



**Organisational Readiness for Target Cost Management in New Product Development: A Case
Study of Food Manufacturing Company in the UK**

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DECLARATION

“Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.”

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Organisational Readiness for Target Cost Management in New Product Development: A Case Study of Food Manufacturing Company in the UK

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ABSTRACT

Target cost management has been considered as the most effective cost management strategy for new product development stages, particularly in its contribution to businesses with competitive advantages. Target cost management is market-driven that requires the cooperation of all departments within an organisation and various players across the value chain. For many industries, target cost management offers excellent benefits across product life cycle generally and new product development stages particularly. Although a substantial number of studies pertaining to target cost management in most industries have highlighted the essential characteristics that contribute to the high adoption rate and success, little is known about the condition of its low adoption in a food manufacturing company.

As such, this study looked into the organisational readiness for target cost management in new product development stages. This research assessed six essential elements of target cost management. The research analysed qualitative case study data retrieved from experienced managers in a food manufacturing company. The question raised is ‘is this company ready for target cost management?’

The interviews revealed the fundamental concept of target cost management within the new product development process although not entirely exercised. The organisation exhibited cross-functional involvement by incorporating customer input and top management support in the new product development process. The author has discovered that further improvement in the current practice of cost data is crucial to ensure that the organisation has detailed cost information. This study lists several integral factors of successful implementing target cost management, such as corporate strategy, profits goals and objectives, leadership and strong support from the leadership, as well as characteristics of target cost management. The study findings enhance understanding and aid researchers and managers in

light of target cost management. It is hoped that this research inspires researchers to further explore organisational readiness for target cost management.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

This chapter provides some insights on the research context. This research assessed a food manufacturing company that has been operating in the United Kingdom (UK). The following section presents a brief introduction regarding target cost management for new product development. After that, Section 1.4 highlights the research gaps that had motivated the author to evaluate food manufacturing company. The next part lists the research questions and research objectives. Lastly, this chapter ends with a summary.

1.2 Research Context

The UK food manufacturing industry appears to be the largest manufacturing sector that produces an enormous range of food products and plays a vital role in underpinning the UK's economy. The sector contributed to almost £29 billion to the UK's economy with a turnover exceeding £90 billion of the total UK manufacturing industry (Food and Drink Industry Report, 2017). The statistics presented in Table 1.1 between 2010 and 2015 displays consistent growth (Food and Drink Industry Report, 2017). Overall, this industry emerged as the fourth fastest growing sector between 1997 and 2015, contributing to 27% of total economic output and growth (Food and Drink Industry Report, 2017).

Indicator	Growth
Productivity	by 3%
Turnover	by 28%
Profits	by 10%
Employee	by 6%

Table 1: The UK's Food and Drink Industry Achievements

Recently, the food and beverages sector, including the food manufacturing industry, has undergone several underlying market shifts. The downward pressure from shelf prices to retailers seems to have an enormous impact on food manufacturers to lower production prices while protecting product margin. As for new food products, managing and controlling the cost of food products are crucial for the industry to identify growth potential and to improve productivity. Food manufacturers should consider managing and controlling the prices of food products at the product design and development stages. At these stages, more time and costs are demanded over the entire life cycle of the product (Ansari et al., 1997). Hence, food manufacturers should implement effective cost management that is essential to strive for cost reductions while protecting the target margin of the company.

Amid the process of developing a new product, the target cost management approach requires people to work together across the value chain. From the organisational perspective, target cost management has varying application processes, in comparison to the conventional viewpoint concerning pricing and design of the product, as well as costs management. Instead of being determined as the cost and technique for managing profit, target cost management is comprised of integrated application processes that involve the implementation of both modern and conventional cost management methods, along with other domains, inclusive of engineering, marketing, and production (Yazdifar & Askarany, 2012). The multidisciplinary collaboration is fundamental because to succeed in cost reduction, an organisation has to adjust the entire new product targets cost, quality, functions, volume of production, and contributed capital. Generally, the new product design and development stages are the most influential segments for such groups, while this cannot be said for accounting, for instance, whose assessment is insignificant. Additionally, target cost management controls the overall cost of product life cycle regardless of its length. Such cost includes the purchase of segments, operational, support, conveyance, and product functionality.

Fresh Foodie UK, which is one of the largest food manufacturers, was selected in this research to unravel and to understand the issues discussed above. Recently, the company has aimed towards providing profitable growth through its business strategy that emphasises on price-leadership, focuses on consumer relationships, highlights on quality and innovation, and accentuates efficiency of services. The Fresh Foodie UK management team claimed that they need to revamp the way the company was being managed and to control their food manufacturing process. Therefore, they appeared keen to control and manage costs incurred at new product development stages. The managers presumed that by developing accurate information on costs of foods product, appropriate decisions may be proposed while enabling modifications in the expensive business activities that aim at operations efficiency. Accurate cost information of products is bound to explain the role of every product and service in the business performance through the use of product portfolio (Shields & Young, 1994).

Costs of products have been significant for the Fresh Foodie UK as the organisation has to operate in the competitive international market due to which the product life cycle is short, and decisions related to the prices of newly-developed products are dictated by the competitive environment (Sikka, 2003). The underlying interest of such case is identifying potential contemporary cost management that addresses issues related to costing within the production department and phase that create higher costs with the intricate process of production flow for various product types. The management of the organisation believed that challenges of costs that derive from the production stage and their solutions serve as a significant ground for future research studies that are beneficial for production strategies (Zahra & Alireza, 2014).

The case of Fresh Foodie UK showed that the company had significant objectives, including satisfaction amongst consumers with quality products and services, on-time delivery, achievement of higher levels of market penetration, appropriate working environment for employees, emphasis on teamwork, and

innovative ways towards success. Long term financial success for the organisation has been based on the extent to which their prices exceed the costs for financing the growth prospects of the organisation while providing reinvestment and yielding a satisfactory return to stakeholders. In the case of competitors and demand exceeding the company's supply, costs are marked up to provide prices that yield sufficient amount of profit. With ever-increasing competition, both supplies exceeding demand and influence of the market on prices have increased significantly (Shah et al., 2011). In order to gain a significant margin over costs, Fresh Foodie UK was required to manage and control such values, in which their prices were dictated by the market. The company also had to review the prices that were set by the organisation to achieve company visions.

1.3 Summary of the Research

Past research claimed that target cost management is beneficial for cost reduction and cost control strategies at product design and development stages (Yazdifar & Askarany, 2012). In fact, a number of studies pertaining to strategic cost management have revealed that target cost management has been widely implemented across manufacturing and service industry (Hamood et al., 2011; Yazdifar & Askarany, 2012). Nevertheless, only a handful of researches (see Kocakülâh & Austill, 2006) have probed into target cost management amidst companies associated with food and drinks. Besides, only a few accounting scholars (see Jack & Jones, 2008) have explicitly addressed the issue if target cost management is appropriate within the food and drinks domain. Previous studies have asserted that target cost management had a low-level implementation in intermediary companies, particularly those related to food and drinks (Abdel-Kader & Luther, 2006). These are the gaps identified, mainly because researches on target cost management from the light of industrial are essential to address why target cost management is barely implemented in the food and drinks domain. Past studies also claimed that implementing target cost management at the new product design and development stage requires complex interdependence across departments and value chain

(Ansari et al., 1997). As most past researches have looked into the adoption of target cost management, perceived benefits and their characteristics; this particular research investigated a company's readiness towards successful target cost management implementation. This is because; the selected case company had partially implemented target cost management on variable costs incurred in new product development, and therefore, provided an appropriate site to assess the aspect of readiness. Company readiness needs to be analysed because the findings may provide insight into the company's attributes and preparedness towards complete implementation of target cost management.

1.4 Research Objectives and Questions

This research examined the readiness of a food manufacturer in implementing target cost management at the new product development stage. The research questions developed for this research are as follows: (1) How far are the managers well-informed about target cost management?, (2) To what extent is the implementation of target cost management in new product development in the food manufacturing company?, and (3) Is it possible to increase the extent to which target cost management is used in new product development in the food manufacturing company?

The research aim is further divided into several research objectives, as listed below:

Research Objective 1: To investigate the awareness amongst managers on and practice of target cost management in the studied food manufacturing company.

Research Objective 2: To determine the extent of target cost management implementation for new product development in the studied food manufacturing company.

Research Objective 3: To evaluate the extent to which target cost management can be improved in new product development within the food and drinks industry.

1.5 Summary

This chapter presents a brief introduction regarding the food and drinks industry with more emphasis on the food manufacturing sector. The achievement of the food manufacturing sector is very encouraging. This sector has been reckoned as the main contributor to the national income due to its high productivity and employment opportunities. Next, this chapter explains the roles of target cost management as a strategic approach to managing and controlling the costs of new food products. This approach has the ability to assist food manufacturers in producing quality food products without compromising the needs of customers and the profits of a company. The selected organisation for this research is described in the following chapter. As an international food manufacturer, this company is aware of the challenges within the food and drinks industry. The company looks forward towards improving their cost management systems. This research, hence, hopes to assist the selected food manufacturer to enhance its cost management practices in making a valid decision at the new product development phase. Additionally, the study may facilitate the management of organisations to further understand the grounds of their correspondence for improving their strategies in costing and pricing through the use of target cost management approach. This research adds to the current knowledge concerning target cost management. Prior studies have extensively discussed a range of topic regarding target cost management, such as its implementation across numerous industries, its benefits, and its challenges. In light of management accounting research, this study offers new knowledge by assessing the characteristics of target cost management in a food manufacturing company.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature by looking into a substantial number of previous studies related to the history and challenges, as well as the development of management accounting and target cost management. The first section of this chapter discusses the literature concerning management accounting framework that leads to the development of strategic management accounting, i.e. target cost management. The next section of this chapter reviews the literature in several categories, namely history, application, objectives, characteristics, process, tools and techniques, success factors, and value analysis of target cost management. Finally, this chapter analyses studies that focused on target cost management to identify the research gaps in the literature, along with their significances.

2.2 Management Accounting Framework

As management accounting innovation has become a significant element for successful performance in the present competitive environment, the set of strategies that functions as a direction towards that innovation has turned into a crucial factor. The changes in the management accounting system in coping with increased competition have been criticised within the accounting literature. Johnson and Kaplan (1987) argued that management accounting had not changed since the early twentieth century, and lost its relevance in providing information during the decision-making process. In response to this criticism, newly developed management accounting techniques have been proposed and adopted by many organisations across the world. Nishimura (2002), through “Asian management accounting practices” model, suggested that management accounting can be classified into four development stages: ‘drifting’ management accounting, ‘traditional’ management accounting, ‘mathematical’ management accounting, and ‘integrated’ management accounting. Through these stages, management accounting becomes evolved from its focus on financial

accounts for management control in the initial stage of integration of accounting management and organisational management in the fourth stage. The emergence of e-commerce and the growth of advanced technology have increased the competitive challenges and thus, shifted the focus of management accountants toward value-added activities and efficient use of resources. Accordingly, a number of management accounting techniques have been proposed, such as total quality management, just-in-time, balanced scorecard, activity-based costing, and target costing. This is mainly to prop up modern technologies and complex management processes. Figure 2.1 illustrates the four stages derived from the International Federation of Accountants (IFAC) (1998) pertaining to management accounting concepts.

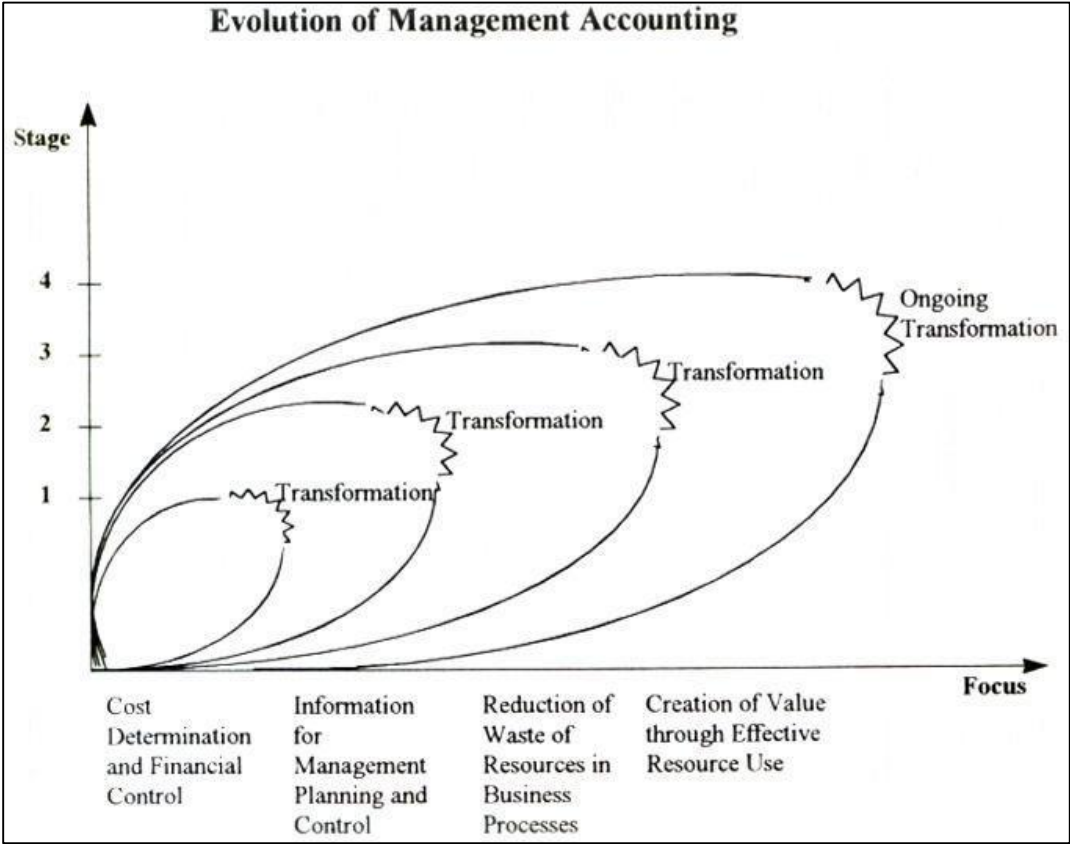


Figure 1: The Transformation of Management Accounting

The management accounting literature also has witnessed the transition of fundamental concepts for management accounting. For the past fifty years, the management accounting literature has published movement and accomplishment of management accounting techniques that are helpful in the decision-making process. The management accounting framework has extensively discussed the underlying concepts of management accounting (Shank & Govindarajan, 1993, pg. 4).

At the first stage (before the year 1950), the primary focus of management accounting was cost determination and financial control. This was predominantly concerned with internal processes, budgeting, and cost accounting practices. Due to the urgent need for information in the decision-making process, the role of management accounting shifted to the provision of information required for planning and control purposes. This is shown in the second stage of management accounting evolution model (1950s to 1960s). According to Abdel-Kader and Luther (2008), the management activities during this period involved staff support of line management through the use of technologies and management controls oriented towards manufacturing and internal administration, instead of strategic and environmental considerations. Use of technologies refers to the models of thought and practice employed in the processes involved in organisational activities and linked with each part of the management process (IFAC, 1998, para 27), where management accounting is an integral part of the management process (IFAC, 1998, para 29). It is interesting to note that management accounting, as part of the management process, focuses on several practical ways of managing resources to achieve organisational objectives set in the strategy.

In the IFAC's third stage of management accounting evolution framework, the management role shifted towards the reduction of waste in resources applied in organisational processes (IFAC, 1998, para 7). This is partly due to the world recession that occurred in the 1970s following oil price shock and increased competition in the early 1980s (Abdel-Kader & Luther, 2008). Thus, the need for information systems

adopted by management accountants is urgently essential to ensure the availability of appropriate information required to support managers and other users at all organisational levels. Ashton et al., (1995), as cited by Abdel-Kader and Luther (2008), reported that the impacts of uncertainty, advances in manufacturing, information-processing technologies, and overall challenges of global competition faced by the worldwide industry in the 1990s led to the emergence of e-commerce. This, hence, shifted the role of management accounting in its fourth stage of evolution towards value creation through the practical use of resources and technologies that assessed the value drivers of customers, shareholders, and ultimately organisational innovation.

Through the four stages of management accounting evolution, all the stages were successively linked with each other; one stage encompasses the concepts of the previous one (Sharaf-Addin et al., 2014).

Nonetheless, the significant variances between stages 2, 3, and 4 are that the focus shifted from information provision towards resources management, waste reduction in stage 3 and value creation at stage 4 (IFAC, 1998, para 17). Hence, the newly developed management accounting techniques, such as just-in-time, balanced scorecard, and target costing, have been initiated to achieve the fundamental role of management accounting regarding value creation articulated in stage 4. Accordingly, the focus of target costing is to integrate the last three stages (stages 2 until 4) towards value creation objective by determining the products of target costs, by providing information for planning and designing purposes, and by controlling product costs through the reduction of waste in resources used in the production process. The detailed discussion on target costing role developed as an integral part of cost and management accounting system consistent with management accounting evolution stages is presented in the findings section.

2.3 Target Cost Management

Target cost management refers to a systematic process of planning new product offerings, establishing market sales prices and target profit margins for new products, as well as reducing the overall cost of new

products over their life cycles (while still meeting customer demands). It examines all ideas for cost reduction in product planning, research, and development processes (Cooper & Slagmulder, 1997). Target cost management is based on the idea that a product's quality, functionality, and cost are primarily determined during the design stage of the product life cycle, and that little can be done to improve these elements upon setting the product design. This requires the management to use systematic market and profit planning, including proactive cost management activities at the product development phase.

A number of viewpoints have been highlighted concerning target cost management definitions, objectives, characteristics, processes, tools, and enablers in the literature (see Ansari et al., 2006; Everaete et al., 2006; Feil et al., 2004; Kato et al., 1995; Tani et al., 1994; Monden & Hamada, 1991). The following subsections elaborate the target cost management literature concerning its concept, development history, definitions, objectives, characteristics, engineering tools, implementation process, and enablers by previous scholars.

2.3.1 Overview of Target Cost Management

The underlying stride that has been made in the target cost management procedure is to develop the proposed new item's target value, which includes various contemplations. Fayard et al., (2012) claimed that a suitable method is sought to decide the present and future needs of consumers. For instance, Sony corporations, Ford, and Toyota invested much effort undertaking refined market research, including studies and centre gatherings, keeping in mind the end goal to ascertain what capacities and components that reflected customers' need, as well as the amount they that they were willing to pay for them.

According to Kee and Matherly (2013), target cost management is based on the assessment of market needs, the competitive investigation, as well as the organisation's previous arrangements to convey another or adjusted item with specific capacities, components, feel, and diverse qualities. Agndal and Nilsson (2009)

inferred that the primary point is that organisations employ target cost management based on the market and competitive conditions, as well as on the long haul valuing, along with market infiltration destinations.

Ansari et al., (2006) highlighted that once target cost has been devised; the target net revenue ought to be figured. Mainly, keeping in mind the end goal to be fruitful over the long haul, organisations need to yield an arrival in the abundance of the association's cost of capital. The distinctive product offerings or items would have several target overall revenues set up for them, contingent upon various components. The run of the mill elements is considered as the quality of target market cost or forcefulness of administration's evaluating systems to infiltrate markets. In addition to this, the associations own particular cost position is a minimal effort-maker with the level of speculation required to bolster the item so that higher venture can prompt higher overall revenue and vice versa. The contrast between target costs and target overall revenue is the permissible cost that the organisation can focus on the specified item.

Kocsoy et al., (2008) claimed that diverse organisations characterise the costs to be incorporated within the meaning of the reasonable costs and target net revenue contrastingly, including for all intents and purposes. Every organisation incorporates materials along with purchased parts, which include variable generation change costs, work and associated costs, and straightforwardly identifiable as well as variable assembling overhead. For the most part, new items require R&D uses, tooling costs, and particularly in a time of increasing mechanisation, critical capital venture and the effect of these things, for example, deterioration, ought to be incorporated into the degree that there are other non-manufacturing costs of conveyance, publicising and advancement, deals and administration, as well as interests in stock, which may be incorporated. Afonso et al., (2008) suggested that the target cost management procedure is vital to inspect the degree of financial and non-financial goals are accomplished. Reasonable and target cost figures are

either amassed or disaggregated along conventional lines with essential building pieces, sub-assemblies, utilitarian measurements, and at last, to fundamental segments.

