suit from functional analysis, the development of the niche menu, comprising the menu items that capture the desired customer needs the best is tailored accordingly. This phase leads not only towards the development of the final menu card taking into account menu aesthetics, item descriptions and other such considerations, this to successfully deliver the end product to the desired degree of functionality, in a cost effective manner.
- v.) Implementation: Upon presenting the final developed menu a, the end deliverable of the VE exercise, it is up to those charged with the governance of the establishment to execute the introduction of the new Value engineered menu and accompanying processes. The role of follow up and analysis of variances and other deviations from the actual performance of the VE menu to the projected performance and past performance of the previous menu and system is essential. This post-audit of the VE exercise may in turn help add value by providing recommendations to refine and consolidate the past VE effort.

In analysing potential pitfalls in executing a VE exercise, particularly at the data collection stage, (McDuff, 2001) identifies particular issues. Staff non-cooperation and resistance by management is one particular issue. A managerial innovation cannot occur successfully, when the intended beneficiaries themselves are opponents. As best put in the words of Horngren, Foster, Datar, Rajan & Ittner (2008), "Gaining support of top management and creating a sense of urgency is key to championing any managerial innovation".

Further issues that may impinge on the success of the VE exercise includes the commitment of funds and resources too early in the VE process prior to having established feasibility. Success of the end VE product and processes may be contingent on extraneous factors such as market volatility, dynamic customer attributes and also structural changes to the establishment's management. Deploying and committing resources and funds too early in the day may lead to disappointing results prior to actual feasibility being transparent. As outlined by (Tantawy, 2016) the optimal time to deploy resources is after the design stage.

One other such issue of contention identified by (McDuff, 2001) is the isolation of members of the VE team from discussions and operations, or the non-existence of a team. Dysfunctional behaviour and non-synchronous efforts arise when everyone working towards an objective is not on the same page. In estimating product cost and functionality this causes particular "mismatches between the estimates and the scope of work" (McDuff, 2001). These issues have a tangible bearing on the effectiveness of the VE exercise, particularly as the outcome of the VE exercise is only as good as the inputs to the effort.

2.6 Attribute costing: The auxiliary to Value Engineering

As outlined in the prior section, the outcome of a VE exercise is thoroughly contingent on the inputs, team coalition, data and estimate quality and management support amongst others. Attribute costing is one particular approach to deriving the costs of desired customer attributes of a product, to a degree of accuracy. This is based on the seminal work by Bromwich (1999), which stresses that value for the business can be maximized by providing attributes that give "high benefits to consumers for little or no cost to the firm". These works give an insight into the fact that both the costing dimension and the customer's wants as reflected through possible product attributes have to concur in a value-oriented business strategy. Attribute costing makes possible a competitive edge for the establishment by vertically differentiating the entity's product. Vertical differentiation entails that the product quality is distinctively and objectively captured by the product's attributes. Hence if one provides the desired client attributes to a degree of quality higher than the competitors' products at

minimal cost, a competitive edge is naturally maintained. Value engineering (VE) is distinct from attribute costing, in the fact that whereas the latter aims to derive the effective cost to the business for providing these customer attributes that the items on a menu reflecting customers' desired attributes.

Another dimension of attribute costing identified by Bromwich (1999), is that "costly characteristics" that "a reduction in their quantities, yields a less than proportionate fall in the demand for the overall product or service." In the context of a fine dining establishment this implies doing away with costly menu items providing no real substantial satisfaction to the diner that their removal will not impinge on the success and popularity of other menu items. Hence, in the absence of these cost-cumbersome menu items, the customer would still opt to dine at the establishment. VE on the other hand considers value as a function of both the effective cost to the firm, and the relative cost of the attribute to other attributes, having the relative benefit reaped by the customer in relation to the other attributes. The costing of the selected menu items is central "to the management control system of the meal experience" as outlined by (Ozdemir and Caliskan, 2014) This not only aligns the menu design process to the value maximising orientation of the establishment but also enables performance appraisal of the menu items to be incorporated into the appraisal of the establishment's overall performance.

2.7 An overview of the Maltese Fine-dining sector

In 2012, an exploratory survey conducted by the local tourism authority MTA concluded that the percentage of frequent diners that opt for fine dining restaurants stands at 3.2% (MTA, 2012). Locally, the fine-dining concept is often cited as being costly, offering smaller portions in relation to other alternatives. Hence, fuelling the perception that it is low value for money. This makes it a rather selective market that is highly sensitive to the economic climate and generally frequented by select cohort's namely: high-end tourists, corporate clients and locals celebrating select occasions. In light of these factors, this makes the fine dining market, a particularly competitive environment, having a limited client base. It is therefore crucial that restaurants operating in this segment, provide and maintain a pristine quality product, yet more importantly be innovative and responsive to dynamic client needs. It is only through such that a sound client base can be built to sustain market growth and business value. The local practice that is undertaken when compiling a menu generally attributes to the restaurateurs and chefs gastronomical knowledge, what your competitors are offering and the current food trends, which are mainly influenced from abroad.

This chapter outlines previous literature giving insights into the dynamics of compiling a menu, which has value for both the customer and the establishment. This literature will guide the research methodology that will follow suit.

3. Research Methodology

3.1 Introduction

Defining the appropriate research methods will help to establish the means to attain the above research objectives. Seeking to identify and quantify both client expectations and the cost of fulfilling these expectations, a quantitative approach is necessary. Applying this approach to the research will have the beneficial value: by involving a substantial number of participant, enhancing the generalisation of the findings. Permitting for greater objectivity and accuracy of results, thus providing summaries of data that support the study which ensure the validity and reliability of the findings. The research findings can then be analysed and compared with previous studies conducted on the subject. Kruger (2003), confirms that “Quantitative methods allow us to summarize vast sources of information and facilitate comparisons across categories and over time”

These empirical findings will be the basis that will guide the design and development of the final product.

3.2 Research Design

“Applied research is designed to help solve particular, existing problems”
Venkataram (2012).

The following quantitative research methods shall be used, to obtain these findings:

- An online questionnaire, targeting the establishment’s client base, to identify the desired attributes and expectations attached to a fulfilling dining experience. The use of Likert scales, will help gauge the relative client benefit from each attribute, in relation to other attributes. The Friedman statistical test, will be used to validate the attribute’s relative scores.
- Collection and analysis of costing and management accounting information, will help quantify the relative costs. These can be obtainable from the entity’s cost sheets and supplier quotations. This will comprise the attribute costing facet of the study.

The above will be used in the value engineering exercise, to compile the value index for each identified attribute. This will be calculated as the ratio of the attribute’s relative benefit to its respective relative cost:

Value Index for attribute 'I' = (Relative Benefit of Attribute 'I')/(Relative Cost of Attribute 'I')

The aforementioned can be formulated as follows:

$$VI_i = \frac{RB_i}{RC_i}$$

Formula 1. Value Index for attribute

This will help identify the attributes that generate value for the establishment and that will feature in the final menu design.

3.3 Research Methodology

Being a product-based study, constructing the final menu design substantiated with re-search findings, the project shall be undertaken in the following phases which are stated hereunder.

At the rudimentary stage of the project shall attempt to probe into current client expectations, experiences and comments, based on available past data. These shall serve as a starting point to establish possible attributes that previous diners have revealed through their feedback. This feedback shall be extracted via means such as the establishment's TripAdvisor® page, and the feedback questionnaires currently in use by the establishment.

In an interview conduct with the managing director, whom is the ultimate beneficial owner, he gave a perspective insight on the current market trends of the local fine-dining sector. In the interview he highlighted that the number of covers have substantially increase, owing to the increase in the number tourist arrivals, the strengthening local economy giving the local population better spending power and good reviews that the restaurant has received in local food journals and internet posts on dining related websites mainly, Tripadvisor®. Other notable factors where: the mode of bookings (table reservations), which has seen the dramatic increase in on-line bookings, the slight decrease in the Destination Management Companies (DMC) business, which has seen an increase in establishments offering this kind service and the substantial shortage of employing, qualified employees and part-time employees willing to work especially in the service and front of house sector, creating a considerable skills void in the restaurant sector.

3.4 Survey design, Statistical and Cost analyses:

Being a crucial phase that will set the course for the rest of this study. The survey design will be based on the refinement of the preliminary findings of phase 1, literature findings and upon discussion with the establishment's managing director. Restaurant manager and executive chef. Upon design of the survey, this will be pilot tested and then launched on the online platform ("Google Forms"). This data will enable the quantification of the attributes' relative benefit.

In the time period between the collection of the response data and the respective analysis, costing data is collected as the building block on which the attribute costing element of the research is to be built on. The establishment's management accounts and costing sheets shall be used to extract the relevant information.

The phase of attribute identification and costing shall entail the statistical analysis of the survey data. Descriptive statistics and basic hypothesis testing (using the Friedman Test). The role of hypothesis testing here is to statistically validate the truthfulness of the attributes' relative rankings, thereby minimising the possibility that they occurred solely due to chance. Upon identification of the attributes the costs to provide these attributes shall be established using the above cost management data. This exercise shall incorporate identifying raw materials costs, labour costs, any additional overhead, together with accounting for any price or efficiency variances that can occur. Opportunity cost shall also be factored in, as a means to ascertain that the net value of the next best alternative attribute forgone is also covered by the value from the chosen attribute.

3.5 Quantitative analysis of ordinal categorical data using the Friedman test

When one requires to measure an unobservable (latent) variable such as human preferences, one cannot directly gauge the size or direction of this variable. The reason for this is that human preferences are abstract phenomena that manifest themselves through our actions and behaviour. Data for human preferences is either implied through observation of behavioural patterns or, in this case an arbitrary rank given to a statement through use of a 'Likert Scale'.

In this case we have a scenario where the respondent is given a set of similar statements, to which he has to give an arbitrary ranking from an upper limit say 5 to a lower bound say 1. Here, the nature of the data set generated, from measuring this unobservable variable can be said to be of an ordinal categorical nature. Reason being, the data cannot be measured on a continuous scale and hence is not metric in nature, but the variable can have only

5 possible categories or outcomes, hence, is categorical. Nevertheless, this variable is also ordinal in nature as for instance a ranking of 4 yields a higher ranking than a ranking of 1, on the established array of outcomes.

In our case, we are required to establish which menu attributes garner the higher customer preference rankings, for a sample of respondents that are patrons to a fine dining establishment. Statistical hypothesis testing, is a tool in quantitative analysis that helps us establish the truthfulness or otherwise about a set of statements on a population, using the statistical properties of data from a sample. In this case, we would like to establish whether there are any menu attributes on a fine-dining menu that garner more popularity than others, from the population of the patrons of the Medina Restaurant.

Upon preliminary analysis of the data, given that the data is categorical in nature and does follow a normal distribution, as established by the Kolmogorov Smirnov test of normality, non-parametric statistical tests have to be used. The Friedman test is, a non-parametric test is used to determine whether a set of related samples (i.e. rankings for related statements) have equal median values (here the median, a measure of central tendency is used to gauge the expected response by the respondent.). Hence we would like to establish whether for a sample of 'X' respondents, whether the ranking given to a statement 'Y' has a superior ranking to that of other related statements, and whether this is due to it being a statistically sound (robust) attribute of the population of diners at the Medina, or by chance. In using the Friedman test we assume that the distribution of the outcomes of the 'F' (Friedman test statistic) has an approximate Chi-Squared Distribution.

3.6 Value engineering and attribute incorporation into menu items.

This exercise will act as the second and ultimate "filter" to discern the true value maximising client attributes that are to form the basis of the menu. The relative value indices shall be computed based on the formula, (as stated at the beginning of this chapter) and the top value creating attributes chosen.

Incorporating value-creating attributes into menu items is the crux of the project. In this stage, possible menu items shall be chosen based on the fact that they embody the attributes identified in "phase V". These shall be sourced from a variety of sources: comprising the outcome of the discussion with the establishment's proprietor and the findings from previous literature.

The final stage to this project shall entail the design of the final menu containing the above designated menu items. This will be presented in the format designated to be presented and tabled to those charged with the governance of the establishment.

The main source of uncertainty or of risk in the execution of this project is undoubtedly the attainment of the target responses. In the event that the threshold response rate is not attained, 2 focus groups with a select number of current clients could be conducted, with their consent to obtain the relevant data.

3.7 Ethical Considerations

A sound research ethic, would ascertain that the product development and research project are conducted in an integral and honest manner and that any data and information attained, shall be treated in the strictest confidentiality. Permission for the commission of this study was granted by the managing director of the Winston's Medina Restaurant Ltd, operators of the Medina Restaurant Malta, giving access to the researcher/project leader, all the relevant information that is needed to conduct this study.

The primary ethical safeguards include:

- The conservation and adherence to the respondent and interviewee's anonymity and right to refrain or withdraw from answering the survey.
- The non-disclosure of sensitive costing information and other business data to third parties.
- Ascertaining the establishment's right to withdraw from participation in the study at any point in time, together with the non-disclosure of the outcome of this project to unconcerned parties.
- A forwarding letter was sent to the respondents' of the questionnaire, introducing the researcher/ project leader and outlining the study's aim and objectives.
- The distribution of the questionnaires, using the establishment data base shall be undertaken by the establishment managing director, in accordance to the local Data Protection act (Cap 44 of the Laws of Malta). Being the data originator, it is only such person that has the legal right to access the client's consented disclosed data. Being third parties the researcher/ project leader, has no legal right to said information.
- All the information which is compiled through the study shall only be disclosed and discussed with the thesis advisor.

- The ultimate safeguard or act of compliance would be to forward a final version of the transcript to the establishment's managing director, to ensure the integrity of the transcription process.

These safeguards shall ensure the protection and promotion of both the respondents' and establishments' rights and interests. The research strategy and quantitative factors adopted in the conduct of this study are outlined in this chapter. The ensuing chapters ensure to report and analyse the research findings from the implementation of this methodology.