As the venture group cooperates, it is essential to track the additions of and the setbacks against target cost, as well as permissible costs along with specific organisations, keeping up itemised status sheets amassing where they direct against significant building piece or capacity targets, disintegrated to individual parts (Afonso et al., 2008). It is seen that along with these lines, the group knows at every time where it remains against the targets and where additional open doors ought to be found, as well as kept up. A powerful assessment of current costs is likewise imperative since it serves as the establishment for target cost assurance and a report on how adequately the suitable costs are accomplished. The meaning of the costs to be incorporated into target cost management turns out to be more far-reaching, including shared assembling and non-manufacturing costs, the application as well as advantages to be obtained from increased target cost.

Ibusuki and Kaminski (2007) revealed that real cost opens doors that are best accomplished amid the early phases of the idea, outline, advancement, as well as creation cycle and all things considered in those organisations genuinely dedicated to cost administration, which refers to the mission for cost changes proceeds, notwithstanding the generation phase. In addition to this, the target cost management procedure and different systems regularly utilised the quality function deployment- an apparatus used as part of operations administration with a specific end goal to comprehend customers' prerequisites as far as specialised characteristics are required, along with their significance. On the other hand, driving organisations search for approaches to wipe out waste and decrease costs even after an item has gone into creation, including adjustments to the item as well as its outline, supplier administration endeavours, and

ceaseless procedure change activities are all players in target cost management through the assistance of kaizen costing exertion.

Gârleanu and Pedersen (2013) presumed that a portion of the foremost open doors that Japan organisations seek after kaizen costing endeavours incorporate aggregate disposal of wastes, for example, material scrap, material taking care of, overabundance stock, and oppressive managerial exercises. Everaert et al., (2008) portrayed benefit as a business account term that arrangements with the measure of cash produced after offering an item/benefit over a timeframe, for the most part, a year. Baharudin and Jusoh (2015) asserted that it is critical for an organisation to monitor association's yearly benefit, keeping in mind the end goal to figure out if offering a specific item/administration is beneficial or otherwise. In the event that the business does not make the satisfactory yearly benefit, a savvy choice is to change the item/benefit, as well as its marketing technique or to drop the item/benefit altogether, having considered other subjective variables, so that the organisation does not keep on making misfortunes. Fayard et al., (2012) concentrated on the development of offers and benefits, while Filomena et al., (2009) measured gainfulness development regarding workers, in addition to annual deals and benefits.

Dichmont et al., (2010) looked into the development of market offer; cash stream and deals, whereas Juhmani (2010) examined the relative representative and turnover development measures. Ansari et al., (2006) then again contended that an association's development can be measured as far as yields (deals income and benefits). Gârleanu and Pedersen (2013) asserted that the conceivable pointers for measuring benefit development are assets, occupation, market offer, physical yield, and deals. The benefit is the distinction between deal esteem and cost of offers. Fayard et al., (2012) depicted that the relationship between deal and benefit is that normal benefit can be enhanced either by increasing the normal turnover esteem or diminishing the cost or both concurrently. Huang et al., (2012) mentioned that by and large, deal

esteem relies on market strengths, which may seldom be affected by directors. Typically, even a genuine increase in cost cannot be passed on completely to customers and part of the cost is borne by the business. It is consequently, not generally conceivable to enhance benefit by increasing deal esteem. It has been observed that cost diminishment is, for the most part, the main option for enhancing the benefit of an item with an all-round increase in the costs of inputs and increase in the rivalry. Cost decrease had been referred to extraordinary significance in small and medium enterprises in Ogun Industrial Metropolis of Nigeria. Gulamhussen and Guerreiro (2009) set that the effect of the business environment on survival and productivity can be portrayed in any structure, be it positive or negative business environment. Consistently, Chenhall and Langfield (1998) asserted that the working environment may be negative due to inflationary rates, government approach on taxes, and increased the cost of creation or overhead costs.

2.3.2 Application of Target Cost Management

The application of target cost management has evolved across the globe, especially amidst the manufacturing industry. Around 80% of the organisations in Japan implemented the concept of target cost management (Kato, 1993). Tani et al., (1994) reported that more than 55% of the manufacturing organisations of Japan listed in Tokyo Stock Exchange implemented this strategy as well. Outside Japan, Chenhall and Langfield (1998) revealed that more than 35% of manufacturing organisations in Australia implemented the practice of target cost management, while Joshi (2001) found that more than 30% of manufacturing organisations in India had employed this practice. In Europe, Dekker and Smidt (2003) revealed that more than 56% of Dutch manufacturing organisations had implemented target cost management, whereas Rattray et al., (2007) found that more than 37% of manufacturing organisations in New Zealand used the approach of target cost management.

Kocsoy et al., (2008) discovered that the average application ratio of target cost management approach in more than 85 organisations of Turkey in the survey exceeded 26% and this figure reflected that the target cost management approach is new in the Turkish organisations, when compared to Japan, the US, and the European organisations. Juhmani (2010) reported that the adoption rate for target cost management was more than 55% amongst manufacturing organisations in Bahrain for process-oriented manufacturing, wherein the manufacturing method applied assembly orientation. These results showed that the most important value of target cost management is assisting organisations in making trade-offs between functions, quality, and cost. It is followed by a decrease in cost, quality control, product development, consumer satisfaction, consistent enhancements in design, and the introduction of products in a timely manner. These sorts of benefits are similar to those listed by Dekker and Smidt (2003) and Tani et al., (1994).

A study of Consortium for Advanced Manufacturing International (CAM-I) in the late 1990s determined the most effective practices of target cost management among US and Japan organisations. The study revealed varying tenets of the target cost management approach between the US and Japanese organisations. It seemed that many US organisations interpreted certain aspects of the target cost management in a different manner from design to cost and from design to manufacturing while setting the phases of adopting target cost management (Swenson et al., 2005). Kee and Matherly (2013) carried out a survey involving 75 organisations in New Zealand and reported more than 35% of the adoption rate for target cost management by a moderate number of manufacturing organisations.

Studies performed in India and Australia offered evidence on the benefits of adopting target cost management, wherein more benefits were reported by the Indian organisations than Australian ones. This reflects that the organisations in India perceived the significance of cost management during product

planning and development cycle, instead of the post-production phase. The respondents from India reflected a higher emphasis on the future, while those from Australia reflected a lower emphasis on the target cost management, in comparison to other strategies. Although both organisations had considerable awareness on the importance of conventional strategies in the future, there was a different inclination of practices of target cost management in Indian organisations (Dekker & Smidt, 2003; Afonso et al., 2008).

Ansari et al., (2006) surveyed the Chinese organisations in light of the use of management accounting methods and the control of several aspects, such as facilitators, performance effects, and impediments. It was found that most organisations in China adopted target cost management for the benefit of their performances. It is important to note that most respondents organised the benefits of target cost management in the evaluation of performance, along with the preparation of budgets. Prior studies focused on other nations, apart from Japan, to indicate that the motivation for implementing the strategy of target cost management is the benefit of this very strategy. The focus of past studies was on the control of cost for existing products. In the context of Japanese organisations, the processes of target cost management appeared to initiate identification of product features in response to the marketplace and consumer demands (Everaert et al., 2006).

There is a difference between target cost management practices between Japan and other countries, which can be observed in the active role of the departments being involved in the environment of the target cost management. The development of target cost management requires the cooperative effort of organisational members from different areas of the organisational functions. On the basis of the CAM-I definition of target cost management, the principle of a cross-functional team is important in developing the target cost management while involving the informants, either from the organisation or from beyond the boundaries of organisation (Drury & Tayles, 1994). Huang et al., (2012) asserted that internal informants include

purchasing, marketing, production, accounting, and servicing, while external informants are suppliers, dealers, distributors, and recyclers. In identifying the involved departments in the implementation of the target cost management, past studies in this domain reflected the significance of the team of target cost management within the organisation. Anand et al., (2004) claimed that target cost management is concerned with the achievement of cost target with planning, development, and comprehensive design for new products. Furthermore, Bahrain et al. (2011) found a higher level of participation from the manufacturing department, followed by sales, accounting/finance, planning of product, the design of the product, dealers, recyclers, and suppliers. The results of the studies indicated a moderate level of involvement of most departments in companies of Bahrain and the most active department was the manufacturing department.

In the study of the relationship between organisational capabilities and performance of target cost management among companies, Baharudin and Jusoh (2015) found that around 74% of the organisations had an official department that supported the functions of target cost management. The most important factor for the success of companies in Japan was support from the top management, along with the use of tools and sharing of information, estimation of cost, and system of information. Ellram (2000) discovered a significant difference in the involvement of varied departments of organisational functions in the application of target cost management practice within the organisations. The departments related to the product design and product development reflected the significant involvement in other departments, while the other departments were involved at the least possible. This situation is similar to that of Japanese organisations, where the application of target cost management aims to reduce cost, along with which the involvement of engineering function, but not financial or accounting function.

Similarly, Huh et al., (2008) found that the managers of the product development, planning of product, comprehensive design, production engineering, sales, and purchases had strong power in the total cost

management, while the accounting managers were insignificantly involved in the development of the product. These results provide the fact that companies in Japan use the overlapped development of a product or the simultaneous engineering. The findings reported by Kato et al., (1995) are consistent with the findings of a higher level of using simultaneous engineering among Turkish organisations in adopting the target cost management to minimise costs of production to desired levels.

Baharudin and Jusoh (2015) conducted a case study on Malaysian automotive company with active involvement in the process of target cost management, as compared to the target cost management processes with a renowned model of target cost management amidst organisations in Japan. Such processes include identification of the desired features of the product, target selling price, a target cost for the product, allocated target cost to the bill of materials, activities related to cost management, and consistent improvement. All such processes did not differ from the ones being used in the Japanese organisations as varied parties were involved in different processes. For instance, the R&D, supply management, and suppliers were frequently involved in the early phases of target cost management process within the Malaysian automobile company, when compared to those for the organisations in Japan. There is significant importance of supply management being part of the consistent efforts of improvement (Afonso et al., 2008; Ansari et al., 2006; Dekker & Smidt., 2003). However, Ansari et al., (2006) found a low rate of participation among suppliers and it was the limitation for the success of activities for target cost management within Turkish organisations. Al-Omiri and Drury (2007) revealed that the extent of involvement of suppliers in Bahrain organisations was insignificant. Tani et al., (1994) found differing outcomes from those reported by Yazdifar and Askarany (2012), in which the former found that suppliers were not involved in the practices of target cost management among US companies due to lack of trust or lack of awareness on the benefits of a relationship with suppliers having an orientation of partnership.

Lockamy III and Smith (2010) dissected the essential variables that decided Japanese ways in dealing with world-class assembling, which was important to reconsider the management accounting frameworks. They remarked that a method for doing so is to compare the US management frameworks with Japanese techniques for cost accounting, which incorporated ideas such as target cost management, value designing, and practical examination. Japanese cost management offices applied the group arranged approach and utilised direct performance markers broadly, including frequency of producing products, frequency in the movement of materials, or the number of units scrapped. Japanese cost accountants must process 100% of product cost at the arranging and planning phases. The standard costs, hence, were consistently reduced by continuous improvement endeavours towards the target cost.

Similarly, after the target cost was set, each office actualised value building exercises in collaboration with each other. In the useful examination, the cost data accessible for each product was utilised to consider the cost reduction ramifications of a few choices. The scholars, additionally, stated that in the mid of nineteenth century, Japanese firms in assembly-arranged ventures, for example, hardware and automobile assembling, started delivering brilliant products at exceptionally competitive costs. These products had short life cycles and were delivered in a wide assortment of models and sizes. They were the after-effect of an assembling situation that utilised new techniques and ideas, such as just-in-time, total quality management, continuous improvement, and employee involvement. They emphasised customer administration by giving quality, timely conveyance, and minimal effort production. Correspondingly, the deficiency of this article is that the writer expounded more on the Japanese techniques for cost accounting as opposed to looking at similarities between the US and Japanese accounting frameworks.

Huh et al., (2008) analysed kaizen costing, which refers to a basic method for guaranteeing continuous improvement exercises utilised by Japanese auto scholars, by underpinning the cost reduction process in the

assembling phase. Kaizen costing, when compared with standard costing, minimises costs in an exceptionally forceful way. The scholars remarked that Japan's kaizen costing requires the foundation of a cost reduction target sum, and its achievement through kaizen exercises, for example, continuous improvement in operations. They characterised kaizen costing exercises as those that maintain the present level of the current production costs, and further reducing it to a normal level based on the organisational arrangement. These cost improvement exercises are certain for each division and each accounting period. The occasional cost improvement procedure is prior to annual planning procedure or transient benefit arranging process.

The kaizen costing is executed outside the standard cost accounting framework and is not constrained by financial accounting. The quality of kaizen costing originates from its nearby connection with the benefit of arranging procedure within the entire organisation. Such predictable association with the general arranging and planning process guarantees that the organisation can screen its encouragement towards the long haul objectives without being limited to the tasks of meeting cost standards and exploring changes in the conventional cost control frameworks. Huang et al., (2012) abridged target cost management as a key management apparatus that tries to decrease the cost of the product over its lifetime. He diagrammed the arrangement of Culp Inc., which distinguished that cost management was a standout amongst the most deliberately basic areas of the firm. Additionally, it consolidates the endeavours of marketing, operations, and accounting, apart from presuming a relationship of working information of each to be fruitful. The organisation executed three techniques to specifically perceive the contrasts between administrative and financial accounting to deliver exact product costing, from precision school to target cost management.

The writer believes that the target cost management program at Culp Inc. did not affect the cost of the product, but instead, influenced the route in which the costing data were officially accessible via cost

management endeavours. In a likely manner, the scholar saw target cost management as the valuing choice that turns into the point of convergence of the endeavours and not the cost of the product. The writer reasoned that the data were promptly accessible because the product's apparent value (offering cost) is easily decided based on its appearance and shape. The scholar saw that medium to long haul benefit arranging must be set up to join target cost management. The scholar neglected to give subtler elements on the ramifications of cost management endeavours in deciding the cost of the product. Gârleanu and Pedersen (2013) abridged that product life cycles get shorter and conventional standard costing frameworks are not reliable anymore.

Similarly, the scholar trusts that another cost management idea, target cost management, has permitted organisations to win significant measures of market shares. Based on the cost down system, target cost management places emphasis on the association's relative position in the market and product initiative. Since it is firmly connected with the association's long-haul benefit and product arranging process, target cost management permits the organisation to concentrate on benefit and product in a coordinated system that does not victimise astounding, high cost, and high margin products that demand high costs. The principal topic is that a product ought to cost, not what it costs. The fancied benefit is resolved based on the organisation's sought profit for deals, as opposed to returning on investment. The scholar recommended that makers require an assortment of products in low volumes to survive and to figure out the benefit of each product in return on investment is unimaginable. The confinement of this article is that the writer did not give sufficient clarification on the insufficiency of conventional standard costing framework, in comparison to target cost management.

Zengin and Ada (2010) analysed the use of target cost management for new product development. They focused on deciding costs for a product amid the arranging and outline phases. Essentially, they examined

the use of cross practical groups made up of modern marketers, cost accountants, and other basics to the outlining and assembling choices required for deciding cost and components with which a product is well on the way to engage potential purchasers are likewise depicted. In the wake of deducting the coveted overall revenue from the anticipated offering value, organisers create appraisals of each product component that make up a product's costs for configuration, assembling, deals, and marketing. In addition to this, the restriction of the article is that the writer did not offer a subtle element on how the planning and assembling choices are made in deciding the cost of a product.

Afonso et al., (2008) highlighted the experience of an international automotive organisation that utilised, for instance, fruitful usage of target cost management. The scholars stated that exceptional rivalry and weight from customers to reduce costs had constrained numerous organisations to reduce their costs to survive. Correspondingly, these organisations found that most costs were submitted upon the start of production, and hence, the costs must be reduced before the product life cycle is decided, especially while the product is in the arranging and planning phases. The scholars claimed that the target cost management reasoning required forceful cost management in product arranging, planning, and producing phases. By planning lower costs for the product, organisations understand the best wellsprings of cost funds before the product reaches the production phase. For target cost management to be fruitful, reconciliation is required cross useful groups, including building, product outline, production, purchasing, deals, fund, cost accounting, cost targeting, and much of the time, customers and suppliers.

The scholars trust that by setting up target cost and target margin at the organisation, the cost is for the most part set remotely, either by competitive weight or by the customer's target cost management framework. The scholars concurred that in spite of the fact that the setting of the targets is a cross practical technique, the company believed that it is basic for somebody who is free to first set the targets. The

deficiency of this article is that the writers did not expound on the negative ramifications of cost reduction in the arranging phase. Mihm (2010) analysed the thorough cost management procedure performed by the UK-based automobile manufacturers, which prevented the senior directors from dispatching low margin autos, which did not create adequate rates of profitability. He highlighted that most automakers in the UK used the rationale of target cost management as a marketing management instrument to decide the costs of auto models.

It has been noticed that target evaluating drove motorcar development procedure that centred the outline group on a definitive customer and on the genuine open door in the market. Evidence proposed that Japanese motorcar makers utilised target cost management to further bolster their good fortune and had presented it in the UK. For makers to pick up and hold market administration, they need to plan the cost out of their autos (Ibusuki & Kaminski, 2007). They set introductory levels of quality and usefulness in order to align the auto performance to a distinguished value speciality. The scholar focused on that senior chiefs need to approach new auto development controlling for future costs and target cost management process must be exceptionally straightforward all through the association. He additionally called attention to that the necessities for motorcar usefulness must be explained unmistakably with the goal that no one tries to accomplish the target cost by diminishing model usefulness beneath adequate levels.

He likewise presumed that it was bad to reduce costs by scamming customers' auto performance requests. Evidence from this study proposes that the UK-based Japanese auto-producing firm used target cost management framework to keep costs consistent while including as much usefulness as conceivable to each new era of vehicles. Ibusuki and Kaminski (2007) gave a diagram of the three option courses that target cost management undertakings could seek after meeting their objectives; in specific, total cost management, cost-cutting, and cost moving. They communicated that the basic techniques of completeness, incorporation,

adaptability, changing, and long-haul coherence shaped the quality that total cost management had needed to reach the targets. Total cost management can be occupied by cost-cutting and cost moving practices. They claimed that target cost management did influence the management accounting calling.

The scholars condensed the commitments of this paper to develop three conceivable courses that target cost management can seek after reaching their destinations. Identifying and clarifying the basic procedures mould the basic and suggestive nature of cost improvement through total cost management, apart from showing how the shortcomings in applying these techniques can occupy total cost management into assertive cost cutting or evasive cost moving practices. The scholars contended that the cost improvement, which alludes to the costing components of total cost management, has a basic nature that requires a suggestive mode for its behaviour and correspondence. This criticality derives from the techniques of exhaustiveness, incorporation, adaptability, dynamic working, and long-haul congruity. The scholars called attention to that those methodologies face numerous pragmatic issues, incorporating forecasting despite steadily changing worldwide conditions, for example, model intricacy, breaking points to continuous cost improvement, clashes with decentralisation, and the rise of mystery as a central restraint.

Jacomit and Granja (2011) wrangled on the part of the UK management accountant as a hindrance to the appropriation of Japanese management accounting methods, highlighting proficient and social contrasts that could make UK management accountants hesitant to change over to Japanese environment. The scholars contended that such hesitance in a key practical range may impede the importation of firmly related Japanese production methods and antagonistically affecting the competitiveness of the UK assembling. This decision has a more extensive relevance in light of the fact that Japanese cost and management strategies demonstrate their crucial and steady part in the fruitful development of Japanese production frameworks. The scholars highlighted that if the UK fabricating associations cannot embrace Japanese management

accounting strategies, then the importation of interconnected Japanese production systems, for example, just-in-time and kaizen, will be repressed antagonistically influencing the UK producing competitiveness.