4 Findings & Data Analysis

4.1 Introduction

This chapter initiates by presenting the results and statistical analysis of the responses elicited from the questionnaire sent out between the months of June 2016 to October 2016. The outcome and association of the chosen menu items to the respective attributes identified in the statistical analysis is then presented. Finally the results from the attribute costing and value engineering data models, for the respective menu items are discussed. Particular insight is then given to the final menu, devised from the outcome of the various analyses.

4.2 Questionnaire Data Findings & Analytics

In total 107 responses were obtained from 7 different nationalities, ranging from ages 18-54. The modal nationality among patrons was Maltese nationality (locals) comprising 63 % of all responses, whilst the second most frequent was British (30 %). This is illustrated by means of Figure 1 below. In respect of the age-distribution of respondents, the majority of respondents emanated from the Baby-Boomer cohort (54+) comprising 35.5% of all observations. The second most frequent age cohort was that of people aged 41-54 (32.7 %), whilst respondents aged 18-25 only comprised 3.74 %, as evident from Figure 2. One is to note that the lack of representativeness of a normal demographic age distribution is one limitation of this study. Nevertheless, the observed age-frequency distribution is consistent with that expected from the establishment's patrons based on historic figures.

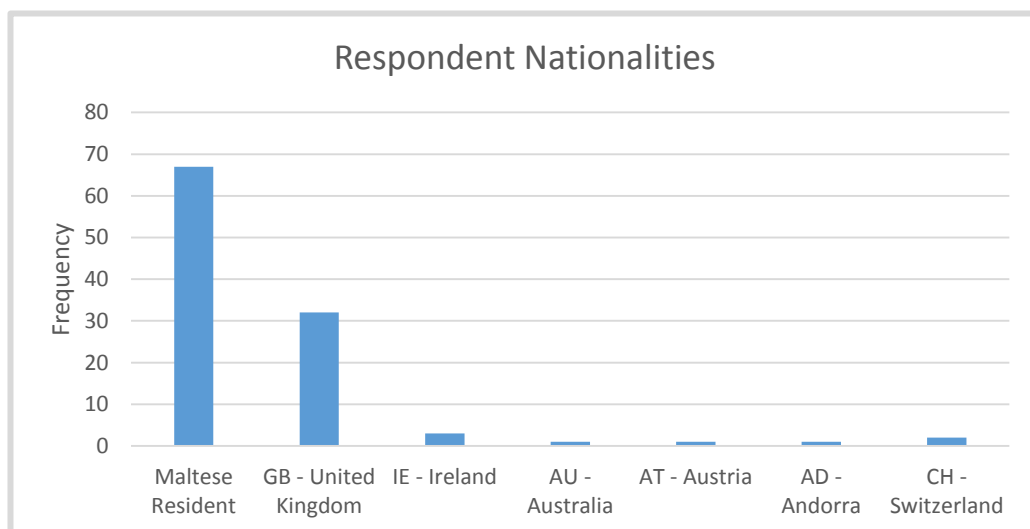


Figure 1. Respondent Nationalities

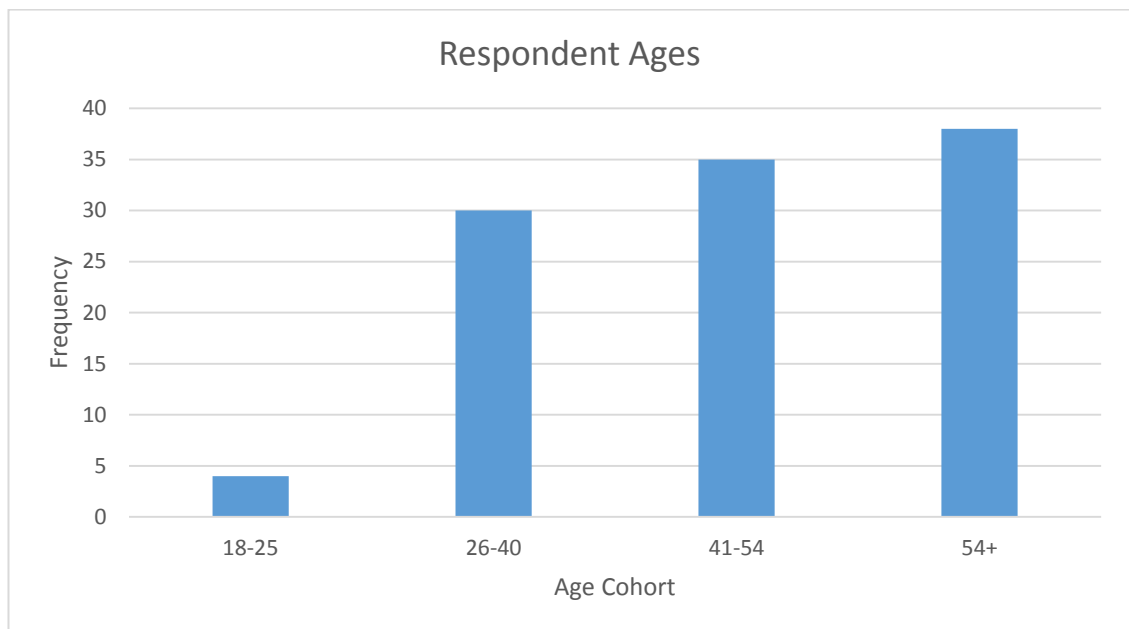


Figure 2. Respondent Age Distribution

The primary reasons indicated by the respondents for opting to dine out was that for leisure purposes and the celebration of a particular occasion. Corporate diners only comprised 2.8 % of all observations as illustrated in Figure 3. Finally when asked to identify the frequency of dining out in the span of a month, more than half of respondents, stated that they dining out frequency is more than twice in a period of a month, Figure. 4.

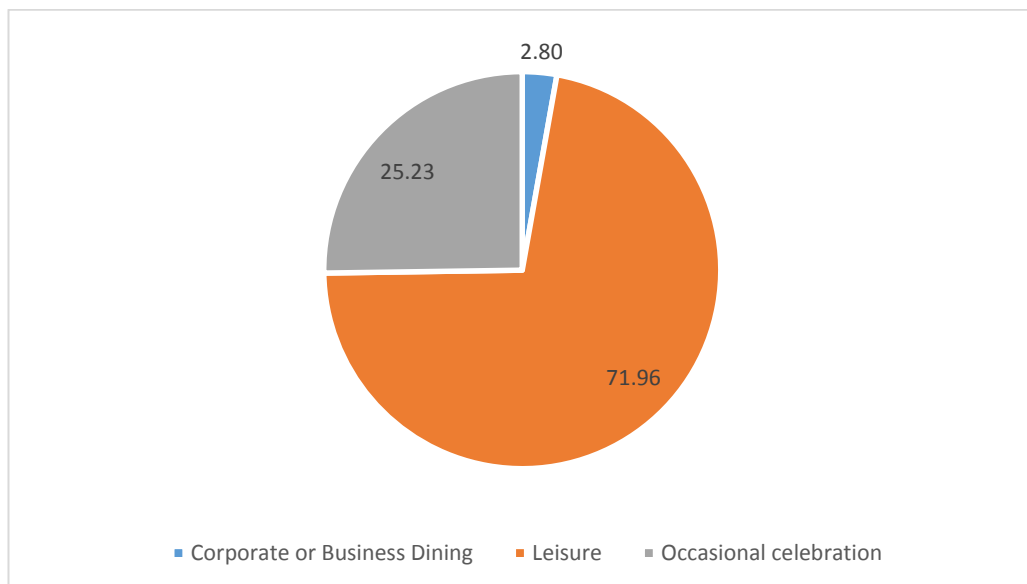


Figure 3. Respondents' Motives for Dining Out

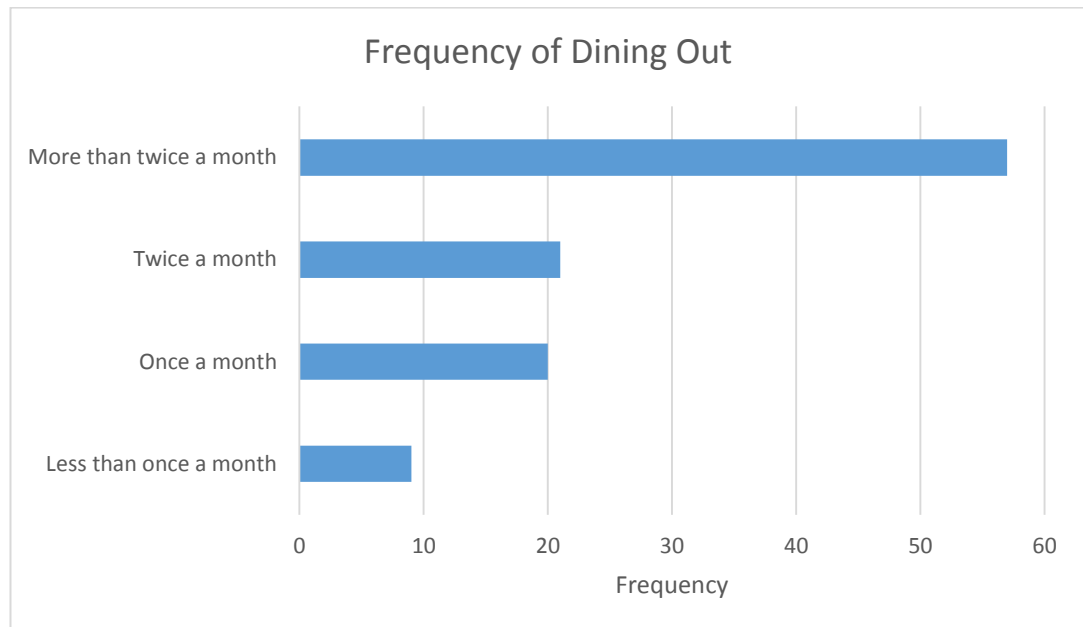


Figure 4. Respondents' Frequency of Dining Out

4.3 Statistical Analysis of Desired Menu Attributes

In sum, respondents were asked to rank 7 identified menu attributes using a 5 point Likert scale as described in section 3.8 of the established research methodology. The 7 menu-attributes identified mainly pertained to ranking preferences for:

- i.) Use of Artisan products and ingredients in menu items.
(Captured by Variable: LARTISAN)
- ii.) Use of Exotic ingredients in menu items.
(Captured by Variable: LEXOTIC)
- iii.) The availability of vegetarian options on the menu.
(Captured by Variable: LVEG)
- iv.) The availability of low-carbohydrate (Paleo-diet compliant) dishes.
(Captured by Variable: LLOWCARB)
- v.) Catering for belief-based dietary orientations
(Captured by Variable: LBELIEF)
- vi.) The availability of Gluten-Free menu options (for both Coeliac and gluten-free choice-driven patrons.)
(Captured by Variable: LGLUTENFREE)
- vii.) Prominent use of ethically sourced and sustainable ingredients in menu items.
(Captured by Variable: LETHICING)

Upon the conduct of analysis of the menu attributes as enabled by means of the statistical analytics pack (SPSS). It transpired through the conduct of the Kolmogorov Smirnov (K-S)

& Shapiro Wilk (S-W) tests of normality that the distribution of all 7 menu attribute rank variables did not follow a Normal distribution. The results of the outcome of these tests are tabulated in table 1. below:

Table 1. Violation of the Normality assumption by the 7 Menu Item Attribute Variable Captures.

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
LARTISAN	.302	107	.000	.784	107	.000
LEXOTIC	.171	107	.000	.915	107	.000
LVEG	.173	107	.000	.870	107	.000
LLOWCARB	.166	107	.000	.897	107	.000
LGLUTEN-FREE	.191	107	.000	.844	107	.000
LETHICING	.229	107	.000	.871	107	.000
LBELIEF	.340	107	.000	.751	107	.000

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
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LETHICING	.229	107	.000	.871	107	.000
LBELIEF	.340	107	.000	.751	107	.000

As evidenced in table 1. all 7 variables have K-S and S-W test statistic results that are below the 0.05 and 0.01 levels of significance, with p-values of .000 each. Hence the probability distributions of these variables are deemed to be statistically significantly different from the Normal distribution. This implies that use of parametric hypotheses tests could not be made and hence use of the Friedman Test, the non-parametric and multivariate analogue of the paired student-t test (for when data is normally distributed) is made.

The results of the descriptive statistics of these 7 Likert scale variables are tabulated in table 2. below:

Table 2. Descriptive Statistics for menu-attribute variable captures (all values are stated at the 5% level of significance).

Descriptive Statistics						
	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
LARTISAN	107	4.21	.919	-0.79	2	5
LEXOTIC	107	2.93	1.130	-0.05	1	5
LVEG	107	2.92	1.480	0.00	1	5
LLOWCARB	107	3.06	1.338	-0.15	1	5
LGLUTENFREE	107	2.78	1.556	0.23	1	5
LETHICING	107	3.64	1.177	-0.70	1	5
LBELIEF	107	1.94	1.227	0.98	1	5

Looking into the results of Table 2, yields the following analysis: The variable with the highest ranking attribute at the initial glance is the preference for use of artisan products on the menu (*LARTISAN*), having obtained a mean ranking of 4.21. This implies that this variable was ranked as yielding relatively high benefit in menu items to restaurant patrons. The relatively high mean ranking of this variable is evidenced by the fact that it was the only variable out of the 7 to receive a score of not less than 2. This variable also evidences a slight degree of negative skewness (-0.79) implying a slight tendency of the mass of the data to be present at values higher than the mean of 4.21. This variable also has the lowest degree of variability as gauged by the standard deviation, with a value of 0.919.

The second-most highest ranking attribute is that for the preference of ethically sourced and sustainable ingredients on the menu (*LETHICAL*), with a mean ranking of 3.64 yielding a higher than moderate contribution to menu-item value. Like the artisan product variable, this variable also evidences a degree of negative skewness (-0.7) yet with slightly higher variability than the former ($\sigma = 1.17$). The variable capturing the availability of Low-Carb options on the menu (*LLOWCARB*) was the third-most highest ranking menu attribute with a mean of 3.06, with a slight negative skew and greater variability than the former two.