The scholars gave consent to the recommendation that the effective production by Japan will happen just in combination with a broad hierarchical overhaul, especially in the management accounting capacities that have some self-enthusiasm for the vertical transmission of chronicled budgetary information as opposed to the even scattering of data steady of cost management and kaizen. Be that as it may, the scholars estimated that UK management accountants were going about as an obstruction to the intervened Japanese management accounting, however, neglected in giving an exactly based research to heartily test these contentions. Yazdifar and Askarany (2012) contended that with the rise of lean undertaking and worldwide rivalry, organisations across the globe are confronting increasing difficulties in creating products that convey the quality and usefulness in adherence to customers' interest while creating the fancied benefits.

The scholars highlighted that it is restricted to guarantee that products are adequately beneficial when propelled are to subject them to target cost management. Target cost management accomplishes this goal by deciding the life cycle cost at which an organisation must create a proposed product with specified usefulness and quality if the product is to be gainful at its expected offering cost. The scholars remarked that market investigation assumed a basic part in moulding the market-driven costing area of target cost management by deciding purported suitable costs. Their dialogue assumed once an organisation sets up product level target costs, it will break down them to the part level, along these lines transmits its cost weights to its suppliers. In this way, part level target cost management orders and centre supplier's imagination in routes become useful to the purchaser. The restriction of this article is that the writers did not offer recommendations on cost reduction procedures of new products and did not detail how this would pick up market share and experience monetary achievement.

Pennanen et al., (2011) inspected a case study that exhibited the importance of target cost management methods for a procedure industry plant that worked since the 1890s in making the same products for a long time. As indicated by the scholars, the company's directors had utilised a standard cost framework for a long time and because of competitive substances, the management required a noteworthy key change that utilised target cost management as a critical fixing in cost-reduction endeavours prompting key rejuvenation. The scholars further talked about on the cost reduction endeavours taken by the plant management to accomplish perfect assembling cost, for example, no waste, no scrap, no wastefulness, no deferrals, immaculate details, and impeccable plant format. The scholars highlighted that target cost management did not get any consideration. The study represents the capability of utilising target cost management as a proactive cost reduction device set up of standard costing.

Huh et al., (2008) depicted that target cost management turned into a basic device for purchasing at the Vancouver Division of Hewlett Packard, keeping in mind the end goal to better comprehend and deal with their costs and supply base. The scholar highlighted the advantages of utilising target cost management and its duty regarding opening a discourse with its suppliers in those locations, both the justification and requirement for cost reduction. The scholar remarked that target cost management was driven by the system group as rehearsed in Hewlett Packard. The scholar inferred that target cost management worked from the supplier's point of view and this made Hewlett Packard reward its suppliers who collaborated in target cost management with more businesses.

The constraint of this article is that the writer neglected in explaining how the system group drove the target cost management process. McCarthy et al., (2012) examined the interest of the purchasing and supply management capacity during the time spent for target cost management. The scholar tended to four

essential issues to be specific: why do associations embrace target cost management? Is there a typical example of investment for the purchasing and supply management capacity in target cost management? What ought to the part of purchasing and supply management in the target cost management process? In what capacity can purchase and supply management most successfully be required in the target cost management process? The scholar focused on that the use of target cost management is for cost management reasons, for example, decreasing costs, enhancing comprehension of the supplier's cost structures, enhancing inward cost management, enhancing cost checking, and increasing cost accountability.

Purchasing and supply management were included from exceptionally restricted contribution as the driver of the procedure and accountable for results, which reflected the way to the long haul achievement of target cost management. The scholar reasoned that it is profitable to think about a more extensive specimen of administration associations for which purchasing and supply management assume a dynamic part in target cost management. The constrained specimen of administration associations in this research showed several instances of purchasing and supply management's support in target cost management in the administration division. Lastly, the scholar did emphasise on the consequences of target cost management and the part of purchasing and supply management in the non-benefit and legislative segments. Anand et al., (2004) analysed the use of target cost management as a way of enhancing the management of supply chains.

They asserted that the idea of target cost management was used as a component in deciding the total supply chain cost that met the prerequisites of the customer. As to these aspects, the scholars concurred that a sound supply chain system was required to be adjusted to the target market, as well as with the association's competitive and product procedures. They also discussed the conventional and activity-based cost management (ABCM) ways to deal with supply chain management, which offered the basis for investigating the use of target cost management within the supply chain. The scholars portrayed that customer

prerequisite and supply chain connections as the key criteria for selecting the most viable strategy for target cost management meant for supply chains. Al-Omiri and Drury (2007) presumed that target cost management is personally connected to an association's competitive methodology. This study examined the relationship between competitive environment and system for target cost management associations.

Preparatory evidence directed by the scholars, through meetings with supervisors from 12 US and German-based target cost management receiving organisations, demonstrated that product differentiators will probably execute target cost management than firms seeking after other competitive procedures, for instance, cost authority or angry techniques. Likewise, the scholars utilised Classification and Regression Trees (CART), and one of a kind measurable procedure for arranging information. This concentrated on the general territory of key management accounting writing by expressly seeking after and exploring joins between organisation procedure and target cost management. The scholars presumed that future research ought to investigate the connections of the system and competitive environment with a bigger specimen estimate and ought to incorporate a control test of non-target cost management adopters as a correlation. Al-Omiri and Drury (2007) performed a case study that turned out to be more accepted in operations and supply management research. The use of target cost management is not across the board among associations in the US economy alone.

Under the present conditions, more relevant information can be assembled using the case technique. Obviously, the most convincing reason for utilising the case study technique is that it best backs the research goals. The study looked into firms in the US from the stance of operations management. This study included different respondents over a range of capacities from inside each firm, making an expansive and assorted viewpoint on target cost management application and advantages. The scholar found that the target cost management process, as utilised here, has advantages and linkages with past cost management.

2.4 Target Cost Management for New Product Development

Target cost management is a suitable cost-effective strategy for new product development (Ansari et al., 1997). Target cost management refers to acquiring cost information for each product going through the different processes of business within the organisation. Increasing manufacturing costs, the diversity of customer needs, speed of development in technology, and short life cycle of the product may cause rapid advancements to take place in the new product development. Recently, most food manufacturing companies appear to consider new dimensions of cost management and control about the concept of cost, cost comparison approaches, and content of the measurement accuracy (Ax et al., 2008). Target cost management approach focuses on the profitability that is hidden, as demonstrated by the cost, which results from the decline in rationalisation and cost of expenses. This process depicts the fact that advancement and developments have contributed to the emergence of the target cost management approach (Yazdifar & Askarany, 2012) to address the ineffective conventional costing approaches that have an adverse impact on financial performance (Filomena et al., 2009).

Ansari et al., (1997) claimed that target cost management is a strategic management approach for new product development and can be regarded as a complicated process as it must consider many different aspects. They viewed target cost management as a system of profit planning and cost management that emphasised on price-led costing, focus on the customer, focus on design, cross-functional participation, life cycle oriented, and value chain involvement. Target cost management has been considered as the foremost cost management approach that can be used by the manufacturing organisations in product design and development stages for managing, controlling, and planning costs (Woods et al., 2012) to minimise the cost of the products so that profits can be maximised to the utmost level (Afonso et al., 2008). This approach of practising an 'open systems' has significantly differed from some traditional cost management systems, as

presented in Table 1.2. Hence, target cost management has been claimed as one of the most important innovations in cost management over the last few years (Rof, 2012).

Traditional cost management	Cost Systems Theory	Target cost management
Ignores the external environment; the cost system focuses on internal measures of efficiency	External environment	Interacts with external environment to respond to customer requirements and competitive threats
Dismisses cross-functional or extra organisational impact of the cost system	Cross-functional	Considers many complex relationships among functions and across the value chain
Based on the cost incurred and correction of error using variance information	A Form of regulation	Anticipating and designing costs out of product before production.
Keep costs to a limit set by standards or budgets	The objective of regulation or control	Continuous improvement of cost for both customers and producers over a product's life

Table 2: Comparison of Target Cost and Conventional Cost Management

Source: Target costing: The next frontier in strategic cost management, Ansari et al., (1997)

The basic equation of target cost management involves the subtraction of the required profit margin from a reasonable market price, which turns the allowable costs into the output. It implies that the prices are set and driven by the competitive forces of the market and by the organisations because target cost

management focuses on customer requirements (Ansari et al., 1997). The allowable costs for the product will also allow the organisations to achieve 'price-led costing' objective (Ansari et al., 1997). For the leading organisations using target cost management, this concept is more than the shift in the entire process as it is the disciplined process allowing the integration of market with design and production. It can be said that the practice of target cost management is the result of economic development.

Many manufacturing companies economise resources that are available to make the production process effective and efficient with the help of reducing the cost of production to the minimum level. Any company that is always in search of the methods through which cost of production can be minimised effectively will consider customer requirements as the primary factor to growth and business survival. This is because; customers are always in search of the high-quality products and services with reasonable prices and the shareholders' demand for an increasing rate of return on the investment ensure that company manages its cost and functions at higher profitability level (Ax et al., 2008). Any attempt to reduce the costs in the development of a new product by instantaneously resolving technical complications is, consequently, a stimulating process.

Ax et al., (2008) specified that throughout the whole venture, there are similar projects as well as line actions. Similarly, regularly, things are rearranged, tasks are hindered, or there is a significant consumer concern, then the whole thing tumbles separately. Target cost management is used as a critical management accounting practice to evade product development failure. Likewise, target cost management can be recognised as one of the most significant and imperative cost management novelties over the years. Target cost management goes way forward the current extent of cost administration and additionally ought to be seen as a regular benefit arranging process, notwithstanding a recognised record of accomplishment, with numerous executives frequently undervalue the influence of target cost management as a substantial

competitive strategy. Besides, when business executives use the term 'costing', they certainly accept that it is a subject for their finance or accounting staff. Thus, they miss the way on how target cost management can genuinely deliberate as an advantage-planning procedure (Kee, 2010).

Filomena et al., (2009) stated that through information technology, both non-financial and financial information is provided concerning the cost of using and availing resources. Cost accounting information is used by managers for planning, controlling, and making decisions about R&D, strategy formulation, pricing, production planning, budgeting, and others. Zengin and Ada (2010) highlighted that management of production cost through product design is the primary factor that contributes to the survival of the companies in this modern world. The integral aspects of organisations to function effectively in the manufacturing sector are product quality, cost, and time. These aspects make it imperative to focus on the market-driven change so that targeted areas, which impact profitability, are evaluated. Therefore, the primary concern for the organisations is to manage quality, cost, and time for new costing techniques and procedures. Hence, appropriate cost techniques are crucial as the essential aspect that contributes to minimising the cost of production. Moreover, customers mostly demand quality products at lower prices, which makes it indispensable for the organisations to lower their production cost so that prices can be reduced and profitability can be ensured. The companies have to ascertain that cost is managed and controlled because it is the best way to minimise damage during the design and development phases (Filomena et al., 2009).

The target cost management requires a consistent and continuous assessment of the costs related to production as the product shifts to the origination phase, keeping in mind the end goal to break down the effect is created by outline choices in the costs. This approach leads to the advancement of meeting the organisation's objectives related to cost reduction. Jariri and Zegordi (2008) stated that the use of cost

management and information at the design and development stages is a subject that undergoes particular attention in accounting. On the contrary to the conventional cost reduction strategy, target cost management focuses on cost management at the early stage, as illustrated in Figure 1.1. According to Ansari et al., (1997), many of the costs of the product are committed to the design and development stages. Therefore, the prices determined at these stages are crucial for cost management as they have an impact on all costs. Target cost management can be regarded as the strategic approach for managing and controlling product costs during the design and development of a new product. This approach requires setting an acceptable target cost prior to production. The objective is to ensure the realisation of an adequate profit margin at the time of introduction of the product in the market. Analysing cost target at the early stage involves several features, including coordination function, market orientation, and strategic learning (Dekker & Smidt, 2003). According to Ewert and Ernst (1999), a coordination function refers to a strategy in which the target cost interacts with the processes and features of the product designers. Market orientation reflects a process in which the selling price is used as the starting point to determine the target cost. Meanwhile, strategic learning influences the long-term cost structure by focusing on its interaction with other factors.

Past studies have stated that target cost management is known as cost management, proactive cost planning, and cost reduction technique that aims at managing and controlling the cost during the design and development phases. In the 1960s, stiff competition was observed due to demand from customers for diversified products and shorter product life cycles that increased, thus made the planning and development phases for a new product more significant (Feil et al., 2004). During this time, the automation had increased and labour cost reduced, thus making the standard costing method less significant from the perspective of the main cost management processes within the manufacturing sector. Woods et al., (2012) highlighted the fact that most cost of the product is determined at the design phase. Some of the foundations of target cost management include price-based costs, market-based prices, and cross-functional participation for existing

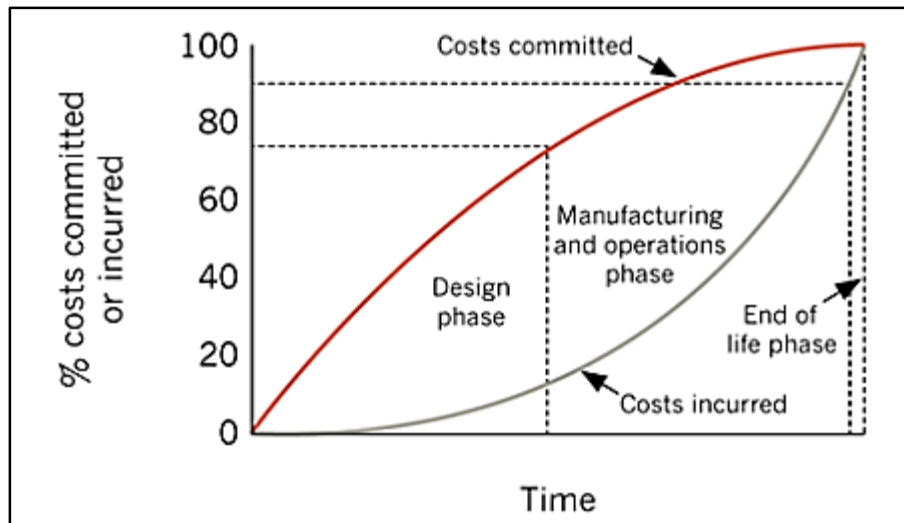


Figure 2: Costs Committed or Incurred

Source: Adapted from the life cycle costing discussion. Target Costing and Life Cycle Costing. www.accaglobal.com

products irrespective of the fact that costs are the problematic aspects to be reduced once the product reaches production phase. The literature also has discussed the structure of target cost management based on price-, cost-, and value-based targeting (Jack & Jones, 2008). Therefore, cost management is critically required in the embryonic stage prior to production. Target cost is considered as a cost management approach that focuses on reducing the whole production cost during the life cycle with support from all departments, including engineering, production, accounting, marketing, and research & development departments. The need for target cost management increases with the growth in competition, and with short life cycles in the international markets. This means; organisations are expected to manage their product cost from the design and development stages towards the introduction of their products in the market at customer-desired prices to encourage purchasing activities. Target cost management is a comprehensive strategy of cost reduction, cost planning, and management, which are impacted by the decisions of early product planning. It comprises of some indirect overhead expenses that go from the production phase and moves further, such as assets and service costs. With the help of target cost management approach, managers are prepared for future costs and implications related to some other decisions. Hence, target cost

management is considered as the essential approach that can be used by the organisations to deal with the production cost effectively (Huh et al., 2008).

Organisations can manage future profits by making use of target costs in the development process of the product through the costing method. This process of management is known as target cost management and in companies; it is associated with achieving target cost along with development, planning, and design of the new products. In target cost management, some particular tools have been devised, such as total quality management, cost tables, inter-organisational cost management, and value engineering (Afonso et al., 2008). This depicts the fact that target cost management plays the most critical role in the accounting domain, mainly because it assists organisations in dealing with their concerns regarding cost and profits effectively, making it imperative to integrate it with cost structures and processes (Woods et al., 2012).

Target cost management is composed of varied cost management strategies, but the foremost step is to manage and control the permissible incurred cost of the new product that involves different considerations. This aspect is related to the present and future market needs, which include the wants of customers, as well as prices, which they can pay for new features. This means; the best way to solve this problem is by making use of target price. Afonso et al., (2008) stated that the target cost management process is significant to control the extent of the financial and non-financial objectives, which have been achieved. This is not easy through the traditional costing system because it does not comprise of the approaches and techniques that are needed to analyse all the aspects effectively. This depicts the fact that target cost management is a contemporary cost management approach that the present manufacturing companies use in short product life cycles (Ansari et al., 1997).

The concept of target cost management is being implemented widely in new product development because the business environment is becoming competitive with the passage of time. Most companies have to ensure that their product is of high quality and customers find it reasonable regarding pricing. Hence, by making use of target cost management method, where planning and management of cost at the early stage, turns to be the primary tools that could contribute in, not only, for controlling cost and increasing profits, but also in improving product quality during the design and development phases of the life cycle (Filomena et al., 2009). Significantly, many companies have moved their focus towards this perspective to ensure that the demand for their products increases to meet customer expectations, attract customers to pay the price of the products, and to improve companies' market share or sales volume (Ansari et al., 1997).

This study revolved around the management of costs as well as profitability in product development. Abuthakeer et al., (2010) highlighted that some studies have looked into developing nations in light of target cost management implementation in influencing the market competition to enhance the sales level of business. The study highlighted the effective execution of target cost management, if fully implemented by the organisation, could generate successfully results in returns enhancement. Huh et al., (2008) asserted that the approach of target cost management applied in the dynamic and complex business environment contributes to enhancing the profitability level. This depicts the fact that organisations aimed to ensure that target cost management to not only control their cost in the development of new product but also to improve their position as the market is becoming very competitive with the passage of time. However, many studies have reported that more than 70% of the products costs are committed during the process of developing and it is difficult to change when the product transfers to the final phase of production (Yazdifar & Askarany, 2012). It is evident that designing a product towards a reduction in costs is not an easy task for the management of organisations because the uncertain aspects related to the consequences are required to be considered beyond the boundaries of considerations while integrating suppliers and consumers. The

process of establishing an allowable cost while solving technical challenges is indeed a challenging task for many organisations. Avoiding products failure is essential to business organisations, and it is associated with product development. Hence, the approach of target cost management has been considered as the most critical management accounting strategy within many organisations. Scapens (2006) argued that the method of target cost management is beyond the traditional scope of cost management due to which it is required to be considered as a systematic process of planning profit for organisations.

The target cost management is the external perspective for product development engineers and it is initiated by gaining responses from consumers as what they want and need. Then, the deductions of the profit requirements by the organisation offer the target cost for every new product. It is the cost goal that every product is required to fulfil and satisfy prior to its launch in the market. This financial awareness leads to consider the target cost management as an essential process for associating product development to consumers, employers, and suppliers of organisations. In enhancing understanding of the crucial ways through which the target cost management is associated with consumers, suppliers and owners offer the process in three phases. The first phase is market-driven costing, which estimates selling price developed through interviews and surveys from potential customers and standards set by the competitors. The second phase is product level target cost management, in which the target cost gap is established and it is the difference between the current and target costs. The critical aspect to consider here is the functional analysis of the financial benefits. The third phase is the component level target cost management, which refers to the reduction of cost viewed from the component level as it involves suppliers (Shah et al., 2011).

2.5 The Evolution of Target Cost Management

The concept of target cost management has been implemented for many years. Since the initiation of this concept dated back in the 1960s by Japanese organisations, the target cost management approach has been

promoted while being implemented successfully in the organisations across nations. However, this approach has been mainly initiated to support new product development among the manufacturing organisations in the context of reducing costs without sacrificing the quality and functions of the products as per consumer demands. The evolutionary aspect has reflected the evolution of target cost management on the basis of the literature review while being inconsistent with the framework of IFAC on management accounting evolution (Afonso et al., 2008; Scapens, 2006; Boer & Ettlé, 1999; Shields & Young, 1994).

2.5.1 Target Cost Management before the 1950s

On the basis of the evolutionary framework of IFAC regarding management accounting, the role of management accounting before the 1950s was mainly oriented towards the determination of cost for products (Carr & Ng, 1995). According to Chenhall and Langfield-Smith (1998), most of the techniques for the cost and accounting were developed during the 19th century, specifically in the first quarter of the century. Most of the organisations were motivated to implement accurate cost accounting strategies to trace costs within the production line before the First World War. Shields and Young (1994) reported that many organisations were using all the techniques of cost management before the First World War to plan and to control their processes and these processes were known in the late nineteenth century as well.