With values closely approximate to one another, the two variables (*LEXOTIC*) and (*LVEG*) rank 4th and 5th with mean ranks of 2.93 and 2.92 respectively. The former three variables all seem to yield a moderate contribution towards patron benefit from menu items having these attributes. The variable for the availability of a gluten-free option (*LGLUTENFREE*), obtained a mean rank of 2.78 yielding a slightly lower than moderate contribution to client value.

The least perceived benefit-yielding menu- attribute was that of having belief-based menu choices such as Halal and Kosher options on the menu (*LBELIEF*). The mean rank of 1.94 and the degree of positive skewness (0.98), hence having the relative mass of the data centered on values lower to the mean, further validate the relatively low-benefit contributing nature of this menu attribute.

In spite of having analyzed the above results, reliability of these results cannot be established without establishing the statistical significance or otherwise of the above results. This was conducted by means of the Friedman test. The Friedman test was utilized here to test the null hypothesis that the mean ranks of all menu item attributes are the same (hence no attribute has a higher statistically significant rank than the other) vs. the alternative hypothesis that the mean ranks of menu item attributes are indeed statistically different from one another and hence there exists some order or ranking among these mean ranks. This hypothesis is formally formulated as:

$$\begin{aligned}
 H_0 : & \text{MEAN RANK}_{LARTISAN} \\
 &= \text{MEAN RANK}_{LETHICING} = \text{MEAN RANK}_{LGLUTENFREE} \\
 &= \text{MEAN RANK}_{LLOWCARB} = \text{MEAN RANK}_{LBELIEF} \\
 &= \text{MEAN RANK}_{LVEG} = \text{MEAN RANK}_{LEXOTIC}
 \end{aligned}$$

$$\begin{aligned}
 H_a : & \text{MEAN RANK}_{LARTISAN} \\
 &\neq \text{MEAN RANK}_{LETHICING} \neq \text{MEAN RANK}_{LGLUTENFREE} \\
 &\neq \text{MEAN RANK}_{LLOWCARB} \neq \text{MEAN RANK}_{LBELIEF} \\
 &\neq \text{MEAN RANK}_{LVEG} \neq \text{MEAN RANK}_{LEXOTIC}
 \end{aligned}$$

The results from the conduct of the Friedman Test are tabulated in Table 3. below:

Table 3. Friedman Test SPSS Output.

Friedman Test	
Attribute	Mean Rank
Artisan prod.	5.68
Ethical Ingredients	4.85
Paleo (low carb)	3.96
Exotic Ing.	3.75
Vegetarian Opt.	3.73
Gluten-free	3.67
Belief-based opt.	2.37

Test Statistics^a	
N	107
Chi-Square	173.394
df	6

From all 107 responses elicited for the above 7 variables the mean ranks based on the Friedman test statistic order the above menu attributes as evidenced in the upper portion of the table above, from use of Artisan products (Friedman mean rank of 5.68), hence ranking 1st to the availability of belief-based options (Friedman mean rank of 2.37). One is to note that these ranks are notional based on the test statistic and not the actual mean rankings as tabulated in Table 2. Significance of these results and consistency with our analysis and ordinal ranking as established through the descriptive is established by the p-value of 0.000. Corresponding to the area beneath the Chi-squared distribution beyond the Friedman test statistic score of ($F = 173.394$), this enables us to reject the null hypothesis (H_0) at the 1% level of significance and accept the alternative hypothesis (H_a) and implying that there is some order to the mean ranks of the menu attribute as established in Table 3. above. Hence the relative benefit or value yield obtained from each of the 7 menu-item attribute, follows the order and relative magnitudes as portrayed above.

It is these statistically significant notional ordered attribute mean ranks according to the Friedman test that shall be used as the values for the relative benefit yielded by each menu item attribute (for both primary and secondary attributes) in the Value engineering exercise to follow.

Following the establishment of the value-contributing menu item attributes and their relative benefit scores, the rationale behind selecting menu items (dishes) that embody these attributes will follow suit.

4.4 Selecting the Menu-Items Embodying Significant Menu Attributes:

In creating the menu dishes, which embody the value enhancing attributes, consideration was given to the aggregate cost, menu feasibility, creativity and innovation. A certain degree of caution was exercised when creating the dishes of the menu, in order not to replicate food concepts, which already exist on the local market that are generally offered by the establishment's competitors.

The highest ranking attribute which consumer wanted to see on the menu was the used of 'artisanal food products. This category of food products are generally defined as food that are hand-made or handcrafted which are produced by artisans, or skilled craftsmen whose skills and craft has been handed down from one generation to another. Owing to this factors artisanal foods are produced, using pristine ingredients in limited amounts,

due to the use of traditional modes of production and recipes. This category of foods are highly integrated in Slow Food ® movement, whose philosophical tenets are:

- GOOD: a fresh and flavoursome seasonal diet that satisfies the senses and is part of our local culture;
- CLEAN: food production and consumption that does not harm the environment, animal welfare or our health;
- FAIR: accessible prices for consumers and fair conditions and pay for small-scale producers.

Artisanal foods are regarded as being healthier, having natural flavours and are generally classified as sustainable food products. The artisan foods that were implemented on the menu, were produce such as Prosciutto di San Daniele which only produced in the north-eastern part of Italy in the Friuli Venezia Giulia region, a hilly area around the town of San Daniele in the province of Udine. The Consorzio del Prociutto del San Daniele is the governing body that regulates the production of this cure ham, which is hand crafted only using meat from pigs that are born and bred in Italy. No additives or preservatives are used in the production, only natural ingredients such as sea salt. This is a natural product, having high nutritional value. All the cheeses that are used in the menu are all produced from artisan cheesemaker from the buffalo milk Burrata to the Maltese goat's cheese Ġbejna produced in the sister island of Gozo. In the ancient world Malta was famous for its honey. Maltese honey is naturally produced having a mild spicy flavour. Carnaroli rice used to produce a risotto on the menu is produced by a company Acquerello. Carnaroli rice is grown in the provinces of Pavia, Novara and Vercelli in the region of northern Italy. It is cultivated using organic farming methods, after harvesting the unhulled grains are aged for a year and half. This aging process makes the proteins, starch, and vitamins in the grains less water soluble, allowing the grains to absorb more liquid and flavours during the cooking process.

The second highest attribute was the use of ethically sourced ingredients. Food ethics embodies a spectrum of values such as: Animal welfare, rearing and treating animals in a humane way, organically grown produce such as fruits and vegetables which are grown free from chemical pesticides and artificial fertilizers, which do harm to the environment, wildlife and insects. Sustainable foods, animals reared or hunted for their meat, which produce minimal amounts of greenhouse gasses than other breeds such as cattle and pigs, which also need greater amounts of natural resources than other breeds. This key principle is why only organic and free-range meat such as lamb, chicken and venison were implemented on the menu. Minimising food waste is a major issue for concern, to heighten

this factor, the utilization of 'whole animal' is used in producing the dish, integrating secondary cut and joint with primal cuts in the same dish. The fish, brown meagre which is listed on the menu is produced by aquaculture, making it more sustainable. The diver caught scallops are more environmentally friendly as they are hand harvested rather than being harvested by dredge gear, which has a detrimental effects on the sea bed. The usage of 'Fair-trade' certified produce, were also used such as the chocolate, this practice, guarantee's that the farmers get a fair price for their produce and that they are not being exploited. Buying locally grown produce in accordance with seasonality, will also aid in reducing the carbon footprint, with regards to transportation and storage of produce that would have been outsourced overseas. This practice will also help to financially sustain the local economy.

The survey also identified that consumers preferred an element of exotic ingredients on the menu. The exotic ingredients that were implemented on the menu were generally in the form of fruits such as passion fruit, mango, kumquat and lychees, nuts like cashew and macadamia. Exotic vegetables were also used on the menu such as enoki mushrooms, bok choy, danmuji radish, purple and sweet potatoes. These exotic ingredient compliment and 'marry well' with the other ingredients that are used in the compilation of the dishes. Owing to their unique distinctive flavour and texture,

Today's consumer is more knowledgeable of the food they eat and more health conscious, The survey identified three categories of diets that consumers adhered to, which amplified the ingredients used which are suitable for their dietary requirements. These were Paleo diet (Freidman Mean Rank of 3.95). The fundamentals of this diet are based on the food consumption of early humans, the hunter gathers. This diet consisting of lean meat, fish, vegetables, nuts, seeds, eggs and fruit, excluding dairy and cereal products, legumes potatoes and processed food. This diet has a substantial amount healthy eating attributes, and ethically conscious, as meat is free range and organic. The second ranked where Vegetarian option dishes (Freidman Mean Rank of 3.75). These dishes are designed for vegetarian that do not consume meat and fish, they can also be attributed as being as 'healthy option' dishes owing to their nutritional value and calorie intake. The third ranked are Gluten free dishes (Freidman Mean Rank of 3.67). The majority of the dishes, are Gluten- free, with the exception of the burrata, lamb and fricassee. These dishes can be modified to gluten-free dishes, by removing ingredients that containing gluten. The substantial amount of gluten-free dishes on the menu is owing to the fact that in today cooking trends, flour is being used less in cooking as it masks the natural flavour of the food.

The least ranked menu attribute that was identified is 'religious beliefs' diets. Out of the 107 survey participants only 5 respondents (Freidman Mean Rank of 2.37) wanted menu attributes attaining to a religious belief diets. This factor may be owing that the majority of the survey participants were of 'western culture, denomination. The highest ranked religious diet was that of the Hindu faith, equally followed by Muslim, I-tal and Buddhist religious diets. Hinduism and Buddhism diets are based on a lactovegetarian diet. The dishes on the menu are not suitable for these types of religious diets. In the case of the Muslim faith, the menu has some dishes which are suitable for a Muslim religious diet, such as all the 'To commence' dishes, with the exception of the prosciutto San Daniele. The 'To continue' dishes, with the exception of the brown meagre and chicken, are suitable for this religious diet, this is owing to the fact that there is a good supply of Halal slaughtered meat available in Malta. The Ital Diet attaining to the Rastafarian religious faith, advocates eating a whole and pure foods, which are unprocessed and free from additives, chemicals, synthetic fertilizers, herbicides and pesticides, consuming only organic grown produce. This diet also restricts the consumption of shellfish, pork and red meat, coffee and alcohol. The majority of Rastafarians follow a vegetarian or vegan diets. Although some ingredients on the menu are attributed to this diet the nature of preparation and composition of the dishes, make them unsuitable for this religious diet.

Great consideration has taken to implement the majority of the attributes that have been identified, when creating the dishes of the menu. In some instances it was not possible owing to the supply of certain ingredients the mode of preparations and due to certain dietary restriction, which does not make it viable to produce.

4.5 Attribute Costing of Menu Items.

The costing of menu items embodying the above attributes, entailed sourcing management accounting data from the establishment's bi-monthly management accounts (for direct labour and directly attributable overhead costs), sourcing ingredient (raw material) prices and price quotations from local artisan produce suppliers and the Institute of Tourism Studies' supplier/materials price schedules. As stated by (Bromwich, 1999), attribute costing involves establishing the costs directly linked to providing the desired attributes to customers and providing only the necessary attributes to maximise business value. Nevertheless, given that dishes are complex orchestrations and combinations of ingredients, chef skills and execution, it is highly difficult and non-representative of reality, to a dish to limit a dish to one attribute only. Perhaps Bromwich's (1999), argument is more suitably oriented for commodities from which consumer benefit is derived through functionality as opposed to pure gratification from consumption as is the case in fine-dining meals. Hence to cater for this complexity, a dish embodying ingredients that convey these attributes are

costed in their totality. Hence all the direct and necessary costs to deliver the dish embodying the attributes are incorporated within the menu item's costs. The concept of relevant costing is also incorporated here as duly referred to by (Drury, 2012). This is of course inclusive of direct labour costs pertaining to Chef, sous-chef, chef de partie and commis-chef preparation, cooking and plating times. These together with the direct overheads namely the consumption of fuel (gas and electricity), which is related to cooking and preparing the required dish.

4.5.1 Core Assumptions of the Attribute Costing Methodology.

It is crucial to note that irrelevant costs or overheads such as restaurant premises rent or property cost apportionment, service staff, managerial and administrative personnel salaries and capital consumption (depreciation) of kitchen and restaurant equipment, finance costs, restaurant electricity and heating and consumables directly related to the dining experiences (e.g. napkins, décor etc.) are irrelevant to the cost of providing the attributes of the menu item to the end patron. The reason being that these would still be incurred on every other dish sold by the establishment, hence would in essence be irrelevant to the provision of the attribute-bearing menu item. The first core assumption here is that any costs are standard costs, and so they are reflective of the establishment operating at normal operating capacity and not above or below this normal capacity. Hence a standard costing methodology is utilised throughout. One other crucial assumption is that in order to create these menu items no capital expenditure on new kitchen equipment is to be made and that every dish is deliverable using the existing kitchen equipment and facilities.

Direct materials costs per dish were established as the sum-product of the respective proportion of ingredients used per portion yield and the price per unit of measurement. The respective ingredient proportions were established in accordance to standardized recipes.

Direct Labour costs were established by multiplying the respective wage absorption rate (per minute of labour time) to the minutes of staff member time (e.g. chef, sous chef etc.) consumed. The respective preparation and cooking times per staff member were arrived at in considering historic times used to prepare similar dishes under normative circumstances at the Medina. One is to note that inclusive in the preparation times are plating times, occurring upon finalisation of the cooking processes. In arriving at the respective wage absorption rates, gross wages as per the management accounts were normalised to reflect standard hours. May-June was used as the benchmark for wages at it is at this management accounting period that the establishment does not experience seasonality insofar as the peak season of July-September or the.

In normalising wages, the residual average annual increment per annum after taking into account the counteracting effect of off-season employment lows and peak season employment highs of part-time kitchen staff on payroll. The core assumption taken here is that the increased burden on payroll of over-time wages and part-time hires in peak-season months are greater than the decrease in over-time wages in the off-season months. Hence one would expect a positive net increment over the year. This residual positive net increment percentage ('i') was then used to deflate gross annual wages using Formula 2. below: One is to note that this formula is to apply for all expenses exhibiting seasonal fluctuations (namely wages and gas and fuel used to fuel kitchen stoves and ovens.)

$$\text{Normalised Cost per annum} = \frac{\text{Total Expenditure for the year}}{(1 + i)}$$

- Where 'i' is the net average % increment in expenditure for the year.

Formula 2. Normalisation of expenditure exhibiting seasonality.

The reason for normalising wages is that annual wages would be inflated by the expense incurred for the establishment operating above capacity in the peak season as explained. This implies that dishes with labour-intensive cost elements are penalised for over-time and part-time hire charges by this excess capacity charge, hence contravening the standard and relevant costing methodology utilised throughout. This would have resulted in a non-level comparison of menu item relative costs. Upon allowing for standard service, managerial and administrative staff wages, cooking staff wages were allocated and transformed into overhead absorption rates per staff member as tabulated in Table 4. below:

Table 4. Wage absorption rate calculation

		Calculation	Wage absorption rate (€/min)
Yearly wages	€ 146,264.00	Total Gross wages for the year (a)	
Deflation for Peak Season	€ 132,815.15	a/(1+i) = (b)	
(net average annual increment) 'i' %	1.215	i	
Monthly	€ 11,067.93	(b)/12	
Attributable to Kitchen Staff	€ 6,932.38	Less administrative, waiting and managerial wages	
Chef	€ 2,717.00	Fixed Salary of EUR 2700/ month	0.28
residual kitchen staff wages	€ 4,215.38		
Sous-Chef	€ 1,897.00	0.45 of residual wages	0.198
Chef de Partie	€ 1,475.00	0.35 of residual wages	0.154
Commis Chef	€ 843.38	0.2 of residual wages	0.088

Minutes per month (assuming a 40 hour week)	9,600		
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Upon establishing the residual wages attributable to kitchen staff upon deducting the chef's standard salary of EUR 2700/month, residual wages are allocated to other kitchen staff members in the proportions identified above, decreasing by seniority ranking. One is to duly note that these salaries and wage apportionments are by no means representative of the actual wages established as remuneration by the Medina restaurant in neither the period under study nor historic periods. They are representative of current prevalent market wages of similar positions in the Maltese hospitality industry, obtained during the time of conducting this study. The residual wages were extrapolated from actual normalised wages as described above. The established wage and salary amounts were then divided by the standard minutes per month (9600) to establish the absorption rates tabulated above.

Direct cooking overheads are a class of relevant costs pertain to costs that do not pertain to direct materials nor labour costs that are essential to the delivery of the final dish. These namely comprise the cost of fuel, gas and electricity, to run kitchen stove and oven and other kitchen equipment directly related to the preparation and cooking process. In establishing this overhead absorption rate, a similar normalisation process was utilised to factor in the net incremental effect of energy consumption in peak season. This, so as not to burden stove and/or oven cooking time-intensive menu items with the cost of this excess capacity charge.

The core assumption here is that each dish only require oven and or stove use to be rendered as ready for plating and deliverable to the end customer. With these fuel costs being the most significant costs incurred in transforming the raw materials to the end products (labour costs aside.). On assumption taken here is that oven fuel consumption equal's stove fuel consumption. The established absolute monthly expense amounts were then divided by the standard minutes per month (9600) to establish the absorption rates tabulated in table 5 below:

Table 5. Direct Cooking Overhead Absorption rate calculations.

		Calculation	Overhead absorption rate (€/min)
Deflation for Peak Season (net average annual increment) 'i' %	€ 3,367.69 0.163	$a/(1+i) = (b)$ i	

Monthly	€ 281.00	(b)/12	
Oven	€ 140.50	(b)/24	0.0146
Stove	€ 140.50	(b)/24	0.0146
Hours per month (Assuming a 40 hour week)	9,600		
Assuming Stove Gas consumption = Oven Gas consumption	0.5		

The results of the attribute costing exercise is tabulated in table 6 hereunder. The attribute costs are arrived at by summing the total ingredient cost, total labour costs and total direct overhead costs incurred to deliver the attribute-embodying menu items.

Table 6. Attribute-Costed Menu-Items.

Menu Items	Menu Item Attribute 1	Menu Item Attribute 2	Description	Total Ingredient Cost €	Total Labour Cost €	Total Direct Overhead Cost €	Total Cost €
Starter 1	Artisan product	Paleo	San Daniele	3.35	4.39	0.53	8.27
Starter 2	Artisan product	Gluten free	Salt Cod	3.29	4.17	0.18	7.64
Starter 3	Ethically Sourced	Gluten free	Scallops	4.86	4.94	0.66	10.46
Starter 4	Artisan product	Vegetarian	Bufala	4.03	4.72	0.51	9.27
Starter 5	Artisan product	Paleo	Risotto	2.83	5.16	0.61	8.60
Starter 6	Vegetarian	Paleo	Soup	1.74	4.30	0.66	6.70
Main Course 1	Ethically Sourced	Paleo	Brown Meagre	3.92	10.92	0.88	15.71
Main Course 2	Ethically Sourced	Paleo	Venison	8.09	10.60	0.88	19.56
Main Course 3	Ethically Sourced	Paleo	Lamb	9.71	11.78	1.90	23.40
Main Course 4	Ethically Sourced	Artisan product	Chicken	5.12	10.84	0.80	16.77
Main Course 5	Ethically Sourced	Exotic	Duck	9.06	12.35	0.83	22.24
Main Course 6	Artisan product	Vegetarian	Fricassee	5.63	6.81	1.10	13.53

Dessert 1	Artisan product	Vegetarian	Nut Tart	3.06	8.12	0.59	11.77
Dessert 2	Exotic	Vegetarian	Brulee	2.26	6.37	0.80	9.43
Dessert 3	Exotic	Vegetarian	Napoleon	2.30	9.44	0.66	12.40
Dessert 4	Ethically Sourced	Artisan product	Croqaunt	3.37	8.01	0.70	12.08
Dessert 5	Artisan product	Vegetarian	Cheese Platter	2.10	3.60	0.66	6.36

A graphical depiction of the cost proportions, split into direct cost classes of the different attribute-bearing menu-items is graphed in figure 5. below:

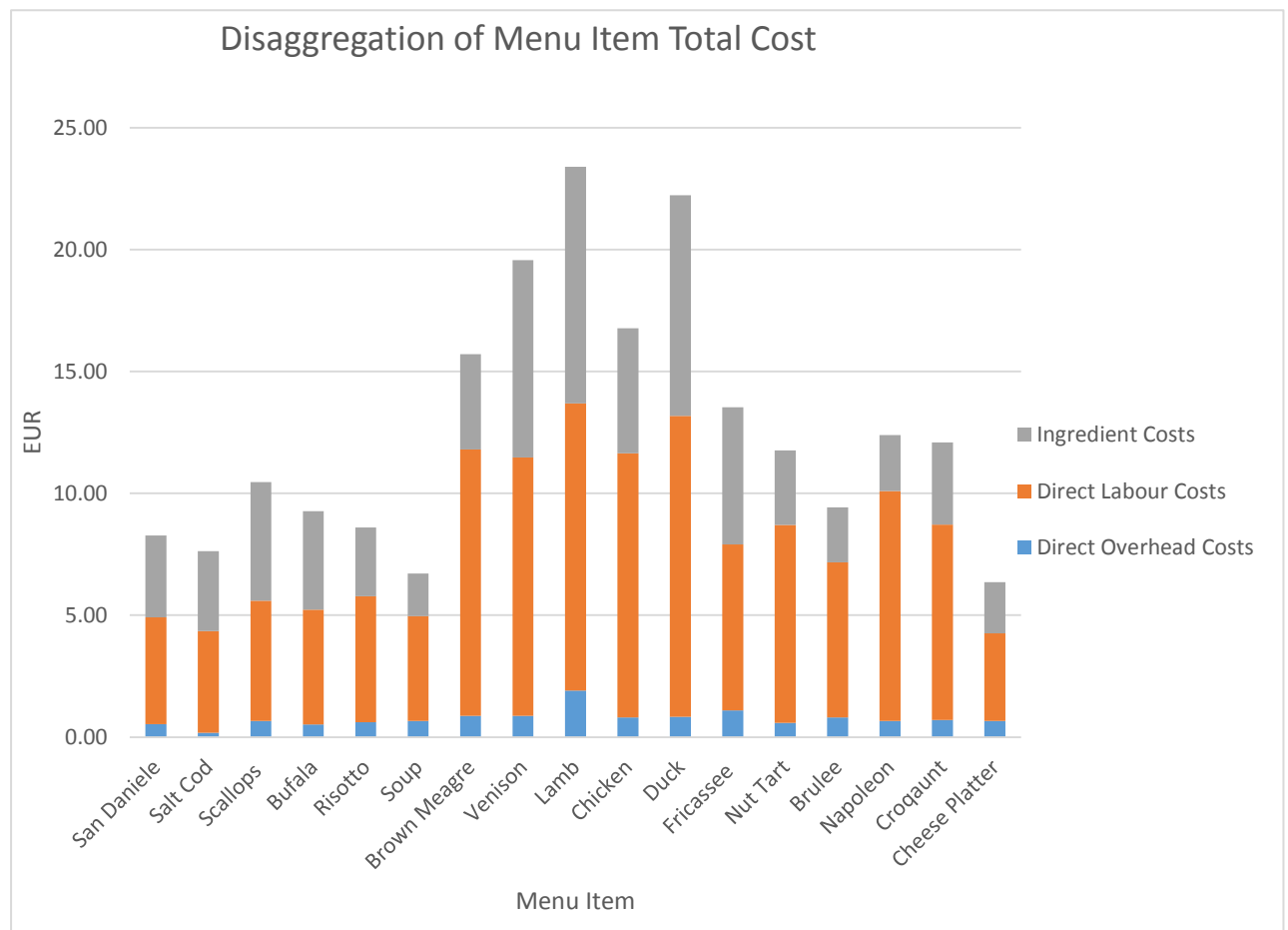


Figure 5. Attribute-Costed Menu-Items Cost Disaggregation.

4.6 Value Engineering Exercise Results and Final Designated *Value-Maximising* Menu.

The culmination of both the statistical attribute analysis and the respective attribute costing is brought about by means of the value engineering analysis as enabled by the computation of the value index. As previously identified in the previous chapter, the value index is but an indicator of the relative contribution in perceived value to the value maximising objective of the establishment of the menu-item, relative to the cost to providing this contribution of value. Hence prior to presenting the final “value-maximising” menu as established by the value engineering exercise, an insight into the results of the components of the value index is given.

4.6.1 Relative Benefit

The relative benefit is simply the weighted average of the Friedman ranks as established in the previous section 4.3 of this chapter, for both the primary and secondary identified attributes of a menu-item. To cater for the reality that menu-items cannot be limited to solely one attribute; a primary attribute (bearing a weighting of 65 %) and a secondary attribute (bearing a weighting of 35 %) was attributed to each of the menu items as established, using the knowledge gained from the restaurant’s (The Medina) experience and expertise, together with the relevant literature on the established menu attributes. The results of the relative benefit for each menu-item is tabulate in table 7 below:

Table 7. Relative Benefit for Menu-Items.

Relative Benefit							
Rank Weights		0.65		0.35			
Menu Item	Description	Attribute 1 (A1)	A1 Rank	Attribute 2 (A2)	A2 Rank	Total Benefit	Relative Benefit
Starter 1	San Daniele	Artisan product	5.68	Paleo	3.96	5.08	0.06
Starter 2	Salt Cod	Artisan product	5.68	Gluten free	3.67	4.98	0.06
Starter 3	Scallops	Ethically Sourced	4.85	Gluten free	3.67	4.44	0.06
Starter 4	Bufala	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
Starter 5	Risotto	Artisan product	5.68	Paleo	3.96	5.08	0.06
Starter 6	Soup	Vegetarian	3.73	Paleo	3.96	3.81	0.05
Main Course 1	Brown Meagre	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main Course 2	Venison	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main Course 3	Lamb	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main Course 4	Chicken	Ethically Sourced	4.85	Paleo	5.68	5.14	0.06
Main Course 5	Duck	Ethically Sourced	4.85	Exotic	3.75	4.47	0.06
Main Course 6	Fricassee	Artisan product	5.68	Paleo	3.73	5.00	0.06

Dessert 1	Nut Tart	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
Dessert 2	Brulee	Exotic	3.75	Artisan product	3.73	3.74	0.05
Dessert 3	Napoleon	Exotic	3.75	Vegetarian	3.73	3.74	0.05
Dessert 4	Croqaunt	Ethically Sourced	4.85	Vegetarian	5.68	5.14	0.06
Dessert 5	Cheese Platter	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
					SUM	79.22	1.00

In computing the relative benefit the total of the sums of the weighted average of attribute scores per-menu-item (as computed in column “*Total Benefit*”) was computed as 79.22. The respective proportion of each menu item’s total benefit in relation to this grand total benefit (79.22) was then computed as the “Relative benefit” as evident in the respective column in table 7 above.