Tani et al., (1994) reflected that the use of the strategy called standard costing and variance analysis of actual costs as well as the standard costs for controlling operations existed during this era. Being the major feature of the concept of target cost management for determining the target cost of products, it can be found in the initial years of the 19th century at Ford in the US and at Volkswagen Beetle in Germany in the 1930s. It means that the initial origins and application of the target cost management were named for the US and German organisations, but not termed as target cost management, in which the fundamental implementation of this concept was Japanese Toyota in the 1960s (Al-Omiri & Drury, 2007; Scapens, 2006;

Swenson et al., 2005). The concept, initially, was referred to as the Toyota Production System. It is evident that the production process during this era was considerably simple with varied processes of manufacturing.

2.5.2 Target Cost Management between the 1960s and 1980s

The approach of target cost management has a history of more than 35 years in Japanese organisations. It appears to be relevant to the studies conducted in Japanese organisations as it was the technique of cost management implemented by the management accountants in Japan. Various industries in the use of target cost management in Japan provided the system being the preliminary developed by Toyota Motors in the year 1959, whereby it has been considered as the most technically enhanced organisations. The focus on providing accurate information on accounting perspectives for the purpose of planning and controlling the decision-making process as the role of the management accounting system was observed in the International Federation of Accountants in the year 1965 (Baharudin & Jusoh, 2015; Lockamy III & Smith, 2010; Rattray et al., 2007; Cooper & Slagmulder, 1999). The considerations and management control for strategies and environment were oriented towards the processes of manufacturing and internal administration in the era of 1960s. Therefore, the strategy of target cost management implemented by the manufacturers of Japan seemed to be the techniques of cost and management accounting introduced by the organisations since the 1960s across the globe to fulfil such objectives (Ibusuki & Kaminski, 2007; Anand et al., 2004).

The initial use of the value engineering took place in the year 1963 by the Toyota and this strategy is renowned as the 'Genka Kikaku', which is referred to the target cost management later. However, this aspect was not mentioned in the literature of Japan until the year 1978. The implementation of target cost management during the 1980s had been considered as the approach of cost accounting and was popularised significantly in Japan to turn into an important element in Japanese organisations while considering the strategic cost management approach (Al-Omiri & Drury, 2007; Boer & Ettlé, 1999). The implementation of

target cost management by the Japanese was adhered by many organisations in the US and Europe as a response towards increasing the pressure of supply chain linked with the new pressure of capital market during this era.

2.5.3 Target Cost Management between the 1980s and 1990s

In fulfilling the challenges of increased competition across the globe, the introduction of strategies related to new management and production for controlling of costs through a waste reduction in the resources in processes of production has considerably become important (Cooper & Slagmulder, 1999). Kee and Matherly (2013) reported that the increase in global competition in the early 1980s aftershock of oil prices and the advancement of technologies has influenced varied aspects of industries. The implementation of strategies for cost management, wherein accurate information is considerably available for diffusion throughout organisations. Swenson et al., (2005) claimed that the most renowned innovations of management and cost accounting developed in the 1980s include target cost management approach, activity-based costing approach, vertical integration, value-added management, and benchmarking.

The concept of target cost management approach was applied in organisations across Europe, Germany, and the US, in which organisations in Europe and the US initiated the adoption of target cost management approach (Boer & Ettl, 1999; Shank & Fisher, 1999). Tani (1995) noted that western organisations introduced the generic approach for organising their process of developing the product. Similarly, different organisations in Europe and North America attempted to implement the approach of target cost management to improve their cost management while increasing competitiveness. The approach for target cost management is referred to as the cost management for managing product costs, instead of reducing costs and controlling product costs. This era offered involvement of diffusion for supply chain management

in practices of target cost management approach, which is the source of required information to ascertain the value of the product (Zahra & Alireza, 2014; Wijewardena & Zoysa, 1999).

2.5.4 Target Cost Management between the 1990s and 2000s

Numerous Eastern business organisations had attempted to implement the target cost management approach to promote their products on a global scale, such as India, China, Australia, and Turkey. Due to changes in consumer expectations and the varieties in the products during this period, different manufacturers sought the production of lower cost products designed with functions and quality. On the basis of the IFAC, the management accountants were required to shift towards the generation of value through effective use of resources to ascertain the drivers of organisational innovation and consumers' value (Baharudin & Jusoh, 2015; Sikka, 2003; Boer & Ettlie, 1999). Thus, the concept of target cost management has become an important aspect in the trade-off between all such factors while ensuring the profitability and sustainability for surviving in the severely competitive environment.

Consequently, the target cost management approach is the cost management strategy that served as a tool of profit management after the era of the 1990s, where many industries began facing uncertain challenges in processing information, along with the emergence of e-commerce (Shah et al., 2011). Kee and Matherly (2013) revealed the significant relationship between the implementation of target cost management and intensity of competition. Shields and Young (1994) claimed that an increase in competition with the dynamic environment encouraged the application of target cost management approach. Ansari et al., (2006) found that the approach of target cost management perceived among organisations in New Zealand as the most important element of cost reduction, followed by consumer satisfaction, timelines, and quality of new products.

2.5.5 Target Cost Management after the 2000s

After the 2000s, the strategies of cost and management accounting shifted its functions towards the responsibility of professionals. This highlights that the development of management accounting is reckoned as the scope of skills and expertise integrated into certain strategies in fulfilling value creation without solely focusing on the financial objectives. The integrated implementation of varied techniques has been a major feature of this era for providing complementary benefits, apart from individual strategies (Afonso et al., 2008; Shank & Fisher, 1999). Ansari et al., (2006) argued that the need for the integration of cost accounting with strategic management is important for organisations.

Baharudin and Jusoh (2015) suggested that the integration of accounting management with organisational management is indispensable in moving towards the feedback control system and for orientation of the market when compared to the production. It is proposed that the management accountants are the major observers of the competitive market, along with the increase or decline in pricing and costs within the practice of target cost management. Therefore, this technique has emerged as the market-oriented system with an effective influence on the management of new product costs within the phases of product design and development. The organisations have learned the adoption of target cost management approach as the integral element of product design and development processes. Carr and Ng (1995) explained that the cost reduction process of Toyota is initiated from the role of target cost management approach in the product design and development phases, along with the kaizen costing in the production phase. Therefore, the Japanese organisations have learned the adoption of target cost management approach as not being the stand-alone technique, but also as an integral part of the product design and development processes.

2.6 Objectives and Characteristics of Target Cost Management

According to Langfield-Smith (2008), the main objective of target cost management is completely straightforward, which is to enable the management to manage business operations viable in order to be profitable in the competitive industry. Target cost management is considered as proactive cost management, cost planning, and cost reduction practice with the help of which the costs are managed and planned out of business and product in the phases of development and designing, instead of the upcoming phases of production and development. Pennanen et al., (2011) argued that target cost management is applied to new products and implemented on the modifications of the product, along with the following generations of products. For instance, the companies make use of time where cost reductions cannot be realised to create the next generation of products. However, for existing products, some of the foundations of target cost management, which are price-based costs, market-based prices, and cross-functional participation, can be used regardless of the fact that costs are difficult to reduce once the product is in the production phase.

Everaert et al., (2008) found that costs, which are focused widely in the process of target cost management, are those, which are impacted directly by them. These include tooling costs, purchased and material parts, development expenses, conversion costs, and depreciation. They added that target cost management is complex and comprehensive management, cost planning, and reduction process, apart from serving as the exclusive technique where all the assets and costs are impacted by early product planning decisions. This comprises of mostly indirect expenses that go from the production phase, such as assets and service costs, which include inventory. Target cost management focuses on enabling managers to think comprehensively about the costs, along with some other implications regarding the decisions made. Gârleanu and Pedersen (2013) stated that the present focuses on target cost management are management, cost planning, and reduction. However, a wide range of benefits can be attained by applying target cost management. At first, customer orientation and the strong market are required, along with product requirements, which are

defined based on customer and market needs, as well as competition. The process of target cost management occurs by comprehending the market and by focusing on meeting the needs of customers with regard to quality, features, price, and timeliness.

The second aspect is related to cross-functional participation associated with the procedure that demonstrates a sense of teamwork and understanding those absent in the development and design phases. The main aspects of target cost management are concurrent engineering and manufacturing, as well as market-oriented development and design, due to which the cross-functional understanding is facilitated. Langfield-Smith (2008) stated that at last, the product design, development, and production could be accelerated through the use of tools, cross-functional team participation, and market understanding. According to Mihm (2010), target cost management serves as the important philosophy of business because it is the process to manage, plan, and reduce costs. It focuses on understanding the competition and markets, along with the focus on customer requirements with regard to function, quality, price, and delivery. It also determines the need to balance the trade-offs within the organisation and to develop a team that aims to address the development cycle.

Another characteristic of target cost management is the provision related to detailed cost information. Pennanen et al., (2011) stated that the information systems that comprise of target cost management support system must be able to provide cost information when required by the designers. Three types of data can be used to support cost reduction process: attribute, feature, and function cost data. The function cost data are related to the customer-focused view of the cost and assist in providing cost information related to the product. Next, feature cost data refer to the method that provides data related to the product features. Lastly, attribute cost data is the engineering view that relates cost to the physical attribute of the product.

Gârleanu and Pedersen (2013) highlighted that the types of cost data are distributed depending on the area in which they are used. Approximate cost is the type of cost that can be used at the time of designing new products, while kaizen cost programs are used for manufacturing, and detailed cost tables are used for purchasing activities. This depicts the fact that for target cost management, important aspects are the provision of detailed cost information required at the time of development and design phases of the new product. However, detailed cost information is considered as essentially based on three reasons: to support ideas of cost reduction, to determine the influence of design decisions on the level of cost of the future product, and to determine the progress in relation to achieving the target cost.

According to Langfield-Smith (2008), target cost management comprises comparing the estimated level of cost of the future product with the target costs. It continuously updates the estimated production costs with regard to the products. During the development of a new product, the target cost for the product is determined at three different points. In this phase, the target cost is set and calculated with the help of separate departments in the organisation. Hence, monitoring the progress in relation to target cost is important in the process of target cost management.

2.7 Processes of Target Cost Management

The target costing process is composed of a number of discrete activities and decisions. It begins with the determination of product, its characteristics and qualities, and its optimal selling price, which are significant steps in the process. The product itself will ultimately determine the costs necessary to produce and sell.

2.7.1 Setting Target Price during Product Planning

According to Everaert et al., (2008), the target sales price is set to serve as the starting point in the process of target cost management. This demonstrates that the target sales price is determined at the time of product

planning because the features and attributes of future products are also analysed. With the use of target cost management, the target sales price is determined and this process is very tough in some companies. Ellram (2002) asserted that the sales price of the current products or the level of the prices offered by competitors provides an initial starting point for the organisations with the help of target cost management. Nonetheless, higher product price can be justified only in the case if the perceived value for the customer is better in comparison to offerings of the competitors or the current product.

Dichmont et al., (2010) stated several factors that can be considered for setting prices apart from the price level of the products of a competitor and perceived value by customers, which are: competitor's strategies, product concept, product life cycle, characteristics of anticipated customers, and expected sales quantity. Singh and Singh (2009) noted that four determinants are dominantly used by organisations at the time of setting prices in the target-costing environment: willingness of customers to pay for the characteristics; needs/wants of customers with regard to characteristics such as features, performance, durability, conformance, and aesthetics; the expected market share for future product; as well as product characteristics and prices of competitor's product.

2.7.2 Determining Target Profit Margin during Product Planning

Agndal and Nilsson (2009) claimed that the other characteristics in the process of target cost management are related to the significant development of target profit margin, which is done during the new product planning phase. In determining the target profit margin in relation to a particular product, analyses are performed via corporate strategic profit planning. The total target profit for the new product is based on medium-term plans for the profit, which also reflects business and management strategies during the period of 3 to 5 years. These profits are then divided into target profits for each product during the life cycle. For the purpose of future target profit margin, the expected sales and the target profit for the new product are

applied. Gârleanu and Pedersen (2013) highlighted the fact that it is a very tough task to consider the future or new product in the current competitive environment. Therefore, it is essential for the organisations to ensure that the target profits are rational, scientific, and agreed, otherwise, the target profit could not be achieved. Hence, the target cost management considers that the target profit margin is set for the new product during the planning phase to ascertain that the organisation's long-term profit plans are achieved.

2.7.3 Setting Target Cost before Initiating New Product Development

Kato (1993) stated that the third characteristic of the target cost management process is to set the target cost in the process of new product development prior to development and design phases. Different calculations are made with regard to the decision about the accurate level of the target cost for the new product. At first, the ongoing cost is determined after which the as-if cost is analysed. This is followed by estimating the allowable cost and at last, the target cost is set between the as-if an allowable cost. Dichmont et al., (2010) stated that the ongoing cost is estimated for the new product, which is considered as the best determination for future product cost. However, when the new product development phase starts, the estimate relies on the actual cost with regard to the current product and by considering the cost down and cost up factors.

The as-if cost is determined once the ongoing cost is decided. Zimina et al., (2012) argued that different ideas about cost reduction emerge at the time of new product development. The as-if cost determines the cost of the future product by embedding all cost reduction activities. The third cost is an allowable cost, which is calculated as the difference between the target sales price and a target profit margin. Target sales price is assessed based on market information, while the target profit margin is decided by the top management. The allowable cost illustrates the cost at which the product is expected to be manufactured to hit the target profit margin.

2.7.4 Setting Target Cost for Future Product

According to McCarthy et al., (2012), one of the most important characteristics of target cost management is to set the target cost for the future product, which is determined by allowable and as-if costs. Varied methods are used to set the target cost. The deductive method refers to the approach that sets the target cost at the level of allowable cost, which is the variance between the target sales price and target profit margin. Jacomit and Granja (2011) highlighted another method that can be used to set a target cost, which is bottom-up or adding up approach. In this method, the target cost is set within the new product development department. In determining the cost of the component, the actual cost of the current parts is determined. In determining the target cost for each component of a product, the cost reduction technique is employed. Therefore, forgetting the total cost all these target costs of individual parts are added up.

According to Agndal and Nilsson (2009), different factors are involved in setting the target cost, among which the most important is management factors, such as the scope of the cost, elements, and calculations. With the help of varied parts of the product life cycle, the future product can be determined in terms of the scope of the target cost. In setting the target costs, the cost is incurred by the producers, such as manufacturing costs, R&D costs, service costs, and distribution cost. Zengin and Ada (2010) added that the target cost could also be determined for the costs that are incurred by consumers. This comprises operating, installation, maintenance, and disposal costs. Apart from this, some of the cost elements also form part of the target cost, which is overhead and direct costs.

2.8 Supporting Tools and Techniques for Target Cost Management

Implementing target cost management is not an easy process as it demands particular supporting tools and techniques (Rains, 2010). This section discusses the selected tools and methods for target cost management.

2.8.1 Value Engineering

The thought behind value engineering is fundamentally the same as activity analysis, which was initially created and utilised by General Electric. Value engineering is a system Japanese makers use to improve the value of products and administrations. This is measured by the relationship between capacities performed by products and administrations, and the costs acquired. Diverse organisations characterise their capacities in various ways. Some are designed for procedure change, while others are centred on fulfilling the necessities of customers. The procedure of value engineering comprises of portraying the elements of each product, part, and benefit, as well as in measuring the segments of those capacities. Value engineering has been utilised by Japanese associations to accomplish target cost management, particularly via Lean.

According to Gârleanu and Pedersen (2013), value engineering is a cost reduction tool that can be utilised as part of the configuration period of another product. It investigates into the elements of the item while attempting to accomplish the most reduced conceivable expense without risking any products elements, for instance, security, execution, and quality. Value engineering is composed of four phases: inventive thinking thought development, problem-solving, and functioned analysis (Agbejule & Saarikoski, 2006). The initial step of value engineering is to lead a practical investigation that determines what function or action a product performs, what are the expenses, and how much customer esteem it makes. The value is frequently communicated as having a high level of significance to the customer, and is dictated by the commitment of a capacity to product features (Chan & Wu, 2005). Expenses are communicated a little differently as it rates the aggregate costs committed to each capacity. Many organisations utilise a proportion called value index, by which they can gauge the level of significance to a rate of expense. The second and third steps are problem-solving and creative thinking, where conceptualising constitutes the biggest foundation. The discourses and basic assessments occur in these phases, wherein capacities or parts with a low file can be decreased or even disposed of (Agbejule & Saarikoski, 2006).

2.8.2 Value Analysis

Value analysis implies the authoritative systems, in which organisations might use to keep their ultimate objective and to make specific considerations for filling the target cost management gap. It incorporates a cross-utilitarian gathering subjecting a product (numbering its sections, flow channels, etc.) to point-by-point examination to choose the relationship between cost, sound judgment common sense of the product, and estimation of the product to the customer (Ax et al., 2008). The contrast between this component may be a once-over of the specific parts of a product (not all of which each customer on a very basic level fancies) while insinuates every customer's subjective evaluation of what the product is worth to them and thus, what they would pay for it. For sure, even a truly basic change to a product's configuration qualities has proposals for these decided components (Gârleanu & Pedersen, 2013).

Ellram (2002) confirmed that the basic outline may suggest a change to the crude material used as part of a product. Such change unmistakably has proposals for the assembling cost of various products, for its specific advantages, for example, the timeframe that the product can work without holding up to be restored, and the estimation of the product to the customer. The prerequisite for value examination gathering to be cross-helpful in its structure rises up out of the necessity to understand the relationship between these components in assessing plan changes. Case in point, the particular mastery of promoting staff is in understanding what product segments are enthusiastic to pay cash for. The production staffs grasp the down-to-business inconveniences of conveying products with a certain configuration (Zengin & Ada, 2010).

2.8.3 Quality Function Deployment

Quality function deployment is a process that contributes to the successful implementation of target cost management (Gandhinathan et al., 2004). Quality function deployment is an effective Japanese process

developed by Dr Yoji Akao (Cristiano et al., 2000). Its objective is to ensure that the process of product design and quality fulfils customer requirements (Ansari et al., 1997). This process is used broadly during product design and development stages that emphasise the relationship between customer requirements, competitive offerings, and design parameters (Ansari et al., 1997). Chan and Wu (2005) defined quality function deployment as the approach that changes over customer's requests into quality attributes and building configuration quality for the completed item by efficiently sending the connections between requests and attributes, beginning with the nature of each useful part and expanding the sending to every part and process. The procedure utilises a formal procedure of relating customer requests an item outline to accomplish the best spasm of value requests, innovation offerings, cost, as well as reliable and exceptional quality (Dikmen et al., 2005). The advantages of using quality function deployment during product development stage are cost-effective and time-effective for redesigning and modifications stages.

2.8.4 Cost Tables

Japanese management accountants have long used cost tables before it was first coined by Sato (Feil et al., 2004). According to Sakurai (1989), the cost table is used for measuring and evaluating both costs of existing and new product during the development stage of the product. Yoshikawa et al., (1995) claimed a cost table as a set of essential data used to estimate product costs. These data are normally used by management for decision-making activities, such as pricing decisions and product specification (Feil et al., 2004). According to Kato (1993), before the evaluation of the role of cost tables, it is important to understand the function of cost data. It is the approach to building a centred perspective that gives cost data major subassemblies of a product. Under this particular approach, organisations across the world use this technique of cost tables. Sechilariu et al., (2014) clarified that cost tables are spacious electronic databases that classify the collected data to the effectively available source of data regarding the impact on product cost of utilising diverse productive assets, its fabricating techniques, capacities, and product design.

Agndal and Nilsson (2009) claimed that the cost drivers utilised as part of the cost tables incorporate the equipment utilised, the type of material utilised, as well as the primary configuration variable that influences production exercises and their cost. Tanaka described cost tables to contain data that are highly essential for cost estimation to support the process of decision-making (Feil et al., 2004). A cost table makes it conceivable to decide for the occasion of the impact on the cost of using a specific searching device, a specific material, and a specific profundity of unlikely. In regard to the above definition and table, extreme competition and technology are vital for companies to utilise differently because it is the pattern where the companies sustain their competitive advantage among their potential competitors (McCarthy et al., 2012).

2.8.5 Market Assessment Tools

Ax et al., (2008) stated that a market assessment tool helps an organisation to establish a new product while setting up its objective price. The initial phase in determining the objective cost is to survey the business sector, as well as customers' needs and requirements, as to the proposed product. The aim of this step is to satisfy customers while offering them the products that they need and demand. Schulze et al., (2012) asserted that by evaluating the demands of the customers by different means (interviews or surveys) because in the present market assessment, organisations focus on different tools to develop a close relationship with their customers because it is the way that helps them to determine their product and to expand their work range. Chen et al., (2005) conferred that in order to become more acquainted with the customer's buying nature, demands and preferences; organisations have to focus on the market assessment tools from time-to-time. However, many companies working in the market are less acquainted with these tools and do not grasp the mass market like other companies in the marketplace. Some approaches decide market needs and demand, including an inquiry from existing customers or non-customers.

Huh et al., (2008) mentioned that these sources give experiences with respect to the weaknesses of existing or proposed products different from the perspectives of existing customers. Therefore, for those products, the company can look for new markets to adjust their products in regard to their particular needs and demands. Such approaches help the organisations to sustain their position and to adjust their products with regard to the need of appropriate marketplace. Companies across the world have a considerable length of time to assess customers' needs and their responses to current products. However, Ibusuki & Kaminski (2007) noted that these arguments could only be understood while undertaking practical examples, for instance, the Japanese automobile organisations have underscored unwavering quality, fit, and complete the quietness of the ride, and small merriments that help them to grasp the market share. Certain companies, such as Taurus and Ford, they studied their existing and future customers about what they needed and disliked in automobiles. The Taurus has been a standout amongst the best autos in the organisation's history. Boeing assembles mock-ups of its cabins and inquires its aircraft customers, and their customers, to assess them; Caterpillar puts stereo radios into the taxicabs of its substantial hardware. Gillette presented a new outline for its women razor; Thermos presented an exceptionally beneficial electric barbecue after broad business sector surveys and assessments (Dichmont et al., 2010).

Undertaking the above argument, it is important for the company to overview the needs and demands, trends and perks of the marketplace before determining their strategy and products in the marketplace. A number of multinational corporations working in the marketplace determined their market pattern, and it is beneficial for the company to focus on these trends to expand their business in the marketplace and address the hurdles that they consequently face while working in the marketplace (Silvi & Cuganesan, 2006).

2.8.6 Industry and Competitive Analysis

In order to remain competitive by implementing target cost management, most industries must give attention to their business strategy (Hibbets et al., 2003). Gârleanu & Pedersen (2013) asserted that the point where organisations work in a competitive marketplace, the evaluation of competitive organisation in point of interest is less essential. As the number and quality of competitors expand, understanding those rivals in extraordinary profundity gives the chance to position one's organisation and its products to advantage. Many organisations have expanded their assets connected to the comprehension of the business in which they work and the competitors with whom they compete in the marketplace. The business era the prior to late 1970s and early 1980s, a company named Xerox started to understand that they were losing critical business sector offer to various Japanese competitors whose product quality was higher and whose prices and costs were more reasonable for customers. In order to deal with the situation, Xerox started to take in everything they could about these competitors and their products with the aim to restore their business in the service sector (Ellram, 2002).

Another company named Caterpillar was dealing with tough competition from another company called Komatsu in the mid-era of the 1980s and in order to deal with the situation, the management of the company studied the marketplace, especially the strategies undertaken by Komatsu. The analysis helped the company to highlight their actual issue that was the main cause of their loss in the marketplace that further drove Caterpillar to revamp its offices to reduce their own particular product costs. In regard to market observation, Kollikkathara et al., (2010) determined that likewise these companies, many companies have focused on different approaches and strategies in order to deal with the issues that they face in the form of business loss. The strategies have helped them to sustain their position in the marketplace and to expand their business in the thriving business market.

2.8.7 Reverse Engineering

Yazdifar & Askarany (2012) observed a number of researches and reviews have determined the appropriate approaches and strategies in the form of reverse engineering pattern, so as to help companies deal with alternatives with the end goal to expand their business in the marketplace. The illustrations referred to grouped technologies, outline for teamwork, plan for manufacturing, esteem designing, quality function organisation, and so forth. The particular component is that they all begin with the basic standards.

Anderson & Dekker (2009) clarified that institutionalising and lessening the measure of part numbers can be accomplished by coding existing parts into a database, prompting lower development expenses and lower material expenses, looking into cost reduction, and due to fewer sales; implementing small work staff, bigger buy volumes, and amount rebates. Anderson and Dekker (2009) revealed that Plan for X13 or DFX is a general term to depict philosophies going for X, where X may compare to the unwavering quality, serviceability, practicality, etc. Everaert et al., (2008) claimed that in regard to assembling a plan, organisations utilise a number of tools and techniques with the end goal to achieve their targets. Agbejule & Saarikoski (2006) clarified that the design for manufacturing system concentrates on decreasing the expenses of parts, assembling, and production by undertaking the general guidelines in reverse engineering.

Ellram & Stanley (2008) developed programming that demonstrated the expense of a wide range of production procedures, manually get together operations and insertion operations. The examination procedure is orderly in its methodology by asking direct inquiries that permits making a significant exact estimation of the assembling time (and thus cost) for every part and offers recommendations to enhance the simplicity of getting together. Kollikkathara et al., (2010) portrayed esteem building and beneficial investigation as an interdisciplinary conceptualising activity to concentrate on the functions and the expense of those functions. The design is to search either for less expensive approaches to develop a future product without decreasing the elements of that new product or to embed new elements without expanding

assembling costs. The impact of target cost management on cost, quality, and time-to-market of new products involves only a couple of methods, utilised amid configuration and development, to go for downstream cost administration of future products.

2.8.8 Financial Analysis and Planning

The determination of product net revenue depends on the far-reaching and itemised financial analysis and planning. Chen et al., (2005) found that a number of organisations determined the exact connections between prices, volumes, income, costs, and speculations, in the total, and for particular product lines and individual products. Afonso et al., (2008) stated the importance of an accountant to comprehend these connections to be capable of relating them to a proposed product. In view of the aftereffects of remotely arranged analysis by Dichmont et al., (2010) objective price was developed with intensive comprehension of the product line and related existing products, and how the proposed new product might be comparative, its product design, as well as the present and proposed cost structures, which can be set as an appropriate target.

2.8.9 Activity-based Cost Management (ABCM)

ABCM is a process tool that supports business process and target cost activities (Ansari et al., 1997).

According to Mihm (2010), the best potential for diminishing the costing crevice ordinarily lies in applying ABCM with a specific end goal to finish venture stores in overhead costs. This is in light of the fact that ABCM frequently reveals open doors for taking out overhead activities without decreasing the way of the product and the customer management experience. Some cases with such circumstance incorporate:

1. The use of general portions in a couple of products, so that the extensive number (not sum) of parts used as a part of an assembling office is decreased. While watching the case of Toyota, it is eluded to

an association that uses general parts over a couple of vehicles. This has passed on venture reserves in stock system costs as there are fewer supplier associations with being managed, creating resulting to there is a less distinctive extent of operations to be performed and quality because the ease lessens disappointment rates.

2. The decrease in the event of cost drivers. Case in point, by occupying the central dissemination and requesting that all suppliers pass on straightforwardly to each of its stores, a general stores chain can decrease the number of transport operations. The UK's prevailing retail organisation Tesco is a pioneer of this practice which is in a matter of seconds significantly no matter how you look at it.
3. In a request to the extent that cost drivers cannot be reduced or occupied, cost assets can be searched for through productivity changes or outsourcing. By the day's end, if the development cannot be occupied, would it be advisable for it to be conceivable more monetarily?

Target cost management is simply possible if the association has set up activity-based costing system as it gives deceivability as to which activities are realising overheads and (by recommendation) the level of which proposed changes are inclined to incorporate target cost hole. It is noticed by distinction, if every overhead is assigned on a prompt work hour introduce, then a chairman may endeavour to lessen the work substance of his products keeping in mind the end goal to be administered fewer overheads. However, there is no saving to the association in overhead costs, unless direct labour hour is a significant activity cost driver.

2.9 Factors Involved in Setting Target Cost

At the point when setting target costs for new items, Anderson and Dekker (2009) contended that general administration components must be considered, such as the extent of target cost, the cost components

included, and the estimation premise for target cost. In the extent of target cost, diverse parts of the product life cycle can be checked. According to Ellram and Stanley (2008), target cost can be set for the costs the maker acquires, i.e. counting research & development costs, manufacturing costs, distribution expenses, and administration costs. The targeted expense can likewise be set for the costs the buyer acquires, including maintenance, operating, installation, and disposal costs. Nevertheless, some analyses are performed differently, as some organisations focus on income-producing life and all the more, on the manufacturing portion of it.

According to Agbejule and Saarikoski (2006), a few studies have discussed cost components (e.g. direct costs, overhead costs) that are part of the target cost. Target cost management is a viable instrument for minimising direct costs, such as materials and parts, and to eliminate indirect costs, such as overhead expenses. Filomena et al., (2009) found a general focus on direct cost, while a few organisations likewise utilised the rule of thumb to deal with indirect costs, such as reducing the number of materials utilised as part of an item, and reducing the number of parts over the product offering. Bloomfield and Luft (2006) on the adoption of target cost management in Japan, demonstrated that more than 90% of the respondents incorporated direct material and work costs in target cost. Other factors incorporated in target cost are:

2.9.1 Target Price

According to Singh and Singh (2009), the objective of target cost management and pricing is to decide, then understand the technical execution level for every trait that amplifies the distinction between cost and value. The objective is not to expand execution since it is excessively expensive, yet rather, making it impossible to improve it at the target cost. Some strategies for building up target value serve as the bases of target cost management. Many organisations utilise four key determinants when setting a product target price: customer needs, physical elements of the item, acceptable price level, and product highlights when contrasted with

contenders (Bloomfield & Luft, 2006). Lastly, setting a value that will set the price that would surely help them to capture the maximum market share. Setting an objective value depends on an expense, whereby higher officials gauge the most astounding value that future customers would pay for the product and after that, essentially deduct a margin from the price of the product. The consequence of this procedure decides the most reasonable cost for the product. This estimation depends on the comprehension of the apparent worth that customer places on the product, as well as reaction from contenders (Agndal & Nilsson, 2009).

2.9.2 Target Profit

According to Chan and Wu (2005), deciding the level of the objective net revenue requires adequate knowledge of the product, since each item has its own profit arrangement and life cycle. This includes a complex procedure of uniting business level arrangements (macro) and product level (micro) arrangements. However, at the business level, target profit is set by assessing required benefit generated from the product mix that the organisation plans to deliver. The measure of profit that is required for the business to accomplish is a break-even. This is done by taking the multiyear item and benefit arrangements (i.e., that demonstrates every arranged item that will be created and presented) from the product mix that the organisation wants to deliver and increasing this with money-related come back to achieve the required profit level (Afonso et al., 2008). The smaller scale necessities and arrangements are ordinarily arranged by managers' expectation; this is an exceptionally troublesome errand to satisfy and requires a considerable measure of experience. Furthermore, some aspects, for example, a piece of the overall industry and size, together with business sector cost, must be incorporated into the way towards arranging sales volume. The target profit then turns into the consequence of a mix of both full scale (macro) and small-scale (micro) necessities (Chan & Wu, 2005).

The economic return as return on assets and return on sales are regularly used to gauge profit in macro plans, while return on equity is often utilised for this purpose. The return on sales proportion is frequently communicated as the benefit that the product should yield keeping in mind the end goal to achieve the required focus on productivity. Return on sales is a basic contribution to return on assets, which is the result of asset turnover and net revenue. Return on sales must check the long-term benefit arranges and the financial profits for resources that organisations must procure in its industry (Jariri & Zegordi, 2008). The advantages of utilising return on sales are numerous as it is a profoundly dependable technique, easy to compute and comprehend, and easy to impart. However, profit is landed by applying a rate of target profit for deals to the business income from the product mix. One viewpoint to think about is that required and arranged profits depend on appraisals of lifetime sales from the products incorporated into the product. Nonetheless, the genuine profit target frequently changes as the product experiences improvement cycle in view of changing economic situations (Ibusuki & Kaminski, 2007).

2.9.3 Involvement of Suppliers

Huh et al., (2008) listed three variables that can affect the structure of a target-costing framework: type of item, customer, and level of impact on suppliers. The association of suppliers is a standout amongst essential elements. If suppliers are included in an early phase of the generation procedure, they can give adequate feedback to assist managers. Besides, the early contribution from suppliers may bring about the synchronous building of groups and decrease of an ideal opportunity to advertise. To include suppliers in the worth chain will bring about all accomplices partaking in the generation procedure getting data in the meantime. However, this will avoid false impressions and all groups will work towards a shared objective of doing the right thing from the earliest starting point (Agbejule & Saarikoski, 2006). Many manufacturing organisations do not have direct contact with end customers, because of the way that it would be exceptionally tedious and costly to set up a whole association only for this cause. Suppliers can give direct

contact and administrations with customers; it is consequently gainful for both sides to include each other in their organisations. Without supplier, contribution issues may spark, for instance, the planned items not being appropriate for standard shipment holders. This will bring about a somewhat generous expansion in expenses (Abuthakeer et al., 2010).

2.9.4 Value Chain Involvement

In some situations, target cost management gets next to no reputation and is just utilised by 40% of the firms. Selecting and involving suppliers target cost management is not only a cost lessening method or control structure but also part of an exhaustive vital benefit administration framework, including esteem investigation and quality building. Executing target cost management within the production network requires considerably more exertion and control than utilising standard costing. All production network accomplices must discover approaches to diminish costs as they outline, make, and circulate segments (Carr & Ng, 1995; Ansari et al., 2006; Cooper & Slagmulder, 1999; Zahra & Alireza, 2014). Once the offering cost has been set, the manufacturer and the whole store network must deduct their net revenues and decide the expenses of the finished result. Target costs for all segments can likewise be resolved. Since achieving the objective expense is a joint exertion of the whole inventory network, the weights of achieving the objective cost must be comprehended and conveyed all through the chain. The measure of coordination expected to set an objective expense is exceptionally tedious and requests data sharing and cooperation. The underlying procedure of crushing suppliers for prompt cost investment funds is losing validity and the present adequate practice is to share cost decreases in a long haul system (Boer & Ettlie, 1999; Cooper & Slagmulder, 1999). The point of target cost management is to take a gander at all conceivable thoughts for cost diminishment when outlining another item. Work is amassed at item arranging, innovative work, and prototyping periods of generation. The costing procedure requires an exhaustive data framework and cross-practical

contribution since an item's expenses are submitted at the phase of its design (Anand et al., 2004; Lockamy III & Smith, 2010; Shank & Fisher, 1999).

In target cost management, firms must dissect their innovation, their association, and their methodology for a superior comprehension of their personality, centre abilities, and how they truly include esteem. This is simply to trim away the insignificant exercises or outsource them or exchange the assignments to others in the store network with abilities in the specific regions. Worldwide outsourcing may likewise be important for cost-effectively gathering the recently composed items and it has improved company's efficiency, especially in the administration, such as programming, which has to a great extent been outsourced (Baharudin & Jusoh, 2015; Carr & Ng, 1995; Chenhall & Langfield-Smith, 1998).

While outsourcing is a well-known cost lessening method to offload exercises regarded to be non-centre, it has gone under extraordinary open deliberation in a number of countries with the same number of seeing key occupations lost in underdeveloped nations. Where low-talented assembling employments were once sent out, the pattern is to fare all the more high-gifted specialised occupations to the places where there are comparatively low outsource prices. Specialists concur innovative occupations are less demanding to send out than production line work and can spare organisations from 60 to 80% of costs (Kee & Matherly., 2013; Anand et al. 2004; Sikka, 2003; Boer & Ettl, 1999; Shields & Young, 1994). Besides, 80% of officials in the developed country stated that outsourcing was useful for the worldwide economy, yet based on some information about the impacts of outsourcing on the organisations, many supervisors reported positive outcomes on the organisation. Other difficulties of outsourcing are deciding the particular desires for outsourcing firms and the costs required in checking suppliers; choosing which exercises to outsource, selecting a merchant and setting up an agreement, keeping up control over the outsourced action, and

deciding a way out procedure (McLellan & Moustafa, 2011; Shah et al., 2011; Al-Omiri & Drury, 2007; Dekker & Smidt., 2003; Boer & Ettl, 1999; Cooper & Slagmulder, 1999).

At the point when utilising target cost management, the whole production network is seen as an incorporated entirety. Every component refines its operations to diminish its own particular expenses, and in this way, reduces the aggregate general expense of the last item. The chain should likewise help to bring down the expenses of alternate connections. Typically, a supplier of a segment part will experience difficulty in achieving its objective expense. Now, they may approach a chain accomplice to help minimise their expenses (Cooper & Slagmulder, 1999; Chenhall & Langfield-Smith, 1998).

2.10 Advantages of Applying the Target Cost Management Method

Afonso et al., (2008) observed that in the present marketplace, associations experience various systems while deciding their cost to achieve viable results. In any case, the strategy of target cost management has various advantages that make the desire for the organisations to concentrate on this specific procedure while deciding their cost in meeting their decided objectives. Helms et al., (2005) demonstrated that the reactions of these advancements that impact the association's money-related performance give a course of action of data that helps the organisation fulfil the targets as far as a consistent lessening in cost, open cost data are required to assess the budgetary impact exercises, for instance, acing the unmistakable phases of the products' life; product outline, its decided cost, offering cost, and capacity of product; diminishment of costs and ensuring quick amortisation; better association with suppliers and accomplices; enacting and inspiring all capacities in the association by using a cross-utilitarian methodology that supports more force; credibility of information for other coordinating arranging works out, such as configuration of systems and products, cost divide and control, obtaining and assessing procedures, and performance valuation (Filomena et al., 2009).

Zengin and Ada (2010) indicated that target cost management is a proactive approach to manage cost management that specifically coordinates the centre of association towards the potential customers; it improves product productivity by concentrating on their system; clears obstructions between divisions through multifunctional bunches; helps the worker to increase their mindfulness, extends their backing and fortifying; develops co-operation and makes associations with suppliers; decreases non-regard works out; rouse representatives so they can increase their assurance towards the organisation in diminishing operational cost; and by straightforwardly approaching the market in order to minimise supply time. Jariri and Zegordi (2008) found that the product headway engineers in association working far and wide have contributed a fundamental part in the usage of target cost management, as well as the key determinants if the potential points of interest can be obtained in the association.

2.10.1 Cost Optimisation

Jacomit and Granja (2011) found that a favoured angle of target cost management assists the association to analyse the most appropriate way to deal with making or obtaining products while contributing minimised costs. The cost diminishment practices are the basic money-related goal of any little business, paying little regard to whether they offer high, medium or low costs. It can be said that the cost-decreased procedure helps little associations to maintain their budgetary position and focus on achieving high general incomes or to enter the business segment at low-value concentrates on pulling in a vast customer base.

This was specified by Filomena et al., (2009) that the essential rule of target cost management is that the improvement cost and passing on a product must not surpass. If a product can be sold for five dollars and a general income of two dollars is required, then the maker cannot spend more than three dollars conveying as well as appropriating it. Along these lines, in the backing of the conclusion of Langfield (2008), it can be said that advantage is inclined to depend on the measure of capital has been placed assets into production

and course workplaces for the product. The method of the reasoning behind target cost management is basically the opposite of the justification in cost in addition to esteeming. The predictable danger in cost addition to assessing is the likelihood that cost can be taken as a given and that a required general income can be added to get in contact at a reasonable offering cost. Then again, the issue is not whether a proposed offering cost is reasonable, but instead, whether it is seriously sensible and intentionally appropriate.