4.6.2 Relative Cost

In spite of having already established evident differences among relative benefits for each menu item, these have to be compared to their relative costs as tabulated below, to identify the true value-contributing effect of the menu item. Similarly to the computation of the relative benefit as explained above, the relative cost was computed as the proportion of the grand total cost (calculated as EUR 214.19) of all of the menu item total, that that menu item with the two identified attributes costs to produce. These are tabulated in table 8 below:

Menu Item	Menu Item Attribute 1	Menu Item Attribute 2	Description	Total Cost €	Relative Cost (proportion)
Starter 1	Artisan product	Paleo	San Daniele	8.27	0.04
Starter 2	Artisan product	Gluten free	Salt Cod	7.64	0.04
Starter 3	Ethically Sourced	Gluten free	Scallops	10.46	0.05
Starter 4	Artisan product	Vegetarian	Bufala	9.27	0.04
Starter 5	Artisan product	Paleo	Risotto	8.60	0.04
Starter 6	Vegetarian	Paleo	Soup	6.70	0.03
Main Course 1	Ethically Sourced	Paleo	Brown Meagre	15.71	0.07
Main Course 2	Ethically Sourced	Paleo	Venison	19.56	0.09
Main Course 3	Ethically Sourced	Paleo	Lamb	23.40	0.11
Main Course 4	Ethically Sourced	Artisan product	Chicken	16.77	0.08
Main Course 5	Ethically Sourced	Exotic	Duck	22.24	0.10
Main Course 6	Artisan product	Vegetarian	Fricassee	13.53	0.06

Dessert 1	Artisan product	Vegetarian	Nut Tart	11.77	0.05
Dessert 2	Exotic	Vegetarian	Brulee	9.43	0.04
Dessert 3	Exotic	Vegetarian	Napoleon	12.40	0.06
Dessert 4	Ethically Sourced	Artisan product	Croqaunt	12.08	0.06
Dessert 5	Artisan product	Vegetarian	Cheese Platter	6.36	0.03
<i>SUM</i>				<i>214.19</i>	<i>1.00</i>

Table 8.

Relative Cost for Menu-Items.

4.6.3 Value index

The respective value index (VI) was then computed as the quotient of the relative benefit to the relative cost and is presented for every menu-item in table 9 below:

Table 9. Value Index Computation for Menu-Items.

<i>Menu Item</i>	<i>Menu Item Attribute 1</i>	<i>Menu Item Attribute 2</i>	<i>Description</i>	<i>Relative Benefit (proportion)</i>	<i>Relative Cost (proportion)</i>	<i>Value Index (VI) (notional)</i>
Starter 1	Artisan product	Paleo	San Daniele	0.06	0.04	1.66
Starter 2	Artisan product	Gluten free	Salt Cod	0.06	0.04	1.76
Starter 3	Ethically Sourced	Gluten free	Scallops	0.06	0.05	1.15
Starter 4	Artisan product	Vegetarian	Bufala	0.06	0.04	1.46
Starter 5	Artisan product	Paleo	Risotto	0.06	0.04	1.60
Starter 6	Vegetarian	Paleo	Soup	0.05	0.03	1.54
Main Course 1	Ethically Sourced	Paleo	Brown Meagre	0.06	0.07	0.78
Main Course 2	Ethically Sourced	Paleo	Venison	0.06	0.09	0.63
Main Course 3	Ethically Sourced	Paleo	Lamb	0.06	0.11	0.52
Main Course 4	Ethically Sourced	Artisan product	Chicken	0.06	0.08	0.83
Main Course 5	Ethically Sourced	Exotic	Duck	0.06	0.10	0.54
Main Course 6	Artisan product	Vegetarian	Fricassee	0.06	0.06	1.00
Dessert 1	Artisan product	Vegetarian	Nut Tart	0.06	0.05	1.15
Dessert 2	Exotic	Vegetarian	Brulee	0.05	0.04	1.07
Dessert 3	Exotic	Vegetarian	Napoleon	0.05	0.06	0.82
Dessert 4	Ethically Sourced	Artisan product	Croqaunt	0.06	0.06	1.15
Dessert 5	Artisan product	Vegetarian	Cheese Platter	0.06	0.03	2.12
SUM				<u>1.00</u>	<u>1.00</u>	

Graphically the set of value indices for every menu-item plotted against the line ($Y=X$) giving an equal unit of relative benefit for every unit of relative cost is exhibited in Figure 6.

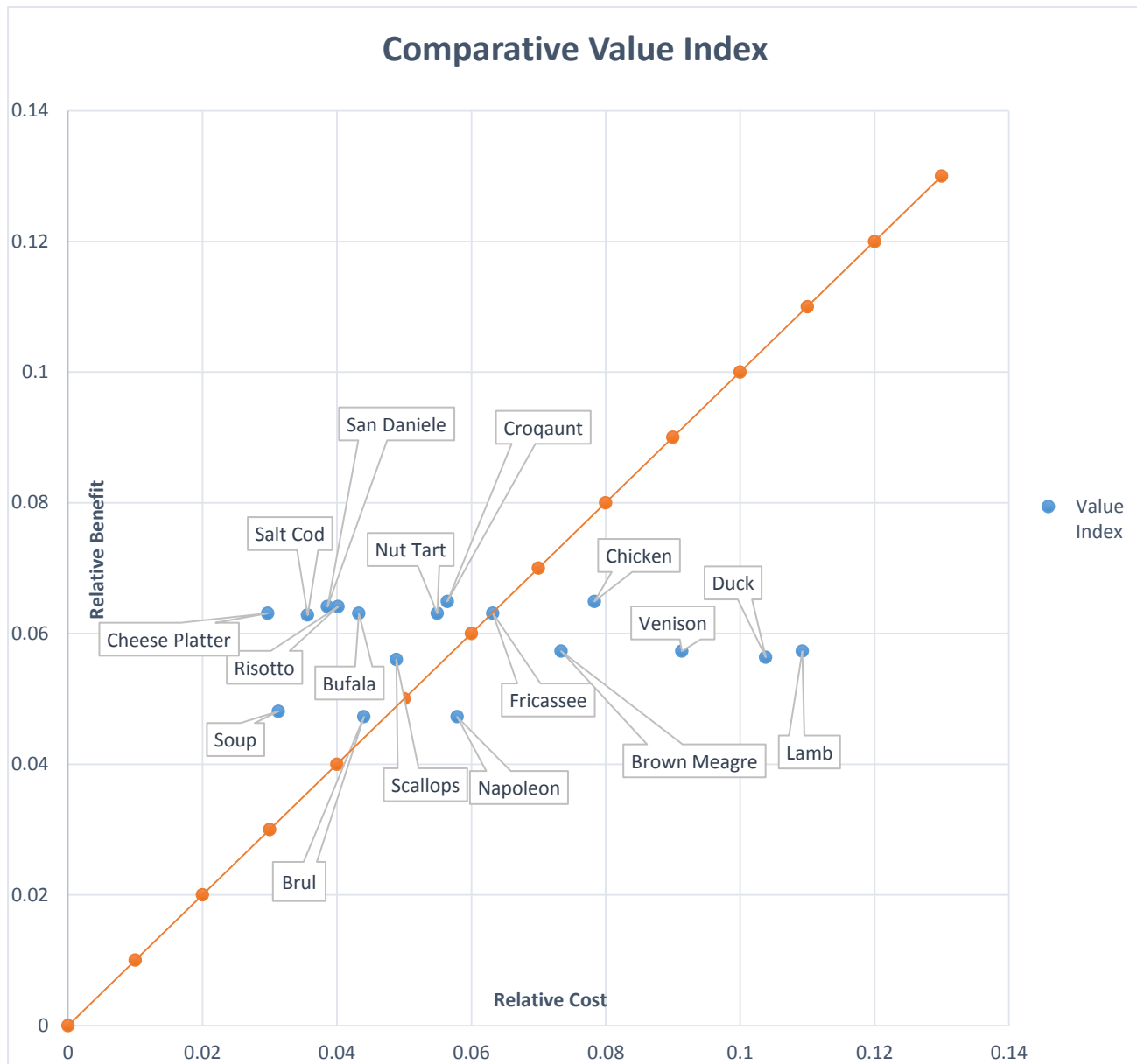


Figure 6. Value Index Scores per Menu-Item in relation to the Line of Optimal Value.

The Line $Y=X$ represents the optimal value zone. The reason for this is that the marginal benefit reaped equates the marginal cost expended to produce this benefit. Perhaps analogous to the Marginal Cost equates Marginal Revenue profit maximising output point in the perfectly competitive economic market structure logically the reason for this is as follows:

Items that have a VI of less than 1 imply that the costs to deliver the attribute outweighs the relative benefit or importance given by that attribute. Hence possibly reducing its cost

may improve the ratio. Examples of cost reduction techniques include; leveraging of supplier relationships and purchasing in bulk, to avail of trade discounts, needless to say subject to incremental storage and holding costs. Specifically designating staff to specialise or execute particular dishes/menu items to reap advantage of the learning curve effect and reduce the labour cost per hour, subject to reaching a steady state of labour cost as the learning effect levels off. Together with attempting to procure similar attribute yielding ingredients at a lower cost, subject to considering quality implications.

On the other hand, although less intuitive menu items with a relative benefit to relative cost yield of greater than one are also sub-optimal. The reason here is that in such cases the elements of the benefit-yielding attributes, for example the Artisan Cheese in the Cheese Platter could be further exploiting, procuring finer-made cheeses of a higher gastronomic calibre, subject to the increase in cost until the ratio is that of unitary relative benefit to relative cost. Increasing labour time to maximise quality and hence reduce haste and the likelihood of errors in preparation may also aid in enhancing the value-creating attributes mustered by the product. The rationale here is analogous to the economic rationale as embodied in the law of diminishing marginal returns. Improvements can continue to be made to the product to optimise value delivered to the client by enhancing the value-creating attributes to the point where any additional enhancement would imply a reduction in value due to the increase in cost.

Analysing table 6 in unison with figure 6 one can evidently see that most starters and desserts falling above the optimal value line, with the vast majority of main course dishes falling below. Part of the reason is that that labour costs for starters and desserts are significantly lower to those of main courses as evidenced in figure 5, hence drastically inflating their relative costs. More so however is the fact that none of the main courses have artisan products as their main attributes, which have the highest relative benefit contribution among all attributes.

The Fricassee is the menu item with the optimal value index of 0.998 or 1. It is also the value optimising main course. Menu items such as the cheese platter with a VI of 2.13 have avenues for enhancement of the attribute delivering ingredients, which in this case procuring higher-end artisanal cheeses may yield higher benefit, subject to a greater increase in cost, yet transmitting higher value to the end client. Similar arguments can be said about the vast majority of Starter dishes having VI scores of greater than one. The Scallops seem to be the best value optimising Starter dish with a VI score of close to 1.15. On the Other hand the Brulée is the value optimising dessert with a score of 1.07.

Main course dishes such as the Lamb and Duck, with VI score of 0.52 and 0.54 respectively are far too costly; as they are burdened by high ingredient and labour costs in relation to the relative benefits they produce. These dishes would not be feasible unless they are tweaked to incorporate significant changes such as adding artisanal products to increase the benefit yielded, subject to a lower increase in costs, or procuring lower cost raw materials or utilising less labour intensive cooking methods.

Hence, without affecting any changes to the benefit cost structure of the menu-items as presented in this study; the final value-engineered menu comprising the top 3 menu-items closest to the value optimal index approximating 1 would comprise the following:

Starter Set :

- Scallops (VI = 1.15)
- Bufala (VI =1.46)
- Soup (VI =1.54)

Main Course Set :

- Fricasse (VI =1.00)
- Chicken (VI =0.83)
- Brown Meagre (VI =0.78)

Dessert Set :

- Brulee (VI =1.07)
- Napoleon (VI =0.82)
- Nut Tart or Croquant (VI =1.15)

4.7 Suggested Prices

When asked to state a range of maximum prices willing to be paid for a particular class of menu items (grouped by course); starter, intermediate and main course from the following possible ranges as tabulated in Appendix A.4, the weighted average prices for each class of menu items were recorded as follows:

Table 10. Weighted Average Food prices for different courses.

Course (Menu Item Class)	Weighted Average Price (€)
-------------------------------------	---------------------------------------

Starter	9.72
Intermediate	9.25
Main	26.11
Dessert	6.29

4.8 Suggested Presentations:

In respect of the manner of presentation, when asked to identify the preferred style of presentation, from simple and minimalistic to more elaborate and even dynamic modes of food presentation, more than half the respondents identified preferences towards simpler presentation or the ‘minimalist’ approach styles. These results are tabulated in table 11 below:

Table 11. Presentation Style Preferences.

<i>Presentation Style</i>	<i>% of responses</i>
Simple / Minimalist	51 %
Crafted / Elaborate	33 %
Participative (e.g. Flambé or Gueridon)	16 %

This Chapter has evidenced the attribute-costing and value-engineering methodology in use to arrive at the final “value-optimising” menu-set. This implies that in implementing the output of this project, based on the statistically significant information and in light of the assumptions made, client attributes will be met subject to a cost that would not in substance outweigh the benefit generated by said attributes. The economic repercussions of utilising this methodology is that revenue via enhanced customer retention and new business prospects will increase subject to the efficient increase in cost. This discussion shall now evolve to discussing the project findings in light of the literature previously presented.

5 Discussion and Concluding Remarks

5.1 Introduction

Discussing the project findings in light of the relevant literature presented will help towards analysing the project's approach and findings and highlighting the project's value contribution to the entity. Finally such discussion would help identify any avenues for future improvement in maximising the benefits obtained from this project through procedures such as updating of databases and possible future analyses possible. Together with prospects for improvement and enhancement.

5.2 Niche Insights into the menu design process

An amount of literature (Johns and Kivela, 2001; Hansen et al., 2005; Gustafsson et al., 2006), heighten on the aspect of creating a meal experience, this study has identified some vital attributes which customers desire and seek on the menu, which is a powerful tool of communicating the dining experience. The study by (Kivela, 2003), identifies the traditional approach which is undertaken by chefs and restaurateurs in the process of menu planning, based on their gastronomical knowledge, personnel perception of the market and current food trend. In this study this approach was essential in identifying tentative attributes that were based on the chef's experience, addressing the taste and food preference for the establishment's patrons, together with prevalent gastronomical trends both locally and abroad, coupled with management's expertise of the contribution performance of dishes.

Value in this study is inherent to the fact that a scientific approach is taken to identify what current and prospective restaurant patron's desire, through the survey statistical analysis. Hence the chef's expertise and recommendations are then resorted to into embodying the attributes identified through the statistical analysis in menu items, thereby greatly reducing the subjectivity inherent to the chef's judgement of current client trends. Needless to say the statistical findings need to be taken in light of sample-inference limitations and the ephemeral relevance of the research findings. Hence this study builds upon the recommendations of (Otterbacher and Harrington, 2007), who identify that Michelin starred chefs perceive customer's ideas, have a minimal effect (17%) in the process of creating new dishes.