Everaert et al., (2008) noted that customers' wages, value affectability of interest, contender's costs for proportionate products of near advantage, and business division arranging of the product are immeasurably key variables that must be purposefully considered as elements of the key approach to managing to evaluate. However, cost in addition to esteeming sees none of such component. Target cost management helps the organisation to depend on a technique for taking express note of these components and gives a structure to a planned key approach to manage to esteem and cost management. Likewise, while using the strategy of target cost management as a cost diminishing method, some of its best-known customers are associations that work in high-cost economies, for instance, Japan and Switzerland. This is not completely in light of the way that cost venture reserves in a target cost management framework are normally expert by abstaining from non-regard, including cost driver works out, appropriately reducing overhead costs, and not by decreasing the prompt materials substance or assembling the nature of the product. Its point is examined further underneath (Ax et al., 2008).

2.10.2 Systematic

As observed by Woods et al., (2012), the procedure of target cost management is more orderly and exact to focus on cost upgrade than various less-formal strategies consistently used among the management of little associations. It requires more chance to encounter an exact procedure; nevertheless, the results are basically all the more balanced. It is on the grounds that it incorporates distinctive equipment, programming,

methods, work, and materials anticipated that would create, or the costs to get products and get them arranged to offer to the potential customers of the organisation.

2.10.3 Abridged Development Cycle

Abuthakeer et al., (2010) verified that cost management with target cost management is minimising product process span. This is the measure of the time it takes from start to market-arranged product. The procedure that helps the organisation to decrease the product cost suggests them to exclude unnecessary waste that requires some genuine vitality and not to increase the value of the end answer for the customer. A shorter procedure term is a high ground since the association can acquaint their product with the business division, perhaps as the important force.

2.10.4 Profitability

Huh et al., (2008) claimed that target cost management helps the business to acquire conspicuous advantage. Various associations start by making products and base evaluating costs. Besides, while starting the business in the marketplace, the estimation of the cost that helps the initiator to decide their interest in dispatching another product, it is essential for them to search for all the point of view, including the advantages and drawbacks in the marketplace so as to minimise the danger of budgetary bumble.

2.11 Target Cost Management Enablers

For the target cost management model to be compelling, it must be assisted by several instruments that empower the smooth working of target cost management, which is called target cost management empowering agents. Weber and Hsee (1999) call attention to target cost management as an umbrella term that works towards fulfilling the best practice management accounting frameworks. Thus, large portions of

the instruments that work towards reducing costs and meeting consumer loyalty can be used to meet target cost management destinations. Clifton et al., (2003) presented a case of strategies and devices as follows:

1. Product: e.g., conjoint analysis, quality function deployment, product road mapping, market–feature tables and so forth.
2. Setting the targets: conjoint analysis, experience curves, price street mapping, competitive intelligence, reverse building and so forth.
3. Achieve the targets: value engineering and analysis, component street mapping, cost analysis tools, activity-based costing/management, lean, simulation tools, and supply–chain analysis.

These apparatuses are numerous; there is little support to characterise each of them. Some most generally utilised the ones are depicted in the following.

2.11.1 Lean Management Approach or Just-In-Time

Lean originated in Japan from the Kanban framework initiated by Taiichi Ohno and Shigeo Shingo at Toyota Car Corporation in Japan (Nahmias, 2005). Toyota acquainted lean with decreased abundance of work in advancement, inventories control, waste, and production cost diminishment. Today lean emerged to be famous in varied divisions and ventures (Cooper & Slagmulder 1997; Nahmias, 2005; Womack et al., 2005). The Japanese use it to upgrade their drive and to accomplish target costing (Ansari et al., 1997; Cooper & Slagmulder 1997).

2.11.2 Kaizen Costing

Kaizen attempts to consistently decrease costs amid the production procedure to guarantee that target costing is met. Kaizen costing implies the complete use of cost lessening possibilities. Okano (2005) claimed that it fills the role of modifying the operations to move in accordance with expected targets. Besides, despite the fact that it is assumed that 80% of costs are as of now dedicated at product arranging phase, cost increases are relied upon to be acknowledged amid the real production process. The viability of target costing in this manner relies on linkages between cost support and target costing. Okano (2005), for instance, brought up that in Toyota production if a target costing could not be met at the start of production, a unique board of trustees of Kaizen cost management drawn from individuals from varied divisions of the association met to audit the circumstance. Feil et al., (2004) bolstered the perspective that kaizen costing is firmly connected to target costing.

This linkage is acknowledged by coordinating little by minimal imaginative jumps that are started by target costing inside non-stop change. In this way, two ideas cannot be dealt with independently. Nonetheless, this perspective had been tested; Shank and Fisher (1999) allude to Driscole (2004), who recommended that kaizen costing contrasts, from target costing, and ought to be characterised and treated independently in light of the fact that they depend on various cost lessening systems. Similarly, Driscole (2004) claimed that Kaizen costing does not consider consumer loyalty, product productivity, and market costs and that it is inside centred on industrious lessening in costs. Nonetheless, Driscole (2004) neglected to perceive the learning sharing, the inter-association network that is cultured in the target costing framework.

2.11.3 Strategic Outsourcing

As indicated by Dekker and Smidt (2003), one of the principle fates of target cost management is outsourcing. Vital outsourcing implies that a few segments of a product being delivered somewhere else, in this way the empowering fulfilment of target costing. Variables, for example, the nature of crude materials

(massiveness), environment, and wellbeing worries, as well as large-scale monetary elements among others can be imperative. The cost of transporting crude material is higher than the cost of the completed product, or including pointless cost, it may be less expensive to outsource that segment of production to less expensive areas e.g. to the wellspring of crude material. The converse may be genuine when the completed product is cumbersome. The production can be outsourced to different organisations with centre capabilities in delivering those products, for example, in the vehicle, designing, processing, and other comparative businesses.

The types of outsourcing, whereby management's pick to make tracks in an opposite direction from indicated high costs in face of rivalry are not prone to be of long-haul advantage to those associations. For instance, Business Week magazine reported that information technology associations outsourced to India asserting lower costs still gained profit. Likewise, natural and macroeconomic strategies of those apparent minimal effort locales would change with time, compelling another mass development somewhere else.

2.11.4 Supply Chain Management

The term 'supply chain' alludes to the whole system of organisations that work together to outline, create, convey, and benefits products. This procedure, from source to production line, is a solid empowering agent to target costing. In the past, organisations concentrated principally on assembling and quality enhancements within their four dividers. Presently, their endeavours have stretched out past those dividers to encompass the whole supply chain (Ansari et al., 2006). Powerful supply chain management helps the association accomplish fitting stock levels, the capacity to foresee and respond to shifts sought after, abbreviate process durations and faster conveyance, real-time permeability into request and stock status, estimating, and accessibility of product and material, robotised cautions about request or shipment issues,

quick reaction to market open doors, as well as compelling target cost management. The Japanese associations depend on a combination of chains to ensure the quality of their supplies.

2.11.5 Management Support and Commitments

Several important steps should be considered by the management of the company while utilising target cost management, such as conducting research. The initial step while determining the price of a product relies on surveying the business market, in which the organisation needs to offer products. It is important for the evaluation team to decide the arrangement of product elements that customers are destined to purchase, and the sum they will pay for those components (Chenhall & Langfield-Smith, 1998; Lockamy III & Smith, 2010; Zahra & Alireza, 2014; Shah et al., 2011). It is vital for the team to find out about the apparent estimation of individual elements if they later need to figure out what sway there will be of the product cost in case that they drop one or more elements. It might be important to later drop a product highlighted if the group concludes that it cannot give the component while yet meeting its product's manufacturing expense. Towards the end of this procedure, the team has a smart thought of the objective cost at which it can offer the proposed product with specific planning of elements, and how it must change the cost in the event that it drops a few elements from the product (Baharudin & Jusoh, 2015; Lockamy III & Smith, 2010).

Taking the discussion further, the second important step while applying target cost management as a cost management technique is to determine the basic cost of product manufacturing that has cost the organisation a fortune. It is the job of an organisation's management to supply the evaluation team with a gross edge that has been invested in the product manufacturing so that they can highlight an appropriate cost while evaluating the market trend. By subtracting the ordered gross edge from the anticipated product value, the team can decide the basic target cost that the product should accomplish before it can be permitted into manufacturing (Chenhall & Langfield-Smith, 1998; Kato et al., 1995). Both the literature and

study results have revealed that the planning of a product carries great importance in target cost management. The designers and acquisition staff on the group have a vital role in making the product. The obtainment staffs are especially critical if the product has a high extent of acquired parts; they should decide segment evaluating by taking into account the vital quality, conveyance, and amount levels expected for the product. They may likewise be included in outsourcing parts, in the event that this outcome in lower costs. The designer must plan the product to meet the cost target, which will probably incorporate various outline emphases to see which mix of re-examined elements and configuration contemplations results in the most reduced expense (Kee & Matherly, 2013; Langfield-Smith, 2008; Ibusuki & Kaminski, 2007).

It is important for the management of the company to maintain a continuous pace in organisation or product exercises. Once a product plan is finished and affirmed, the team is reconstituted to incorporate fewer fashioners and more modern architects. The group now goes into another period of lessening generation costs that proceed from the life of the product. For instance, cost reduction may originate from waste decrease underway (kaizen costing), or from planned supplier cost reduction (Everaert et al., 2006; Dekker & Smidt, 2003). These continuous cost decreases yield sufficient extra gross edge for the organisation to reduce the cost of the product after some time, in light of expansions in the level of competition. Another job for the evaluation team is to utilise different ways that might help them to deal with the cost management and cost reduction strategies in a more convenient way. For instance, fixing the product with its determined sector is also included in the task of the evaluation team.

It is important for the evaluation team to dispense the cost reduction objective among varied product parts (Baharudin & Jusoh, 2015; Al-Omiri & Drury, 2007; Dekker & Smidt., 2003). The approach tends to bring about incremental cost decreases to the same segments utilised as part of the last cycle of the product. It is generally utilised when an organisation is attempting to invigorate the current product with another form

and needs to hold the same basic product structure. The cost decreases are accomplished through the approach to have a tendency to be moderately low, apart from bringing about a high rate of product accomplishment, and a short plan period (Huang et al., 2012; Ansari et al., 2006; Dekker & Smidt., 2003). Another task is to fix the highlight because it helps them to accomplish a successful product launch with a suitable price that could help the company to achieve appropriate benefit from that particular product or service. The product group dispenses the cost decrease objective among various product includes, which centres consideration far from any product outlines that may have been acquired from the first model (Yazdifar & Askarany, 2012; Ibusuki & Kaminski, 2007). This methodology has a tendency to accomplish more radical cost reduction (and outline changes), as it requires more opportunity to plan, to run a more serious risk of product failure or if nothing else more noteworthy guarantee costs. In regard to these strategies, organisations will probably utilise the primary methodology. In case that they are searching for a normal move up to a current product, and the second approach if that they need to accomplish a critical cost lessening or split far from the planning phase for a product (McLellan & Moustafa, 2011; Anand et al., 2004; Cooper & Slagmulder, 1999).

Hence, it is indeed appropriate for the research to focus on a scenario to understand target cost management in a more beneficial manner. Imagine a scenario where the team associated with a particular product essentially cannot meet the objective expense. As opposed to finishing the design procedure and making a product with substandard net revenue, the right reaction is to stop the development procedure and proceed onward to other tasks. This does not imply that management permits its undertaking groups to battle on for quite a long time. Rather, they should come surprisingly close to the cost focus on the varying point of reference dates, with each progressive development prerequisite coming nearer to the last target cost (Huang et al., 2012; Carr & Ng, 1995). Turning points may occur on particular dates or when key fruition steps are to come in the outlined procedure, for example, towards the end of every configuration

cycle. The management of the company ought to audit old tasks in any event once a year to check if the circumstances have changed adequately for them to be reasonable once more.

A more exact audit approach must focus on the project while defining a plan of variables that ought to start a product survey if a trigger point is achieved, (e.g. a decrease in the cost of aware utilised as part of the product plan). In the event that any of these trigger focuses are achieved, the tasks are quickly conveyed to the consideration of management to check if they ought to be resuscitated. Such a recovery ought to consider different adjustments in the business sector costs of equivalent products since the venture was last inspected (Kocsoy et al., 2008; Scapens, 2006; Shank & Fisher, 1999; Wijewardena & Zoysa, 1999).

Thus, target cost management is the most appropriate tool for organisations that contend by consistently issuing redesigned products into the business market. Therefore, for the management of the company, target cost management is a key survival tool. Target cost management is less important for those organisations with a small number of standard products that require negligible upgrades, and for which long-haul productivity is all the more nearly connected with business sector infiltration and geological scope. Therefore, the target-costing idea has restricted application in an administration's business where work involves essential expense. While working with target cost management, it is important for the target to suggest an opposite costing investigation of the product based on the deal cost (Kee & Matherly, 2013; Tani, 1995). The organisation considers the normal cost for every unit and organisation's benefit on the subject. Moreover, it is important to subtract the advantage of the offering cost to decide the targeted expense per unit. It unites delegates of different divisions to take part in a team to accomplish the objective expense. This is the phase where the group leader should focus on data that may aid the company to determine the cost and to ascertain the measure of cost that should be expelled. This helps the company to

focus on a flexible approach for the price of the product especially in regard to increasing or decreasing in an appropriate manner (Zahra & Alireza, 2014; Afonso et al., 2008; Wijewardena & Zoysa, 199).

2.12 Cost Management in Supply Chain

The idea of supply chain management has been regularly and comprehensively characterised. A typical European meaning of supply chain management covers the majority of the association's exercises and intrigue bunches. According to Schulze et al., (2012), supply chain management is the vital management process that binds together the orderly arranging and controls all advances, materials, and administrations, by a definitive customer. It encompasses arranging, outlining, purchasing, production, stock control, stockpiling taking care of, appropriation, logistics, and quality. The above definition underlines the centre issue of supply chain management and its research: the idea is excessively broad, making it impossible to be drawn closer in one concentrate, even from a solitary point of view, for example, cost management. In case that excessively broad definition is received, the research on supply chain management, therefore, will experience the ill effects of an absence of an adequate extension.

Anderson and Dekker (2009) introduced a more thin meaning of supply chain management. They indicated that supply chain management is a procedure of overseeing supplier and customer relations in participation to guarantee high calibre and least costs all through the entire chain. They also highlighted the ideas of chain and development: supply chain management encompasses all exercises associated with moving merchandise from crude materials through the end customer. This study has received overwhelmingly the last definitions. On the other hand, supply chain management is seen as management of a chain of several exercises and performing artists from crude materials to final results. It has been observed that the part of cost management in the supply chain is basically fundamentally similar to that in management all in all. It intends

to get additional comprehension in regard to a certain marvel and helps a chief in assessing the cost impacts of various choices. Along these lines, cost management in the supply chain ought to distinguish:

1. The impact of an individual organisation of the chain on its interior costs and on the costs of the entire chain.
2. The impact of the co-operation between the chain's organisations on the organisations' inward costs and on the costs of the entire chain. From this point of view, cost management in the supply chain could concentrate firstly on organisations' inner costs and their management.

Supply chain cost management ought to consider the total costs of the supply chain and assess the very effect of a chain of organisations on the costs. Fayard et al., (2012) focused on that compelling and effective cost management ought to start in the product outline: when the configuration is finished, the vast majority of the product costs are bolted. Cooper and Slagmulder (1999) displayed a perception that 90 to 95% of product costs are characterised when every one of the choices concerning attributes of the product and production framework is made. In addition to this, just about all through the last century cost management was used in tile assessment and development of the organisation's inner operations, for the most part along these lines dismissing collaboration benefits crosswise over supply chains. Similarly, supply chain cost management ought to create and utilise principles and devices that look for cost reductions past the potential outcomes of one organisation. It can be said that such activities can basically reduce costs either by distinguishing intends to make cooperation between organisations more effective or by creating implies empowering product and segment cost reductions in the chain. Hopper and Bui (2016) presented four inquiries for an association to test if it is utilising supply chain cost management:

1. Does the association set particular cost-reduction targets for its suppliers?

2. Does the association help its customers and/or suppliers discover approaches to accomplish their cost-reduction goals?
3. Do associations consider tile productivity of its suppliers while arranging segment evaluating?
4. Is tile firm consistently making its purchaser - supplier interfaces more productive?

The discoveries have shown that compelling inter-organisational cost management requires the reconciliation of both teaching and empowering instruments to reduce costs over the supply chain (Lockamy & Smith, 2010). Restraining components intend to transmit the cost-reduction weight all through the system by setting goals for every aspect of purchaser supplier associations. The goal of the empowering systems is to help the associations in the file system or chain discover approaches to pool their abilities and coordinate their endeavours so they can, on the whole, accomplish the cost-reduction destinations. Similarly, two measurements of inter-organisational cost management are portrayed: product and relationship. In product measurement, both outline and assembling aspects can be distinguished. The classification of instruments made by Jariri and Zegordi (2008) can be argued. For instance, kaizen costing as an idea is not at the same level as reduced uncertainty or system conventions are not as concrete an issue as target cost management.

Organisations can use supply chain cost management both in product development and in later phases of tile product life cycle. Target cost management, chained target cost management, and simultaneous cost management are used as part of product development. Kaizen costing and cost examinations are associated with later phases of the life cycle. The use of cost management in any environment requires that cost information is accessible. Particularly in supply chain cost management, information accessibility is liable to be an issue. It is on account of numerous gatherings are included and tile wish for totally open data sharing might be extremely unobtrusive. Data sources in the supply chain are isolated into inner and outside. The

importance of inside cost data has been addressed on numerous occasions. Then again, it is an extremely requesting task for an association to assess its own particular impact on the supply chain's cost in a circumstance where the firm does not so much even know its own costs. Regardless of the fast development of information technology and costing frameworks, access to relevant inward cost data is still a vital issue. In fact, the accessibility of outer cost data is an issue as well. Despite the fact that the examination of cost structures between organisations is a rising pattern, it is still entirely uncommon. In all probability, organisations need to depend on market costs while assessing the costs of the supply chain. As far as the profundity of co-operation is insufficient for totally open contemplations, costs are the best swap for costs. Gârleanu and Pedersen (2013) indicated that supply chain cost management does not require the substitution of traditional organisations' inner cost accounting and management frameworks. It is fair that traditional frameworks give a decent basis to supply chain cost management. Moreover, supply chain development from a cost management point of view requires support from the association's accounting experts.

2.13 Product Development and Target Cost Management

It can be said that appropriated product improvement writing has various normal qualities. Observationally, the attention is on multi-innovation products. By top to bottom case investigations of airship motors, trucks (Afonso et al., 2008), as well as tweaked hardware - these two issues are especially emphasised. The primary issue is the eccentric product interdependencies. Since the products' frameworks usefulness concerns the whole design, suppliers cannot be considered in separation. As outlined by Baharudin and Jusoh (2015), organisations must to ad lib when surprising interdependencies happen amid the procedure. The second issue is the uneven advancement rate of innovations. It puts an appeal on timing.

Filomena et al., (2009) demonstrated the way the improvement of green paper innovation was very reliant on the advancement (or absence of improvement) of encompassing advances. Multi-innovation products are in this manner a territory where both the spatial and worldly limits of single organisations should be amplified. Hypothetically, there is additionally shared a conviction in the writing on conveyed product advancement. The key motivation is found in Drury and Tayles' (1994) emphasis on asset heterogeneity, as well as Huang's et al., (2012) authoritative connections. Lockamy and Smith (2010) observed that associations are not islands, however, are connected in examples of coordination and alliance. In addition to this, arranged co-appointment does not stop at the limits of the individual association, however, can be influenced by co-operation between associations. Hypothetically, circulated product improvement is in this way as often as possible investigated in exchange cost financial aspects.

Regardless of the shared characteristics, two research strands have been developed. Based on frameworks designing, the progressive perspective emphasises how single organisations go about as framework integrators. To handle eccentric product interdependencies and an uneven rate of mechanical improvement, framework integrators develop their insight into the spaces of suppliers. By knowing more than they make, framework integrators coordinate various levelled systems of suppliers. Similarly, the various levelled view emphasises linearity and arranging. Regarding the advancement procedure, it is started and controlled by the one party, i.e. the frameworks integrator. As far as the improvement content is concerned, it is chosen by the frameworks integrator and there is a reasonable division amongst arranging and execution. At last, as far as improvement members are concerned, it is feasible for the frameworks integrator to arrange ahead of time, in which members are expected to take care of the issue.