The value engineering approach nevertheless considers also the establishment's cost to provide the attributes, as enabled through the attribute costing exercise. Hence this approach can be viewed as a multiple variable menu planning approach, integrating the demand and supply side facets of the fine-dining establishment. This approach could be considered as a qualitative/quantitative hybrid into menu planning. With the quantitative analysis comprising the vast majority of the process, insofar as value engineering and attribute costing are used. Further to this ordinal categorical variables, are used to transform qualitative data (i.e. the menu attributes) into quantifiable variables. The inverse in transforming the quantitative findings from the results from the statistical inference conducted by means of the Friedman test into menu items was also implemented. The qualitative element also lies in the fact that management and the chef's points of view were considered, throughout the process. This is similar to the multiple variable menu planning model implemented by (Kivela, 2003), who proposes the concept and application of a Menu Planning Variables (MPQV) approach to menu planning. This research was conducted on the same principles of the (MPQV) approach as it identify the value attributes, which customers desire on the menu, aiding the menu writer to create dishes and these value attributes.

5.3 Current evidenced trends in Menu Item preferences:

A rather in-depth outlook on the quality of food the respondents expect is evidenced in the findings. The fact that use of artisanal products, foods with an affinity to finesse and refined taste are identified as the highest-ranked attribute implies that quality is highly valued among patrons of fine dining establishment: paying a considerable price for a meal, brings about the undisputed expectation of a high-calibre product being served. This is perfectly mirrored in similar a numerous bodies of research such as those by (Lewis, 1981; Cullen, 2005; Teng and Ghang, 2013). The identification of ethically sourced foods as the second highest-ranking attribute is consistent with the findings of (Maktouni, 2002).

People are becoming more cognisant of ethical values and extortive and destructive corporate practices as evident in realities such as under-remunerated third-world labour in the primary sector and inhumane rearing and slaughter of livestock to name a few. Consequently people are coming to value relatively more ethical procurement of their food products, even if that implies having to pay a slightly higher cost. This is an evident paradigm transition from past prevalent food trends where commodities could be procured in any way as long as the end effect on the price is minimal. This "substance-over-price" and also over form effect is also evident in the fact that 51 % of respondents identify as prefer-

ring a “simple / minimalist” approach over more elaborate and perhaps traditional approaches of presentation such as “Flambé” and well-structured presentations. This is best put in the words of (Deroy et al., 2014), in “letting the food speak for itself”.

Other predominant attributes include the significance of attributes geared towards promoting the patron’s health and wellbeing. The significance of the “paleo or low- carbohydrate” option, being the third-most highest ranking attribute also point towards the increasing relevance of an additional dimension to menu-planning and another factor increasingly being considered in the patron’s menu choices; nutritional value. In the wake of the “fitness” culture and the augmented promotion of body-type ideals as portrayed extensively in most media, diners are becoming more self-conscious and letting their nutrition and wellbeing also permeate through their restaurant-dining preferences. Once more it is evident that restaurant patrons are gauging food quality and value for money in a more fundamental and substance-driven manner.

5.4 The conduct of the attribute costing and Value engineering exercise

The cornerstone of attribute costing has been identified as providing the attributes that yield the greatest benefits possible for little or no cost to the entity. It is often the pervasive challenge faced by many menu-planners to continually aim at improving profitability, whilst decreasing the cost quality, i.e. the cost of providing high-quality end products. Certain commodities are inherently costly and hence their inclusion in certain dishes would bring about undisputed radical increases in costs per unit. Such is the case as evidenced in this study in the case of Artisan products and certain meats in main course dishes. Artisan products are inherently high-quality goods produced in limited amounts and hence by virtue of their origin or mode of production are highly valued and sought after. Consequently such goods would come at a high cost of procurement. (e.g. Scallops, San Daniele etc.). Nevertheless such good came with the highest attribute ranking (Freidman rank 5.68) hence delivering the highest perceived value to the end customer. Consequently such dishes had a higher relative benefit to relative cost ratio, which resulted in the inclusion in the menu. However in other instances such as the case of the San Daniele prosciutto bearing a cost of EUR 25/ kg, the cost element would by far outweigh the benefit reaped, hence impairing its’ benefit to cost value contribution potential.

It is interesting to note that in some instances the attribute sought after may come at a marginal cost to the entity. For instance in the case of “ethically sourced” free-range chickens the price from regular caged chicken varied by approx. EUR 1.2/kg. Hence in such instance it would pay to opt for the more costly material to be able to provide a higher-yield-

ing attribute. In other instances such as the lamb ethically-farmed lamb, would be excessively costly, also impairing the benefit to cost ratio, rendering it unfeasible to table in light of its costs. It is crucial to note that material cost is not the only element to be taken into consideration when costing an attribute. Direct Variable overheads and direct labour costs were also essential to factor in the attribute costing exercise. Although direct variable overheads, namely gas and oven gas and cooking costs were negligible in comparison to the rest of the cost structure, labour costs were significant by far. Most main courses and desserts such as the Nut tart, Brul  e and Napoleon entailed considerable labour costs per unit. In instances where the method of cooking was elaborate and continued to add value by enhancing attributes such as the “artisanal” attribute as is the nut tart, this would be worthwhile as reflected in the positive VI. It is worth noting that labour costs especially may vary and may be inflated until teething problems of implementing new dishes and methods are cast aside and a learning effect kicks in. Trial runs, coupled with clear and well devised SOP’s (Standards of Procedure) and experienced staff may mitigate this.

In conducting the value engineering exercise a holistic multidisciplinary approach was taken, so as to make the best use of the competencies, experience and expertise of personnel contributing to this research project. The managing director, was consulted to provide key insights into the restaurant’s historic performance and possible avenues for improvement. Insight was also given into the client expectations based on feedback questionnaires given to patrons after every dining experience. The establishment’s chef was also asked to provide insights into kitchen operations and the overall cost structure of the kitchen to identify the most suitable costing techniques and assumptions to be implemented in the conduct of the attribute costing exercise. Advice from a person versed in statistics and quantitative analysis was then consulted in respect of the development of the statistical analyses possible and the construction of the final VE model. This ties in to the definition of VE as defined by (Lane Davis, 2004), who highlights the use of a mixture of the innovative and analytical skillset of team members in a VE project team.

Essentially the value engineering model devised here conceptually identifies well with the DEA-model developed by (Taylor et al., 2009), however here the interest is not historic menu performance, but analysis of value contribution of menu items embodying deemed value-adding attributes. Similar to aforementioned study, the value index is one measure of menu item profitability, given one is to gauge value solely by profits accruing to shareholders.

5.5 Pricing Considerations.

Needless to say pricing is a crucial function in securing value to an establishment. It is through prices that management directly influence business revenues, nevertheless it is not the only variable that comes into play. Factors such as food and service quality and customer relations all contribute significantly. Fine dining is generally regarded to be quite a price sensitive commodity, which tends to target specific a specific client cohort like the foodie subculture, higher-income earners and clients on celebratory occasions. In light of this the average prices as transparent from the statistical analysis of survey results are greatly rooted in comparative pricing, with a slight bias downwards. In instances for starters and main courses respectively when benchmarking the average price of EUR9.2 to that of a similar market competitor, with an average starter price of EUR 22.3 and EUR26.11 for main course dishes (EUR 33 .8 average competitor main course price) an evident “anchoring” psychological bias to reference prices of upper-end family oriented restaurants becomes evident. Nevertheless given that the new value-engineered menu would be tailored to optimise value derived from incorporating perceived value-creating attributes. Implementing this average would result in an average mark-up improvement from 15% (using the statistical average price) (to 55% using the competitor market price). This evidence of psychological biases in dining options is consistent with the findings of (Iglesias and Guillen, 2002), that highlight the importance of client perception in a dichotomy of perceived monetary price (i.e. the actual price paid for the commodity itself) and perceived non-monetary price, i.e. the price paid for consuming a high end product and service differentiated from others.

5.6 Project Concluding remarks and Avenues for further research.

Through the conduct of this study, a niche approach into menu planning and design was presented; amalgamating statistical inference, cost-accounting and gastronomical knowledge into creating a menu that optimises value creation to the fine-dining establishment. In a reality where operating a fine-dining establishment merits expertise from numerous disciplines, value-engineering is one way where these various viewpoints converge towards one common objective: value-enhancement. Practices where menus are decided upon solely by top management based on past performance and a limited view scope or outlook on the market and trends, increasingly run the risk of being outperformed by competitors and loss of revenue from prospective and current patrons. This, compounded with the effect of impairing profitability and the ability of a restaurant to continue operating.

A clear evident change of trends was evidenced by restaurant patron respondents, preferring the intrinsic value of food; rigorously gauging the benefit reaped from the menu item in terms of food quality, nutritional value and ingredient source. Needless to say the modern-day restaurateur needs to continually monitor these trends and be sure that these are best embodied in the menu on offer. Menu design is an iterative process that continually merits attention and improvement. A sessile and incumbent menu may most definitely lead to mediocre or ailing restaurant performance, incongruent with the value maximising objective of most restaurant shareholders and owners.

Further research and projects should be centred on gauging the performance of a value engineered menu vis-à-vis profitability and other key financial metrics of the company such as return on equity and improved cash-flow. Research endeavours into modelling client expectations using statistical modelling could also be undertaken.

In respect of further improvement on this research project. Standards of procedures should be developed to clearly establish a high quality means of delivering the value-optimising menu and ensure that value is maintained throughout. Cost reduction programmes such as the implementation of a “Kaizen”-style continuous improvement and cost reduction techniques should be implemented to reduce inefficiencies and possible wastages to improve value from the cost side. It is imperative that for any innovation to work, the entire establishment staff and management needs to have an identical mind-set in executing their respective tasks; that of value delivery. Delivering value from the pantry to the porcelain plate is an intricate and fragile process; months of planning, research and ingredients of the highest calibre could go to nil alongside the establishment’s reputation if delivery and procurement are executed carelessly.

References

- Antun, J.M. and Gustafson, C.M., 2005. Menu analysis: Design, merchandising, and pricing strategies used by successful restaurants and private clubs. *Journal of Nutrition in Recipe & Menu Development*, 3(3/4) pp.81–102.
- Auty, S., 1992. Consumer choice and segmentation in the restaurant industry. *The Service Industries Journal*, 12(3), pp.324–339.
- Berenguer, G., Gil, I. and Ruiz, M.E., 2009. Do upscale restaurant owners use wine lists as a differentiation strategy? *International Journal of Hospitality Management*, 28(1), pp.86-95.
- Bernstein, D., Ottenfeld, M. and Witte, C.L., 2008. A study of consumer attitudes regarding variability of menu offerings in the context of an upscale seafood restaurant. *Journal Food service Business Restaurant*, 11(4), pp.398-411.
- Bromwich M., 1999. Thoughts on Management Accounting and Strategy. *Pacific Accounting Review*, 11(2), pp.41-48.
- Choi, J. G., Lee, B. and Mok, J., 2010. An experiment on psychological gaze motion: A re-examination of item selection behavior of restaurant customers. *Journal of Global Business and Technology*, 6(1), pp.68-79.
- Choi, J. and Zhao, J., 2010. Factors influencing restaurant selection in South Florida: Is health issue one of the factors influencing consumers' behaviour when selecting a restaurant? *Journal of Foodservice Business Research*, 13(1), pp.237-251.
- Chougule, M.A. and Kallurkar, S.P., 2012. Application of value engineering for cost reduction – a case study of universal testing machine. *International Journal of Advances in Engineering & Technology*, 4(1), pp.618-629.
- Cohen, E., Ghiselli, R. and Schwartz, Z., 2006. The effect of loss leader pricing on restaurant menus' product portfolio analysis. *Journal of Foodservice Business Research*, 9(1), pp.21-38.
- Cooper, R.G. and Edgett, S.J., 1999. *Product Development for the Service Sector*. Cambridge: Perseus Books.
- Cullen, F., 2005. Factors influencing restaurant selection in Dublin. *Journal of Foodservice Business Research*, 7(2), pp.53-85.

- Dayan, E. and Bar-Hillel, M., 2011. Nudge to nobesity II: Menu position influences food orders. *Judgment and Decision Making*, 6(1), pp.333-342.
- Deroy, O., Michel, C., Piqueras-Fiszman, B. and Spencer, C., 2014. The plating manifesto (I): from decoration to creation. *Flavour*, 3(6), pp.2-10.
- DiPietro, R.B., Roseman, M. and Ashley, R., 2004. A study of customers' response to quick service restaurants' healthy menu items: attitudes versus behaviours. *Journal Food service Business Restaurant*, 7(4), pp.59-77.
- Drury, C. 2012. *Management and Cost Accounting*. 8th ed. Hampshire: Brendan George.
- Guéguen, N., Jacob, C. and Ardiccioni, R., 2012. Effect of watermarks as visual cues for guiding consumer choice: An experiment with restaurant menus. *International Journal of Hospitality Management*, 31(1), pp.617–619.
- Gustafsson, I.B., Öström, Å., Johansson, J. and Mossberg, L., 2006. The Five Aspects Meal Model: a tool for developing meal services in restaurants. *Journal of Foodservice*, 17(2), pp.84-93.
- Hartwell, H. and Edwards, J., 2009. Descriptive menus and branding in hospital foodservice: A pilot study. *International Journal of Contemporary Hospitality Management*, 21(1), pp.906–916.
- Hansen, K.V., Jensen, Ø. and Gustafsson, I.B., 2005. The meal experience of a la carte restaurant customers. *Scandinavian Journal of Hospitality and Tourism*, 5(2), pp.135-151.
- Horngren, C.T., Foster, G., Datar, S.M., Rajan, M.V. and Ittner, C.M., 2008. *Cost Accounting: A Managerial Emphasis*. 13th ed. New York: Pearson.
- Hwang, J. and Lorenzen, C.L., 2008. Effective nutrition labelling of restaurant menu and pricing of healthy menu. *Journal of Foodservice*, 19(1), pp.270-276.
- Iglesias, M.P. and Guillen, M.J.Y., 2002. The components of total perceived price: an empirical analysis in restaurant services. *Journal of Foodservice Business Research*, 5(1), pp.1-22.
- INVEST 2016. Value Engineering and its Benefits. URL: <http://www.invest-in.org/invest/ve/index.php>. Accessed: 21 June 2016.
- Jensen, M.C., 2002. Value Maximization, Stakeholder Theory, and the Corporate Objective Function. *Business Ethics Quarterly*, 12(2), pp.235-256.
- Johns, N. and Kivela, J., 2001. Perceptions of the first time restaurant customer. *Food Service Technology*, 1(1), pp.5-11.

- Jones, P. and Mifli, M., 2001. Menu development and analysis in UK restaurant chains. *Tourism and Hospitality Research*, 3(1), pp.61-71.
- Kasavana, M.L. and Smith, D.J., 1982. *Menu Engineering*. Michigan: Hospitality Publications.
- Kincaid, C.S. and Corsun, D.L., 2003. Are consultants blowing smoke? An empirical test of the impact of menu layout on item sales. *International Journal of Contemporary Hospitality Management*, 15(1), pp.226-231.
- Kivela, J.J., 2003. Results of a qualitative approach to menu planning using control and experimental groups. *Journal of Foodservice Business Research*, 6(4), pp.43-65.
- Kotschevar, L. H. & Withrow, D. 2008. *Management by menu*. 4th ed. New York: Wiley.
- Kruger, D.J., 2003. Integrating quantitative and qualitative methods in community research. *The Community Psychologist*, 36(1), pp.18-19.
- Lane Davis, K.E., 2004. Finding Value in the Value Engineering Process. *Cost Engineering*, 46(12), pp.24-27.
- Laws of Malta: Subsidiary Legislation 409.15: Catering Establishments Regulations. URL <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=10628&l=1>. Accessed 12th May 2016
- LeBruto, S.M., Quain, W.J. and Ashley, R.A., 1995. Menu engineering: a model including labour. *Hospitality Review*, 13(1), p.5.
- Lewis, R., 1981. Restaurant advertising: Appeals and consumers' intentions. *Journal of Advertising Research*, 21(5), pp.69-74.
- Lockyer, T., 2006. Would a restaurant menu item by any other name taste as sweet? *FUI Hospitality Review*, 24(1), pp.21-31.
- Makatouni, A., 2002. What motivates consumers to buy organic food in the UK? Results from a qualitative study. *British Food Journal*, 104 (3/4/5), pp.345-352
- Malta Tourism Authority, 2012a. *Dining Habits and Experiences of Maltese Residents*. Research Unit, MTA.
- Malta Tourism Authority, 2016. *Public List of Active Licence Holders in Malta and Gozo*. URL: <http://www.mta.com.mt/licences>. Accessed: 15 April 2016.
- Malta Tourism Authority, 2015. *Tourism in Malta 2015*. URL: http://mhra.org.mt/wp-content/uploads/2015/07/MTA_Statistical_ReportF2015_FINAL_REPORT1.pdf. Accessed: 15 April 2016.

- Malta Tourism Authority, 2012b. Understanding Dining Trends and Meeting Clients' Expectations,. MTA.
- Times of Malta, 2015. Malta exceeds world tourism growth rate. URL: <http://www.timesof-malta.com/articles/view/20150921/local/malta-exceeds-world-tourism-growth-rate.585223>. Accessed: 29 March 2016.
- Times of Malta, 2015. Tourist arrivals in first four months up 5.6%. URL: <http://www.timesofmalta.com/articles/view/20150710/local/tourist-arrivals-in-first-four-months-up-56.576061>. Accessed: 29 March 2016.
- McCall, M. and Lynn, A., 2008. The effects of restaurant menu item descriptions on perceptions of quality, price, and purchase intention. *Journal of Foodservice Business Research*, 11(1), pp.439–445.
- McDuff, C.R., 2001. Value Engineering Perspectives on Cost Estimating. *Cost Engineering*, 43(10), pp.33-37.
- Miller, J.E., 1980. *Menu Pricing and Strategy*. Boston: CBI Publishing.
- Ottenbacher, M. and Harrington, R.J., 2007. The innovation development of Michelin-starred chefs. *International Journal of Contemporary Hospitality Management*, 19(6), pp.444-460.
- Ozdemir, B., 2012. A review on menu performance investigation and some guiding propositions. *Journal of Foodservice Business Research*, 15(1), pp.378–397.
- Ozdemir, B. and Caliskan, O., 2015. Menu Design: A Review of Literature. *Journal of Foodservice Business Research*, 18(3), pp.189-206.
- Pavesic, D.V., 2011. Restaurant Menu Design. URL: http://rrgconsulting.com/psychology_of_restaurant_menu_design.htm. Accessed: 26 March 2016.
- Reynolds, D., Merritt, E.A. and Pinckney, S., 2005. Understanding menu psychology: An empirical investigation of menu design and customer response. *International Journal of Hospitality & Tourism Administration*, 6(1), pp.1–9.
- Roberto, C.A., Larsen, P.D., Agnew, M.H., Baik, J. and Brownell, K.D., 2010. Evaluating the impact of menu labelling on food choices and intake. *American Journal of Public Health*, 100(1), pp.312–318.
- Shoemaker, S., Dawson, M. and Johnson, W., 2005. How to increase menu prices without alienating your customers. *International Journal of Contemporary Hospitality Management*, 17(7), pp.553-568.

Sobol, M.G. and Barry, T.E., 1980. Item positioning for profits: Menu boards at bonanza international. *The Institute of Management Sciences*, 10(1), pp. 55–60.

Tantawy, M.A., 2016. Value Engineering Miles and Erlicher. URL: http://www.12man-age.com/methods_miles_value_engineering.html. Accessed: 10 July 2016.

Taylor, J., Reynolds, D. and Brown, D.M., 2009. Multi-factor menu analysis using data envelopment analysis. *International Journal of Contemporary Hospitality Management*, 21(2), pp.213-225.

Teng, C. and Chang, J., 2013. Mechanism of customer value in restaurant consumption: Employee hospitality and entertainment cues as boundary conditions. *International Journal of Hospitality Management*, 32(1), pp.169–178.

Venkataram, P., 2012. An Article to clear up some Misconceptions about the nature of Research. URL: <http://pet.ece.iisc.ernet.in/Misconceptions.pdf>. Accessed: 27 August 2016.

Wansink, B., Ittersum, van, K. and Painter, J., 2005. How descriptive food names bias sensory perceptions in restaurants. *Food Quality and Preference*, 16(5), pp.393-400.

Yang, S.S., 2012. Eye movements on restaurant menus: A revisitation on gaze motion and consumer scan paths. *International Journal of Hospitality Management*, 31(3), pp.1021–1029.

Yoon, H.J. and George, T., 2012. Nutritional information disclosure on the menu: Focusing on the roles of menu context, nutritional knowledge, and motivation. *International Journal of Hospitality Management*, 31(1), pp.1187–1194.

Appendices

Appendix A1: Research survey questionnaire

Identifying Customer Value through Menu Attributes

Dear Participant,

My name is James Attard, I am a lecturer at the Institute of Tourism Studies, Malta. I am currently reading for a bachelor's degree in Hospitality Management, with Haaga Helia University of Applied Sciences, Finland. I am conducting this research, in respect of menu engineering and attributes that customer's value in fine dining restaurants in Malta, with regards to client's expectations of the food that is served and presented on the menu of these establishments. This information will help to analyse the attributes that customers seek in these types of establishments and aid in creating a menu based on the identified valued attributes. All responses will be treated with the strictest confidentiality and all information will solely be used for this research. I thank you for participating in this survey, and greatly value your responses and opinions.

Thank you,

James Attard

Section: 1 Demographics and generic dining habits

1. Which age cohort do you fall under?*

2. Are you resident in Malta or a foreign national (If not resident in Malta, kindly state your nationality)?*

3. How often do you dine out on a monthly basis?*

4. What is the underlying reason for opting for a fine dining experience?*

- ☐ Celebration of a special occasion or festive holiday (e.g. Anniversary or Birthday, Valentine's, Graduation etc.)
- ☐ Corporate or Business Dining
- ☐ Leisure

Section: 2 The menu vis a vis customer value

5. How much do you value having locally sourced Artisan food products on the menu? (e.g. hand crafted cheese, locally pressed, olive oil)

1 2 3 4 5

Little or No Value ☐ ☐ ☐ ☐ ☐ Highly Valued

6. How much do you value having exotic ingredients on the menu? (e.g. amaranth, enoki mushrooms, ostrich meat, sea snails) * _

1 2 3 4 5

Little or No Value ☐ ☐ ☐ ☐ ☐ Highly Valued

7. How important, in a menu is the presence of vegetarian options and dishes that cater for specific vegetarian diets? * _

1 2 3 4 5

Little or No Importance ☐ ☐ ☐ ☐ ☐ Significantly Important

Please state type of vegetarian diets you abide to (if applicable)

8. How Important is the presence of a low-carbohydrate or Protein-Rich (or Paleo) nutritional option on the menu? (Carbohydrates comprise simple or complex sugars such as those found in grain sugar and oatmeal respectively.) * _

1 2 3 4 5

Not that Important ☐ ☐ ☐ ☐ ☐ Highly Important

9. How Important is the presence of a gluten-free option on the menu? * _

1 2 3 4 5

Of little or no Importance ☐ ☐ ☐ ☐ ☐ Significant Importance

10. Please state the type of allergen (If applicable)

11. How Important would you perceive having ingredients sourced from sustainable and or certified ethical sources (e.g. Rainforest Alliance and Fair Trade Certified Food Sources)? * _

1 2 3 4 5

little or no perceived im-
portance ☐ ☐ ☐ ☐ ☐ perceived to be highly im-
portant

12. How important is the availability of having menu options that are in conformity with certain belief-based (religious) diets (e.g. Halal, Kosher, I-tal etc.) * _

1 2 3 4 5

Not Important ☐ ☐ ☐ ☐ ☐ Very Important

Please state the type of belief-based diet you adhere to (If applicable)

13. Which style would you prefer the presentation of your food to follow? * _

- ☐ Simple / Minimalist
- ☐ Crafted / Elaborate
- ☐ Participative (Flambé or Guerdon)

Section: 3 Menu Pricing

14. What is the MAXIMUM price you would be willing to pay for a STARTER at a FINE DINING restaurant* _

- ☐ € 7 to € 8.5
- ☐ € 8.6 to € 9.5
- ☐ € 9.6 to € 10.5
- ☐ € 10.6 to € 12

15. What is the MAXIMUM price you would be willing to pay for an INTERMEDIATE COURSE at a FINE DINING restaurant* _

- ☐ € 7 to € 7.5
- ☐ € 8 to € 8.5
- ☐ € 9 to € 9.5
- ☐ € 10 to € 10.5

16. What is the MAXIMUM price you would be willing to pay for a MAIN COURSE at a FINE DINING restaurant* _

- ☐ € 16 to € 18
- ☐ € 19 to € 21
- ☐ € 22 to € 24
- ☐ € 25 to € 28
- ☐ € 29 to € 32

17. What is the MAXIMUM price you would be willing to pay for a DESSERT at a FINE DINING restaurant* _

- ☐ € 4.5 to € 5
- ☐ € 5.5 to € 6
- ☐ € 6.5 to € 7
- ☐ € 7.5 to € 8

End of Survey

Appendix A2: Survey covering letter



Dear esteemed client,

We are delighted to announce that The Medina Restaurant has been awarded another prestigious award for Best Service and Hospitality at The Malta Tourism Authority's Quality Assured Restaurant Awards Ceremony on the 24th June.

We sincerely thank you, our esteemed diners, for your continuous and consistent support. Winning this prestigious award is a clear endorsement of the high standard that our team at The Medina have maintained over a sustainable period. We are proud to continue to offer first class cuisine in one of the most romantic and enchanting restaurant settings on the entire Island.

I would like to take this opportunity to introduce you to Mr. James Attard who was our Executive Chef for a number of years, where he laid down the foundations for the success our restaurant has achieved throughout the years. Presently he is a lecturer at the Institute of Tourism Studies and he is reading for a bachelor's degree in Hospitality Management. We would appreciate it if you would kindly find some time to log onto the link below, and participate in the survey. This research will give a perspective on what the customer wishes to sample on the menu rather than the chefs' or restaurateurs', thus improving guest satisfaction. The data collected will purely be used for research purposes of the thesis and will be treated in the strictest confidence.

<https://docs.google.com/forms/d/17HeKiHs21vxEnsiN9AzOc67GPr90S2eV6CPnw7On4/formResponse>

Thank you,
Yours sincerely,
Noel Debono
Managing Director.