Abuthakeer et al., (2010) proposed an option regarding the intelligent perspective of conveyed product improvement. Instead of concentrating on frameworks integrators, they emphasised on the procedure of

aggregate frameworks incorporation to handle unusual product interdependencies and an uneven rate of mechanical improvement. They contended that advancements can rise up out of mind-boggling and appropriated cooperation designs as opposed to being sought after by a solitary frameworks integrator. Multi innovation products soon turned out to be excessively perplexing. It is unrealistic, nor fundamentally alluring, that one association directs all the advancement. Concentrating on the improvement of a Scania truck, Ibusuki and Kaminski (2007) found that various and frequently clashing aspects, as well as components, require being managed comprehensively keeping in mind the end goal to reach a reasonable trade-off. Dikmen et al., (2005) further contended the system level has been disregarded inside the progressive perspective. However, huge car organisations may have the capacity to impact suppliers, wherein need cannot be underestimated.

Likewise, suppliers have different customers, which both encourage and thwart advancement. In opposed to the progressive view, the improvement procedure, the substance, and the members are accordingly seen in an unexpected way. So, the advancement procedure is seen as shared. Procedures are not controlled by one gathering and can be started or finished by both. Advancement substance is not pre-decided. Besides, in contrast to the various levelled view, concentrating in this manner shifts towards ad lib, as well as learning. Inclusive of the members, new performing artists can rise and duties can change all through the task. Afonso et al., (2008) showed the way the advancement procedure includes a system of on-screen characters, some of which are a piece of the first improvement group and others which incidentally are activated to take care of complex issues. It implies that appropriated product improvement necessities to be broke down at various levels: inside the organisation, inside dyadic connections, and in a system of linked connections.

In examining the advancement of altered gadgets, Kato (1993) concentrated on customers. Discovering joint arrangements between customers is a key issue. Afonso et al., (2008) depicted that they represented the

way frameworks mix is an aggregate procedure described by an act of spontaneity and learning. Contrasted with the various levelled view, Ibusuki and Kaminski (2007), as well as Huang et al., (2012), emphasised that product advancement happens through a progression of even-minded choices after some time. Juhmani (2010) stated that the issue whether to build a product, or how to create it, gets to be not a solitary choice that can be taken ahead of time, yet rather a progression of choices. Afonso et al., (2008) added another point of view, in which by looking at straightforward and multi-innovation products, they represent when a progressive perspective may work. The key issue here is asset arrangement. In case the product is installed into a few and known asset interfaces, it is conceivable to go about as progressive frameworks integrator. For instance, it appears with IKEA and their furniture table "Need".

Likewise, being an extensive customer, IKEA characterises the issue and after that, outsources advancement and production to a couple of key suppliers. On the contrary, the Scania truck or the tweaked gadgets improvement is an arranged and direct process. Zimina et al., (2012) indicated the significance of financial rationale. The Lack table had a target cost of around ten Euros. To keep up the cost without decreasing benefit, consistent improvement endeavours took place. The specifying of the budgetary rationale was embedded (Gârleanu & Pedersen, 2013). To diminish costs, Afonso et al., re-sorted out the improvement procedure into supplier groups and for Dayco, product costs were lessened by 45%. Ibusuki and Kaminski (2007) also alluded to the monetary rationale, in agreement with Penrose's perception, wherein how organisations are always attempting to unravel awkward nature, old and new, social, specialised, and temperate. However, the studies did not offer an unequivocal and exhaustive thought of financial rationale.

In making monetary rationale express through target cost management parallel to the headways in circulated product improvement, target cost management has given an accounting viewpoint on product advancement. Starting from Japanese car and hardware organisations, the discussion has increased considerably in the

western space, both among researchers and industrial players. In contrast to conventional costing, target cost management begins from an external viewpoint and spotlights on outline and improvement. The basic thought with target cost management is communicated in the accompanying equation:

$$\text{Customer's Desired Selling Price} - \text{Company's Desired Profit} = \text{Allowable Cost Target}$$

The expected deals cost is controlled by what the customers will pay. Vital aspects concern how adequately the product fulfils customer needs and the costs offered by contenders for comparative products. Target benefit is dictated by the arrival on capital required from the proprietors. Along these lines, the beginning phase is customer necessities and capital market requests, which gives the organisation the target cost for the new product. Ibusuki and Kaminski (2007) asserted that target cost is the cost level the organisation can bear to offer the product to its customers and still make sufficient benefit to fulfil its proprietors. The monetary rationale is expressly taken care of in the target cost of the product through the vital target benefit. The budgetary rationale is further specified in portions of the product through utilitarian inspection, an imperative aspect of target cost management. The utilitarian investigation partitions the product into capacities that to an expansive degree are dealt with independently of each other.

Each recognised capacity gets an expected cost. The customer prerequisites are recognised through essential elements for the customers and these components are connected to the distinguished capacities. This implies the organisation can follow the anticipated advantages and costs. The utilitarian examination makes it conceivable to break down the target cost into capacities and even sub-capacities and as such incorporate the money-related rationale into the everyday operations. Target cost management-advocates express that a typical finish of the practical examination is that the organisation needs to reduce the diverse capacities' present cost levels to have the capacity to reach the target cost of the product in general. The utilitarian

examination is then the purpose of take-off from which the organisation recognises conceivable cost decreases. The cost decreases and advantage upgrades are chosen to a substantial unit in the development of product extends and are firmly connected to suppliers and customers.

2.14 Integration with Target Cost Management

A focal conclusion in this area is that investigations of target cost management have not offered another option to the model of target cost management designed by Cooper and Slagmulder (1997). To address this gap, this belief proposes three option sub-forms: customer-driven target cost management, compositional level target cost management, and supplier-level target cost management. The following presents each idea and shows how they vary to Cooper and Slagmulder's (1997) ideas of market-driven target cost management, product-level target cost management, and component level target cost management.

2.14.1 Customer-driven Target Cost Management

The customer-driven target cost management concentrates on multi-technology products in close customer connections. It is an imperative advancement, in light of the fact that as depicted by Nicolini et al., (2000) that close, market-driven target cost management is fundamentally compelling for item merchandise and administrations. Market-based target-setting procedures are entirely viable in managing item products and administrations. This does not have any significant bearing in an incredible same route in non-product areas. The assurance of the cost satisfactory by the market and an interesting customer is a troublesome and complex issue that requires further investigation. Drawing on the system setting, Figure 2.2 illustrates how a focal task in customer-driven target cost management is concurrently adapted to dyadic and system levels.

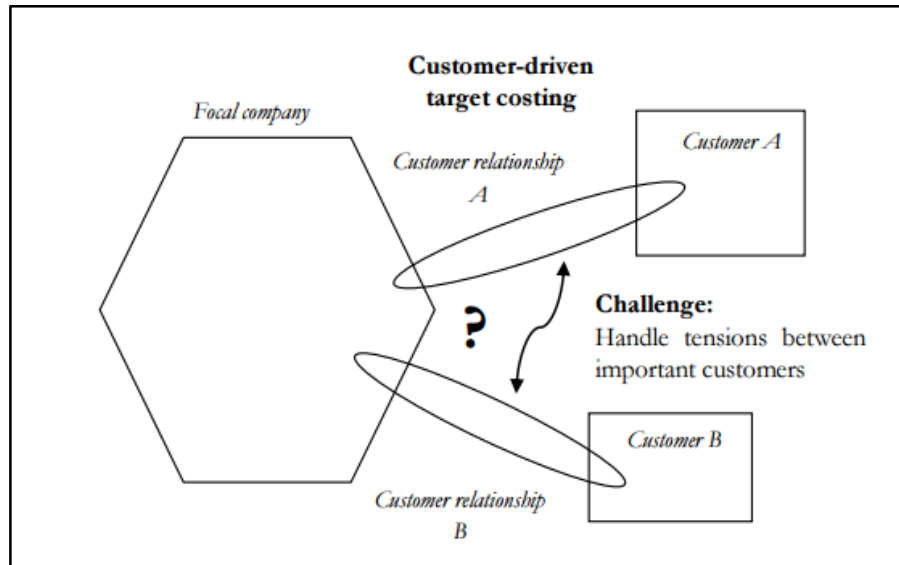


Figure 3: Customer-Driven Target Costing and Network Setting

Despite the fact that it is imperative to listen to individual customers, it is similarly essential to examine how adjustments make cost collaborations among other customer connections. Beginning with a solitary customer relationship, customer-driven target cost management is portrayed by connection on varied levels. For instance, to comprehend what the customer needs, it is frequently important to interface with people from various capacities and diverse hierarchical levels (Brady & Davies, 2004). As a result of this, distinguishing what the customer needs is a challenging task. Customer-driven target cost management process turns out to be significantly more unpredictable in the event that one considers the system level. For instance, as portrayed in Figure 2.3, what happens if two customers need distinctive usefulness? Are both functionalities incorporated into the product or stand out as customer organised? Despite the fact that product improvement hypotheses offer provisional recommendations of customer-driven target cost management, observational studies need to analyse target cost management in close customer connections.

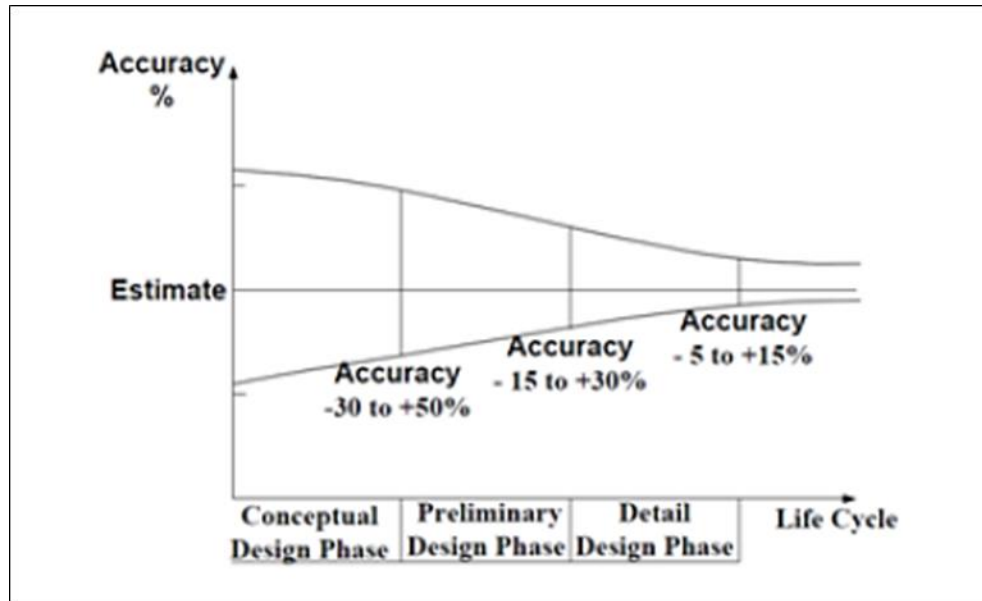


Figure 4: The Degree of Cost Estimation Accuracy (Creese & Moore, 1990)

2.14.2 Accuracy in Target Cost Management

Shah et al., (2011) stated that accuracy is essential in assessing the target cost for a mind-boggling product. Overestimating the target cost in the applied phase may bring about the product to be arranged towards a less costly plan with more regrettable performance. Thinking little of the target cost in the early plan phases for a product along with its material, work, tooling and building exertion will prompt a product upgrade, which would devour additional assets at a substantial cost in a later phase. It would eventually increase the initially expected planned cost of another product. The accuracy of cost evaluations is fundamental for cost specialists to control. The accuracy of appraisal enhances information accessibility. With the advancement of product outline, more information can be retrieved to make estimation more precise.

Creese and Moore (1990) gave a discourse on the level of accuracy in the distinctive configuration phases, as portrayed in Figure 2.3. Amid the theoretical outline phase, information is rare and cost estimation must rely

principally on the use of preparatory cost drivers. The accuracy ranges from 30 to 50% of the genuine cost. As the configuration advances and potential exchange studies are wiped out, accessible information linked with product gets to be open and cost appraisals can be made based on verifiable cost information.

Much of the time, deteriorate sort of estimation can be delivered with the use of verifiable information. Further elaboration on deterioration analysis is specified at a later phase of the theory. The accuracy of cost assessments in the preparatory outline phase ranges from -16 to +29%. Amid the point of interest configuration phase, the information about the product is known and the level of cost assessing accuracy ought to range between -5 and 15%. As specified, the preparatory outline phase is the basic phase where organisations can gain profit by precise cost models based on accessible information.

2.15 Past studies on Target Costing Management

Target cost management literature is composed of a lot of studies that exhibit the benefits of target costing. It is a common finding that the product design and development stages offer significant opportunities for cost reduction because from 70% to 80% of product cost remains unchanged after the design stage. Many studies have revealed the importance of this fact (Davila & Wouters, 2004; Kato, 1993). Some studies exhibited the derived benefits of target cost management by using case studies. As seen in the target costing history, the automotive sector is the one that has applied the elements of target costing extensively since the 1970s, and it is not surprising that there are case studies that exhibited the benefits of target costing in the automotive sector. Table 2.1 summarises previous empirical studies that had analysed target cost management. Most of them had been based on developed nations, i.e. Japan, USA, and Europe, and found that the target cost management practices in other nations differed from the Japanese practices.

Nevertheless, target cost management still remains comparatively unknown in the UK because no in-depth empirical case study has been made to investigate it. Besides, no study has intensively investigated the variances in target cost management implementation between Japanese and UK companies. Thus, by understanding the level of target cost management implementation in the UK; the differences, the reasons for the differences, and the enablers with the positive association and successful implementation of target cost management could be unravelled. As such, this research expects to enhance the understanding and readiness of the target cost management practices in non-Japanese context, specifically in food manufacturing companies.

Despite the numerous perspectives derived from target cost management studies, some studies have been frequently highlighted in the literature. This research, this, focused on the most common studies of target cost management. The following section discusses the research gap in the literature related to the background of this study.

2.16 Summary and Research Gaps

Changing consumer and retail demands that affect company marketplace was experienced by various industries, including the food industry. The highly competitive business environment in which the food and drink companies operate creates urgency to the advancement of management accounting practices for managing and controlling the costs of food production. As discussed in the previous sections, accounting scholars have highlighted the objectives, characteristics, processes, success factors, and value analyses of target cost management. The significant and dynamic background of the target cost management has been considered as the best practices of strategic cost management objectives (see Filomena et al., 2009; Jacomit & Granja, 2011; Zengin & Ada, 2010). Despite the promotion of target cost management implementation across food supply chain (Jack, 2008), the literature on food and drink industry revealed that most of the

food and drink companies practised traditional cost management tools, wherein target cost management is underdeveloped (Abdel-Kader & Luther, 2006). Thus, this research explored and developed in-depth understanding concerning the potential of target cost management to be implemented in the food and drink industry. The significance of this research in the food and drink industry is highlighted below, along with the gaps this present study intends to bridge.

Research Gap 1 - The lack of empirical studies that have investigated the target cost management implementation in non-Japanese context.

Since it was first introduced at Toyota in the mid-1960s, target cost management has been widely adopted in Japan (McMann & Nanni, 1995). Tani et al., (1994) discovered that 60.6% of Japanese manufacturing firms listed on the Tokyo Stock Exchange had adopted the practice, while Kato (1993) claimed over 80% of assembly companies employed target cost management. Some case studies were undertaken in leading Japanese manufacturers, such as Matsushita Electric, Toyota, Sony, Olympus, Komatsu, Mitsubishi, Nissan and Daihatsu, and published in English (see Cooper, 1996; Fisher, 1995; Kato et al., 1995). A number of researches have looked into the adoption of target cost management external Japan. Guilding et al., (2000) surveyed the adoption of various management accounting techniques, including target cost management, in New Zealand, and the US. Similarly, Dekker and Smidt (2003) conducted a detailed examination of target cost management in Dutch firms revealing an adoption rate of 59.4% for listed manufacturing companies. Chenhall and Langfield-Smith (1998) found 38% of Australia's largest manufacturers used target cost management, while Joshi (2001) established that 35% of the sample of Indian manufacturers had adopted the practice at hand. Notwithstanding in the UK, target cost management has been mostly applied in automotive assembly and service companies (Kato et al., 1995), while lacking empirical investigations regarding its application in the food manufacturing industry. Limited studies pertaining to target cost

management implementation in the non-Japanese context, such as in the UK, might widen the misunderstanding on target cost management practices, which may lead to the hesitation of adopting target cost management amidst UK companies. This creates more competitiveness gap between companies in the UK and those from other developed countries. Therefore, this study empirically investigated the readiness for implementing target cost management in non-Japanese context, specifically in a food manufacturing company based in the UK.

Research Gap 2 - The lack of empirical studies that have examined the standard set of characteristics of target cost management among food manufacturing companies in the UK.

Although many types of research have revealed the wide implementation of target cost management (Dekker & Smidt, 2003; Guilding et al., 2000; Joshi, 2001), there has been scant literature on this topic area (Ratray et al., 2007). Amid the scarcity in researches (Ratray et al., 2007), no paper has explained any standard set of characteristics concerning target cost management, although varied traits have been attributed to it (Monden & Hamada, 1991). Everaert et al., (2006) identified eight common characteristics of target cost management practised by three European companies, but there is hardly any literature on target cost management exercised by UK food manufacturing companies. In fact, most studies concerning target cost management have provided insight into the adoption and perceived benefits of target cost management and have not looked into the levels of implementation of the technique. These studies also assumed that target cost management is only relevant to the automobile manufacturer and therefore, did not explore the adoption of this technique in other manufacturing and service firms, thus the exclusion of these firms from their surveys and analyses. Furthermore, most studies did not examine the organisational readiness of target cost management systems. Therefore, this study empirically assessed the potential characteristics of target cost management in food manufacturing companies in the UK.

Research Gap 3 - The lack of empirical studies that have investigated the dynamic capabilities of a food manufacturing company to stay innovative and competitive

Target costing is supposed to ensure that only profitable products are introduced into markets (Cooper, 1995; Cooper & Slagmulder, 1997). In a competitive environment, one of the principal parameters for customers is the ever-increasing cost. In reply to cost improvement, many manufacturers have embarked on accepting and utilising the target-based costing (Rattray et al., 2007). The goals of becoming and remaining internationally competitive concerning price and quality are of utmost importance for the survival of manufacturing companies. Empirical studies have reported that Australian manufacturers did not perceive target costing as useful (Chenhall & Langfield-Smith, 1998), while Joshi's (2001) study indicated that Indian manufacturers viewed it as beneficial. Companies adopting target costing must possess dynamic capabilities to help them stay innovative and competitive (Norhafiza, 2016). Not many studies have probed into the relationship between dynamic capabilities and target costing, although both share similar fundamental underlying principles: target costing and dynamic capabilities comprise firm's responses to maintain its competitive edge in an intensely competitive environment. Indeed, most organisations endeavour to create new products and services to reap a high potential profit. Therefore, in such circumstances, target costing is even more important to enhance profitability to meet financial goals and to create more competitiveness gap in manufacturing companies in the UK. Therefore, this study empirically examined the dynamic capabilities of a food manufacturing company in the UK to stay innovative and competitive.

Research Gap 4 - The lack of empirical studies that have examined the barriers and the critical factors associated with target costing.