Appendix A3 Relative Benefit Calculation (Excel Data)

<i>Relative Benefit</i>							
Rank Weights		0.65		0.35		<i>Total Benefit</i>	<i>Relative Benefit</i>
<i>Menu Item</i>	<i>Description</i>	<i>Attribute 1 (A1)</i>	<i>A1 Rank</i>	<i>Attribute 2 (A2)</i>	<i>A2 Rank</i>		
Starter	San Daniele	Artisan product	5.68	Paleo	3.96	5.08	0.06
Starter	Salt Cod	Artisan product	5.68	Gluten free	3.67	4.98	0.06
Starter	Scallops	Ethically Sourced	4.85	Gluten free	3.67	4.44	0.06
Starter	Bufala	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
Starter	Risotto	Artisan product	5.68	Paleo	3.96	5.08	0.06
Starter	Soup	Vegetarian	3.73	Paleo	3.96	3.81	0.05
Main	Brown Meagre	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main	Venison	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main	Lamb	Ethically Sourced	4.85	Paleo	3.96	4.54	0.06
Main	Chicken	Ethically Sourced	4.85	Artisan product	5.68	5.14	0.06
Main	Duck	Ethically Sourced	4.85	Exotic	3.75	4.47	0.06
Main	Fricassee	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
Dessert	Nut Tart	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
Dessert	Brulee	Exotic	3.75	Vegetarian	3.73	3.74	0.05
Dessert	Napoleon	Exotic	3.75	Vegetarian	3.73	3.74	0.05
Dessert	Croqaunt	Ethically Sourced	4.85	Artisan product	5.68	5.14	0.06
Dessert	Cheese Platter	Artisan product	5.68	Vegetarian	3.73	5.00	0.06
						79.22	1.00

Appendix A4 Relative Cost (Raw Materials Attribute Costing (1 of 4) Calculation (Excel Data))

<i>Ing name_1</i>	<i>Units (e.g kg)</i>	<i>Ing_1 Price</i>	<i>Ing_1 QTY</i>	<i>Ing name_2</i>	<i>Units (e.g kg)</i>	<i>Ing_2 Price</i>	<i>Ing_2 QTY</i>	<i>Ing name_3</i>	<i>Units (e.g kg)</i>	<i>Ing_3 Price</i>	<i>QTY</i>
Prosciutto	kg	25.6	0.06	Baby Figs	kg	3.6	0.09	Balsamic	ltr	4.6	0.02
Salt cod	kg	12.5	0.15	Fennel	kg	2.85	0.06	Golden rasins	kg	11.74	0.015
Scallops	kg	26	0.12	Cauilflower	piece	1.34	0.2	Lentils	kg	1.9	0.1
Burrata	kg	15.5	0.15	Tomatoes	kg	1.68	0.098	Oats	kg	1.8	0.06
Carnaroli	kg	6.5	0.1	Peas	kg	1.87	0.08	Butter	kg	4.6	0.08
B/N squash	kg	1.45	0.2	Honey	kg	8.36	0.006	Leeks	kg	2.65	0.06
Meagre	kg	11	0.22								
Tenderloin	kg	32	0.2	danmuji radish	kg	2.65	0.03	Baby onions	kg	2.53	0.02
Lamb											
Rump	kg	27.85	0.25	Lamb neck	kg	6.8	0.1	Barley	kg	1.9	0.074
				Chicken							
Breast	kg	8.25	0.3	mousse	kg	4.5	0.06	Cheeslet	kg	12.3	0.04
Breast	kg	35	0.18	Honey	kg	8.36	0.006	Salsify	kg	12.4	0.07
				Pickled walnuts	kg	26.5	0.007	Chesnut			
								Mush	kg	3.5	0.065
Sweet								Croquant			
pastry	kg	3.85	0.06	Mixed Nuts	kg	13.5	0.075	sugar	kg	7.24	0.006
Cream	ltr	2.8	0.05	Milk	ltr	0.98	0.035	Eggs	piece	0.33	2
Puff pastry	kg	4.5	0.048	Bavarois mix	kg	7.46	0.06	Lime	kg	2.3	0.09
Croq base	kg	8.75	0.07	Bavarois mix	kg	7.46	0.045	Chocolate	kg	12.5	0.045
Chedder	kg	8.2	0.03	Camembert	kg	11.34	0.003	Cheeslet	kg	12.3	0.03

Appendix A4 Relative Cost (Raw Materials Attribute Costing (2 of 4) Calculation (Excel Data))

<i>Ing_4</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>QTY</i>	<i>Ing_5</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>Qty</i>	<i>Ing_6</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>Qty</i>
Sugar	kg	1.6	0.05	Goats milk	ltr	2.87	0.08	Lemons	kg	1.63	0.075
Blood oranges	kg	1.85	0.1	Grapefruit	piece	0.42	0.5				
Hazelnuts	kg	13.5	0.02	Lemons	kg	1.63	0.03	Butter	kg	4.6	0.08
W/meal flour	kg	1.6	0.1	Garlic	kg	2.3	0.04				
Scamorza	kg	16.5	0.035				0.03	Parmegiano	kg	12.8	0.03
Butter	kg	4.6	0	Sage	punnet	1.95	0.02	Macadamia	kg	36	0.02
Haricot blanc	kg	3.34	0.06	Chorizo	kg	6.2	0.028	Tomato sauce	ltr	1.45	0.05
Honey	kg	8.36	0.00001	Bok choy	kg	6.45	0.05	Butter	kg	4.6	0.04
Sauce	piece	0.65	1	Shallots	kg	0.04	0.04	Butter	kg	4.6	0.06
S/M sausage	kg	4.56	0.025	Parsnips	kg	0.05	0.05	Butter	kg	4.6	0.055
Swiss chard	kg	2.5	0.1	Cumquat	kg	6.9	0.04	Cashew nuts	kg	9	0.02
Oyster mush	kg	13.55	0.05	Chanterelle	kg	0.03	0.03	Garlic	kg	2.3	0.045
Pastry				Caramel				Strawberry Cou-			
Cream	kg	6.25	0.06	sauce	piece	0.5	1	lis	ltr	4.54	0.0025
Passion fruit	kg	8.1	0.06	Sugar	kg	1.6	0.03	Lychee	kg	14.45	0.05
Ginger	kg	2.67	0.05	Mango	piece	1.12	0.5	Mint	punnet	1.75	0.01
Oranges	kg	1.85	0.18	ltr	piece	0.6	1	Chocolate soil	kg	6.95	0.03
Pecorino	kg	14.5	0.03	Stilton	kg	15.2	0.03	Walnuts	kg	24.3	0.02

Appendix A4 Relative Cost (Raw Materials Attribute Costing (3 of 4) Calculation (Excel Data))

<i>Ing_7</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>Qty</i>	<i>Ing_8</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>Qty</i>	<i>Ing_9</i>	<i>Units (e.g kg)</i>	<i>Price</i>	<i>Qty</i>
Sea salt	kg	1.56	0.002	Walnuts	kg	10.5	0.03				
				Chillies	kg	2.8	0.008				
Carrots	kg	1.12	0.025	Milk	ltr	0.98	0.06	Cumin	kg	17.46	0.01
Butter	kg	4.6	0.05	Basil	punnet	1.6	0.1	Balsamic	ltr	4.9	0.03
Onions	kg	1.03	0.05	Garlic	kg	2.3	0.02	Cream	ltr	2.4	0.068
Onions	kg	1.03	0.05	Cream	ltr	2.4	0.03	Celery	piece	0.84	0.1
Onions	kg	1.03	0.05	Garlic	kg	2.3	0.03	Chillies	kg	2.8	0.005
Vitelotte potato	kg	3.9	0.06		Dark chocolate	12.5	0.008				
Tapenade	kg	9.5	0.026	Thyme	punnet	1.95	0.02				
Porcini	kg	62.5	0.01	Herbs	punnet	1.95	0.01				
Sweet potatoes	kg	2.65	0.06	Butter	kg	4.6		Cream	ltr	2.4	0.045
Cream	ltr	2.4	0.05	Stilton	kg	15.2	0.038	Gnocchi	kg	4.65	0.7
Forest fruits	kg	3.65	0.06	Ice-cream	piece	0.6	1				
Brittle Biscuit	kg	3.75	0.027								
Qunice Jelly	kg	4.95	0.0015	W biscuits	kg	1.45	0.002				

Appendix A4 Relative Cost (Raw Materials Attribute Costing (4 of 4) Calculation (Excel Data))

Ing_10	Units (e.g kg)	Price	Qty	Ing_11	Units (e.g kg)	Price	Qty	Ing_12	Units (e.g kg)	Price	Qty	Total RM Cost
Capers	kg	4.08	0.009	Dressing	piece	0.45	1	Micro green	punnet	1.98	0.1	3.35
				Dressing	piece	0.45	1	Micro green	punnet	1.98	0.1	3.29
				V/Stock	ltr	0.98	0.1	Micro green	punnet	1.98	0.1	4.86
				Dressing	piece	0.45	1	Micro green	punnet	1.98	0.1	4.03
White wine	ltr	2.87	0.05	V/Stock	ltr	0.98	0.1	Micro green	punnet	1.98	0.1	2.83
				V/Stock	ltr	0.98	0.1	Pea Shoots	punnet	1.78	0.1	1.74
White wine	ltr	2.87	0.07	Sauce	piece	0.65	1	Garnish	piece	0.65	0.1	3.92
				Sauce	piece	0.65	1	Garnish	piece	0.65	0.1	8.09
				Sauce	piece	0.65	1	Garnish	piece	0.65	0.1	9.71
White wine	ltr	2.87	0.055	Sauce	piece	0.65	1	Garnish	piece	0.65	0.1	5.12
				Relish	piece	0.8	1	Garnish	piece	0.65	0.1	9.06
White wine	ltr	2.87	0.05	Butter	kg	4.6	0.06	Garnish	piece	0.65	0.1	5.63
								Garnish	piece	0.65	0.1	3.06
								Garnish	piece	0.65	0.1	2.26
								Sauce	piece	0.65	0.1	2.30
								Sauce	piece	0.65	0.1	3.37
								Garnish	piece	0.65	0.1	2.10

Appendix A5 Relative Cost (Direct Cooking Overheads Attribute Costing) Calculation (Excel Data)

	<i>Direct Cooking O/Hs</i>				<i>Total DC</i>
Dish Description	Estimated Preparation time	Oven time (mins)	Stove time (mins)	Total Cooking time	
San Daniele	35	6	30	71	0.526875
Salt Cod	40	0	12	52	0.175625
Scallops	30	0	45	75	0.658594
Bufala	30	20	15	65	0.51224
Risotto	12	12	30	54	0.614688
Soup	35	0	45	80	0.658594
Brown Meagre	40	0	60	100	0.878125
Venison	40	15	45	100	0.878125
Lamb	35	0	130	165	1.902604
Chicken	45	15	40	100	0.804948
Duck	50	12	45	107	0.834219
Fricassee	30	60	15	105	1.097656
Nut Tart	40	30	10	80	0.585417
Brulee	30	40	15	85	0.804948
Napoleon	80	15	30	125	0.658594
Croqaunt	45	18	30	93	0.7025
Cheese Platter	10	0	45	55	0.658594

Appendix A6 Relative Cost (Direct Labour Attribute Costing) Calculation (Excel Data)

	<i>Labour Costs</i>					
					<i>Total LC</i>	<i>CHECK</i>
Dish Description	Chef Time	Sous-Chef Time	Chef-de Partie Time (2)	Commis-Chef Time		
San Daniele	0	0	20	15	4.39069	OK
Salt Cod	0	0	10	30	4.172006	OK
Scallops	0	0	15	30	4.940235	OK
Bufala	0	0	25	10	4.719662	OK
Risotto	0	0	25	15	5.15892	OK
Soup	0	0	8	35	4.303972	OK
Brown Meagre	25	15	0	10	10.9181	OK
Venison	20	25	0	0	10.60052	OK
Lamb	30	10	0	15	11.78444	OK
Chicken	10	25	20	0	10.84323	OK
Duck	25	10	10	20	12.34505	OK
Fricassee	0	15	25	0	6.805208	OK
Nut Tart	0	25	15	10	8.123308	OK
Brulee	0	20	10	10	6.367058	OK
Napoleon	0	20	30	10	9.439974	OK
Croqaunt	0	20	15	20	8.013803	OK
Cheese Platter	0	0	20	6	3.600026	OK

Appendix A7 Value Engineering Calculation (Excel Data)

<u>Description</u>	<i>Total Cost</i>	<i>Relative Cost</i>	<i>Value Index</i>
San Daniele	8.27	0.04	1.661
Salt Cod	7.64	0.04	1.762
Scallops	10.46	0.05	1.147
Bufala	9.27	0.04	1.458
Risotto	8.60	0.04	1.596
Soup	6.70	0.03	1.537
Brown Meagre	15.71	0.07	0.781
Venison	19.56	0.09	0.627
Lamb	23.40	0.11	0.524
Chicken	16.77	0.08	0.829
Duck	22.24	0.10	0.543
Fricassee	13.53	0.06	0.998
Nut Tart	11.77	0.05	1.148
Brulee	9.43	0.04	1.073
Napoleon	12.40	0.06	0.816
Croqaunt	12.08	0.06	1.150
Cheese Platter	6.36	0.03	2.125
	214.19	1.00	

Appendix A8 Value Engineering Calculation (Excel Data)

<u>Pricing Considerations</u>			
<i>Cost Plus</i>			Target Price
Salt Cod	mark up	1.25	9.72
San Daniele			
Risotto			
Soup	11.58	14.47897	9.72
Bufala	10.75	13.44204	
Scallops	8.38	10.47535	
Fricassee	19.64	1.25	26.11
Chicken	24.46		
Brown Meagre	29.25		
Venison			
Duck			
Lamb			
Cheese Platter		1.15	6.29
Croqaunt	10.84	13.55427	
Nut Tart	14.25	17.81805	
Brulee	13.90	17.37003	
Napoleon	7.31	9.14245	

Key


Red : Value-detracting items



Green : Value-Maximising Sets



Yellow : Residual items.

Value Attributes Menu



To Commence


Bufala Burrata dressed with tomato and sweet garlic fondue, oat meal crumble, laced with basil infused oil and aged balsamic. **A**  €15.80


Acquerello carnaroli risotto with green pea, "mantecato" with Scamorza Affumicate dressed with pea shoots and Parmegiano crisp. **A**   €17.50

Honey roasted butternut squash soup served with a sage and macadamia nut gremolata.   €10.50


To Continue



Pan seared brown meagre nestled on a haricot blanc and chorizo cassoulet, topped with sauté enoki mushrooms chicken jus reduction.   €26.75


Pan-seared supreme of local free range chicken, stuffed with Gozo peppered gbejniet and smoked Maltese sausage farci, parsnip puree, porcini scented jus. **A**  €25.95

Fricassee of wild mushrooms and nettle gnocchi pickled walnut and stilton scented cream. **A**  €20.50

To Conclude

Warm nut and vanilla pastry cream tart, served with caramel coulis, forest fruit compote, and helwa tat- tork ice-cream.  €12.75

Valrhona chocolate and orange croquant served with a yoghurt sorbet and chocolate soil   €13.95

Lime and ginger 'Napoleon' dressed with a mango and mint salad.  €12.50



Vegetarian



Ethically sourced



Paleo diet