Generally, the environment, the strategy, and the organisational structure specific to the industry have an impact on the nature of target costing (Tani et al., 1994; Hibbets et al., 2003). Target costing has some implementation challenges. Banham (2000) quoted the Senior Manager of Finance at Boeing, who agreed that the implementation barriers include: lack of understanding in corporate America (the term is not well-known and much of the Japanese literature on 'drifting cost' has not been translated); cultural barriers against cross-functional cooperation; organisational obstacles to team-oriented work (difficult to achieve in a functional structure); and perceived irrelevance about the effects. Still, other barriers may include the organisation's information systems and its lack of total system integration. Since most of the target costing studies appeared to have focused on specific aspects of target costing in the Japanese environment, the differences of target costing practices in other environments have not been explained in an extensive manner (Tani et al., 1994; Feil et al., 2004; Dekker & Smitdt, 2003). Furthermore, as highlighted by Drury and Tales (1995), most of the management accounting researches seemed to focus on developing sophisticated models in simplified production settings. This causes incomprehension and ignorance in respect of the actual target costing practices, and, subsequently, creating a gap between theory and practice (Drury & Tayles, 1995). Due to the scarcity of studies concerning food manufacturing industry within the UK context, it is necessary to uncover the technical aspects of target costing practices in UK environment in terms of how it is conducted, what are the differences compared to Japanese target costing theoretical model, why there are differences, and what are the critical factors associated with the target costing practices in non-Japanese environment.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the overall research design and the methods adopted in this thesis. Based on the nature of the research questions and the theoretical frameworks elaborated in the previous chapters, this research employed the single embedded case study method, as suggested by Yin (2003). This case study applied multi-sources of data collection by means of a qualitative approach. The qualitative approach was adopted to investigate the target cost management implementation process in a company. Data were collected via interviews, documents analysis, and direct observation. This chapter begins with the research paradigm by outlining the ontology, the epistemology, the methodology, and the methods. It justifies the interpretive-quantitative approach undertaken in this study and explains the two phases and techniques applied in the interview sessions. The chapter concludes by defending the research approach through the elaboration of triangulation, reliability, and ethical issues.

3.2 The Research Strategy Adopted

The research methodology has a crucial role in any management research if the research aims to demonstrate credibility. Lack of consideration of the philosophical nature of the study might seriously affect the quality of the study outcomes. The way the researchers understand and interpret the reality of the world will influence the research process while carrying out the research and in consequence, the findings. Hence, the philosophical assumptions can assist a researcher to choose the right research strategies and techniques. Some benefits of understanding various research approaches, as highlighted by Easterby-Smith et al., (2004), are listed in the following:

- The design process of the research is clearer.

- Understanding the characteristics of the different philosophical paradigms may help the researcher to foresee which research design may work and which may not.
- It may help the researcher to identify and create research designs that might be unknown to him/her.
- Helps the researcher to develop a research identity.

3.3 Research Paradigm

The research paradigm is the perspective that the researcher takes in obtaining knowledge on a particular discipline at a specific time. The underlying paradigm adopted in a study needs to be understood as it plays essential roles in outlining the researcher's perception of the world, what is considered the reality can be understood and what methods are best taken to obtain further knowledge on the existence (Thomas, 2004). Four philosophical branches are linked to ensure quality research: Ontology, Epistemology, Methodology, and the Methods (Easterby-Smith et al., 2004). These four philosophical branches are often characterised and differentiated by the following questions:

- What is the nature of the social reality that needs to be addressed (the ontological concept)?
- What is the nature of the relationship between the individual, who they are and what can be known about a particular reality (the epistemological concept)?
- How can the researcher go about finding out what he or she believes can be known (the methodologies concept)?
- What is the best technique to uncover the desired knowledge (the methods concept)?

(Adapted from Hesse-Biber et al., 2006)

The research paradigm and associated philosophical branches form a generally accepted model of how ideas link to one another, so as to establish a conceptual framework so scientific research can be carried out (Denzin, 2009). This shapes the entire research process and gives direction to appropriate research design, approach, and methods (Gummesson, 1991). Therefore, the philosophical assumptions underlying the research paradigm must be understood and clarified before research can be conducted.

3.3.1 Philosophical Assumption on Ontology

Ontology is related to the nature of truth in the world. This can be subjective or objective, and thus, explained as “assumptions that we make the nature of reality” (Easterby-Smith et al., 2004). Science and social science domains have debated around ontology differently. Social science does not follow the traditional approach and therefore is richer in philosophical discussions. The primary ontologies are objective ontology and subjective ontology (Easterby-Smith et al., 2004; Meredith et al., 1989).

3.3.2 Philosophical Assumption on Epistemology

Epistemology is related to the way we see the nature of reality in the world. We look at social world issues through different lenses we gain through our background, education, personal and professional experiences. Hence, it is a “general set of assumptions about the best ways of inquiring into the nature of the world” (Easterby-Smith et al., 2004). Four key epistemologies/paradigms in the social sciences are positivism, relativism, interpretivism, and action research.

3.3.3 Philosophical Assumption Methodology

The methodology is a “combination of techniques used to inquire into a specific situation” (Easterby-Smith et al., 2004). Some of the alternatives are a hypothetico-deductive, inductive, and co-operative inquiry. The hypothetical-deductive methodology is applied within a positivist paradigm, while the inductive

methodology often starts with data, instead of literature, and finally, co-operative inquiry reflects action research in which there are high levels of involvement of the researcher.

3.3.4 Philosophical Assumption Methods

Methods are “individual techniques for data collection, analysis, etc.,” (Easterby-Smith et al., 2004). When researchers decide to pursue a specific epistemology, they often adopt methods that are commonly used within that epistemology. Techniques and methods are about what practices of research should be undertaken, and the approach the researcher takes will impact on what he or she can see and find. Some research methods and techniques refer to statistical testing, experimental, secondary data analysis, case study, observation, interviews, and participation.

3.3.5 Summary of Research Paradigm

Johnson and Onwuegbuzie (2004) asserted that the selection of relevant paradigm and methods are governed by research problems and research questions. The objective of this study is to examine the organisational readiness of a food manufacturing organisation in the UK for using target cost management approach during the new product development phase. Therefore, the nature of the investigation is descriptive, instead of perspective, thus demanding inductive reasoning rather than deductive logic. As such, critical realism and qualitative methodology are deemed to be the most suitable for this research paradigm. Figure 3.1 illustrates the research paradigm applied in this research.

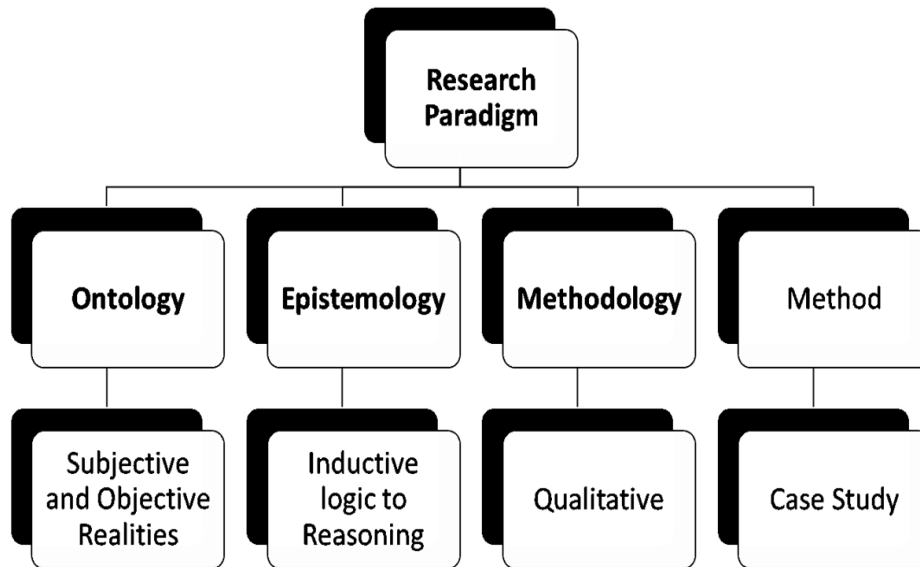


Figure 5: Research Paradigm

3.3.5.1 Ontology: Subjective and Objective Realities

By investigating both subjective and objective realities, the researcher can gain first-hand insights into the subject matter. The objective reality for examining food manufacturing companies in the UK included the ‘hard elements’, such as company’s standard of policies and regulations, as well as printed materials about the company’s information available in the public domain, including internet. Meanwhile, the subjective reality reflects ‘soft element’, such as perceptions, values, belief, practicality, right feeling, and experiences.

3.3.5.2 Epistemology: Inductive Logic to Reasoning

The inductive logic and critical realism inquiry are aimed to ‘understand’ the readiness of food manufacturing company in the UK for using target cost management approach during the new product development phase, instead of ‘explaining’ the phenomenon. Schank and Abelson (2013) claimed that the terms ‘understand’ and ‘explain’ differ greatly in inquiring knowledge. Since the task is to understand the readiness of UK food manufacturing company for using target cost management, this research complied

with ‘constituting reality’ and sought information by interacting with the respondents to capture relevant interpretations.

3.3.5.3 Methodology: Qualitative

The choice of research methodology must be consistent with the ontological and epistemological stances (Ticehurst & Veal, 2000). In this case, the subjective-inductive-critical realism paradigm matches the qualitative methodology. In gaining a more in-depth understanding of the readiness of the UK food manufacturing company for using target cost management, the researcher must be within the context, in the exploration and seeking to understand the research context. This enabled the researcher to examine their feelings, attitudes, meanings, values, and beliefs in line with the research topic (Cavana et al., 2001).

3.3.5.4 Method: A Case Study

Selecting a research method relevant to the researcher’s paradigm choice will have an impact on the collection and analysis of empirical evidence (Yin, 2003b). This research employed the case study method, as suggested by Yin (2003). This case study employed multi-sources of data collection by using the qualitative approaches. The approach was applied to investigate the target cost management implementation process and why the selected food manufacturing company implemented target cost management “as it is”, and to identify the target cost management enablers that existed in the selected company. Data were gathered mainly via interviews and supported with documents and direct observation. This research is more interested in the meaning within the research context (Vaivio, 2008). Hence, generalisation is not the priority in this research.

As for the case study technique, interviews are an essential source of data. Yin (2003) emphasised that “interviews are an essential source of case study evidence because most of the case studies are about human

affairs. These human affairs should be reported and interpreted through the eyes of specific interviewees, and well-informed respondents so as to provide important insights into a situation (Yin, 2003, p. 92). The method of interview provides quick information concerning the previous history of the situation, which helps the researcher to identify other relevant sources of evidence (Yin, 2003).

3.4 Research Design

The research design is the overall structure and framework that guides the investigation process, especially for data collection and analysis (Bryman & Bell, 2007). The selected research design must be within the chosen paradigms and methodology to protect the quality and validity of the research (Cavana et al., 2001). The design outlined in the following four phases is as illustrated in Figure 3.2.

The steps involved in the research design include:

1st Phase

- Defining the research problem and research questions (identified in Chapter 1).
- This resulted in selecting the research paradigm and methods, as well as designing the semi-structured interview preliminary survey.

2nd Phase

- An in-depth discussion with the research supervisor was carried out. The discussions mainly emphasised on the theoretical and methodological perspectives of target cost management in the UK's food and drink industry.
- Gathering views and advice from industrial food players. The rationale is through direct involvement with the food and drink's practitioners in the early review stage offered insight about the industrial structures, challenges, and policies that may affect the implementation of target cost management in the industry.

- A one-day visit to the National Centre for Food Manufacturing situated at Holbeach, Lincolnshire, which actively offered innovative ideas regarding the food industry, as well as continuing education for employees in the industry.
- An interview with ‘Academia A’ was organised. Academia A has extensive research and technical experiences in the food and drink industry. His industrial background is responsible for the technical and quality context in the high-risk chilled and frozen food industry. He is responsible for assisting food suppliers in dealing with major supermarkets, food manufacturers, and food service sectors. He is also a registered member of the European Food Safety Authority’s (EFSA) Food Safety Experts, a member of the Association of Applied Biologists (Food Systems Steering Group), and a member of the Institute of Packaging. He has been recognised as a qualified Lead Auditor and actively conducts industry-based researches to address specific food industry requirements and issues. His academic and industrial background is important to accommodate for planning and conducting this study.
- Attending open discussions with other academic staff at the University of Portsmouth was performed with the objective to develop the researcher’s understanding of the topic at hand. This process allowed the researcher to gather useful information in constructing an appropriate framework for this study.

3rd Phase

- Constructing and refining the semi-structured interview guide.
- Conducting the fieldwork protocol. This involved preparing a fieldwork protocol, selecting and contacting the firm, as well as scheduling the interviews and follow-up contact with the key person (the gatekeeper) of the food manufacturing company.
- Conducting an interview with managers in the organisation to establish the preparedness for target cost management and analyses of the steps that were required for implementation.

- Use of past or realistic hypothetical cost data to stimulate target cost accounting processes and assessment of the feasibility for using target costs in food processing.
- Two phone interviews with a food industry expert to confirm the information collected from the key informants about the new product development cost structure.

4th Phase

- Transcribing and translating the interviews.
 - Validating the transcripts by sending them to the selected respondents
 - Managing interview scripts, coding these for themes using NVivo and Excel. Different analysis approaches were used to determine if the themes corroborated with one another for triangulation, as recommended by Silverman (2001).
 - Analysing interview scripts, and employing a qualitative method for thematic analysis.
- Reporting and discussing the evidence in relation to the research questions.

1st Phase	2nd Phase	3rd Phase	4th Phase
<ul style="list-style-type: none"> ▪ Defining the research problem and research questions (Chapter 1) ▪ Resulted in selecting the research paradigm. 	<ul style="list-style-type: none"> ▪ In-depth discussion with the research supervisor. ▪ Getting view and advices from the food industrial players. ▪ One day visit to National Centre for Food Manufacturing situated at Holbeach, Lincolnshire. ▪ Meeting with experience lecturer A (field expert). ▪ Discussion with several academic staff at University of Portsmouth. 	<ul style="list-style-type: none"> ▪ Refining the semi-structured interview guide. ▪ Conducting the fieldwork protocol. ▪ Face to face interview with the managers ▪ Product cost reporting ▪ Two phone interview 	<ul style="list-style-type: none"> ▪ Transcribing and translating the interviews ▪ Validating the transcripts ▪ Coding using Nvivo ▪ Analysing interview scripts. ▪ Reporting and discussing the evidence relating to the research questions

Figure 6: Current Research Design

The illustrated research design reflects the purpose of the study, the type of investigation, the extent of researcher's interference, the population under study, the research setting, and the time horizon of the study (Cavana et al., 2001).

3.5 A Case Study Method

This section discusses the aspects of face-to-face interview method and describes the data collection procedures. The procedures include the process of identifying and approaching the respondents, the unit of analysis, the profile of the respondents, the interview schedules, and the experience of the fieldwork and conducting the in-depth interviews. Researchers are usually unable to make direct observations of every individual in the population they are studying. Instead, data are collected from a subset of individuals known as the "sample" and these observations are used to make inferences about the entire population (Malhotra, 2004). As such, in order to ensure that the data collected were indeed reliable and valid, selection of study area, types of respondents, sample size, and sampling method had been carefully planned and employed, as given below:

3.5.1 Sample Size

In qualitative research, its sample size is usually arguable as some qualitative researchers usually do not justify their sample sizes (Marshall et al., 2013). As there is a lack of standard guidelines in explaining the most appropriate sample size, many qualitative types of research would adopt the concept of data saturation in their research. Guest et al., (2006) asserted that data saturation could be achieved within the first 12 interviews and after that, very few new phenomena are likely to emerge.

Having an adequate sample size is a precursor for data analysing and reporting. Sekaran (2003) suggested that researchers should meticulously select subjects to collect reliable data. The small sample size is typically employed in qualitative research as the phenomena only need to appear once to be part of the analytical

map (Legard et al., 2003). After a while, there would be a point of diminishing return when increasing the sample size no longer contributes to new evidence. According to Gonzalez (2009), the sample size is usually driven by the need to uncover all the main variants within the approach. He added that within conditions such as this, small survey samples of less than 20 are common. Creswell (2011) claimed that the sample size within the qualitative research is typical “to study a few individuals or a few cases” (pg. 209).

3.5.2 Selection of Sampling Method

Cooper and Schindler (2003) described sampling as the procedure by which some aspects of a given population are selected as a representative of the entire population and can be classified as either probability or non-probability sampling. While a probability sampling technique would have been preferred, the researcher had selected non-probability convenience sampling because the gatekeeper was the person entrusted to identify and choose managers for this research involving Fresh Foodie UK. The gatekeeper ensured that the author gained access to appropriate sources. Therefore, a convenience sample was the only sampling technique that had been employed to gather data.

Given the selected sampling method, several limitations were addressed by the researcher. The most significant restriction in this chosen sampling method is the identification of research subjects and sites by the researcher. To secure access to research subjects, the researcher had to seek approval from the gatekeeper. Recognising and understanding the gatekeeper’s opinions had been crucial to ascertain and to sustain access to the research respondents, including in preserving the reliability of this research (Devers & Frankel, 2000). To this extent, Groger and Mayberry (1999) remarked that gatekeeper bias arises when some critical subjects, including the potential respondents in an investigation, somehow take control of the sampling concerning the eventual respondents selected for a study. Since the selection process had already been biased, some inaccuracies were bound to set in, and this type of discrepancy is known as sampling

error. Groger and Mayberry (1999) stressed that the negotiation process and the protocols involved in obtaining approval to a facility or to have access to target subjects come at the cost of delays. In a typical research environment, a limited time frame for the study would suggest that sampling decisions are moderated by realities of administering one sampling technique or the other (ibid, 1999). It may also be the case, that access to facility or respondents may be refused thereby, creating a problem in the process of data collection depending on the stage of the data collection process.

3.6 Data Collection Method

Data collection is regarded as the vital aspect of this research because it assisted the researcher in gathering information to meet the research aim and objectives (Collins, 2010). This research used primary and secondary data collection. Both types of data are considered significant because they contribute towards in-depth analysis of the research problem (Babbie, 2012; Collins, 2010) within the research context.

Primary data are known as first-hand data because they are collected by the researcher from particular groups or individuals considered as appropriate for this purpose. Some of the standard methods used are surveys, observations, experiments, and interviews. The researcher collects data depending on the needs of the study, instead of relying on what is available. The primary data collection method selected by the researcher for this study was the interview method.

The interview is a research strategy that involves two-way communication with the intention to gather relevant information (Creswell, 2008; Walliman & Walliman, 2010). Through this strategy, research can collect a wide range of information that assists in conducting an in-depth analysis of the problem from a practical perspective. The selected individuals need to answer some open-ended questions, and the responses are saved either in the written form or audio. In this research, the author and supervisor

introduced and explained the purpose of their visit and the objectives of conducting the interview. Apart from the face-to-face interview and phone interview, this study employed several methods and sources to support the primary data collection method. Table 3.1 presents the source of secondary data, along with a description of the information.

Sources of information	Descriptions
Costing documents	An excel format produced by a management accountant.
Booklets	Printed documents that contain brief information about the organisation’s background, visions and values, business segments, and achievements.
Company website	Official websites that publish detailed information and annual report of Fresh Foodie UK.

Table 3: Current Research Sources of Secondary Data

3.7 Data Analysis Techniques

Data analysis in qualitative research is entirely different from that in quantitative analysis (Patton, 2005). The data analysis approaches used in this study included transcribing and coding data, and methods for analysis.

3.7.1 Transcribing of data

The interview was recorded using Olympus WS53 Digital Voice Recorder. The advantage of using a digital device is that the recorded interviews can be stored, archived, and transmitted electronically (Stockdale & LeMay, 2001). All the recorded interviews were transcribed over a 10-month period and in some cases, the translation was required. Another two months were taken to double-check the interview scripts for inconsistencies. The transcription process was undertaken in two ways. The first was a word-for-word

transcription of 13 interviews, where either minimal or no translation was required, while the second transcription included the meanings and contexts retrieved from the interview sessions.

3.7.2 NVivo

Another challenge faced by a qualitative researcher is regarding managing sufficient data (Hesse-Biber et al., 2006). Managing and analysing research data had been a complicated process, and the author sometimes felt very stressful. This study employed the NVivo software to assist the researcher in managing, storing, and analysing vast quantities of data (Bazeley & Jackson, 2013; Bazeley & Richards, 2000) as the gathered data were coded into nodes (see Figure 3.3). The researcher thoroughly read the interview scripts, and the research questions were referred to work out the themes for each node. This process ensured that the statements or phrases from the transcripts had been placed at the right nodes. As portrayed in Figure 3.4, NVivo refers to a useful tool to link the data with emerging concepts and themes, apart from developing the overall conclusions of the study. Nevertheless, no software can substitute the role of the researcher in analysing and interpreting qualitative data (Morse et al., 2002).

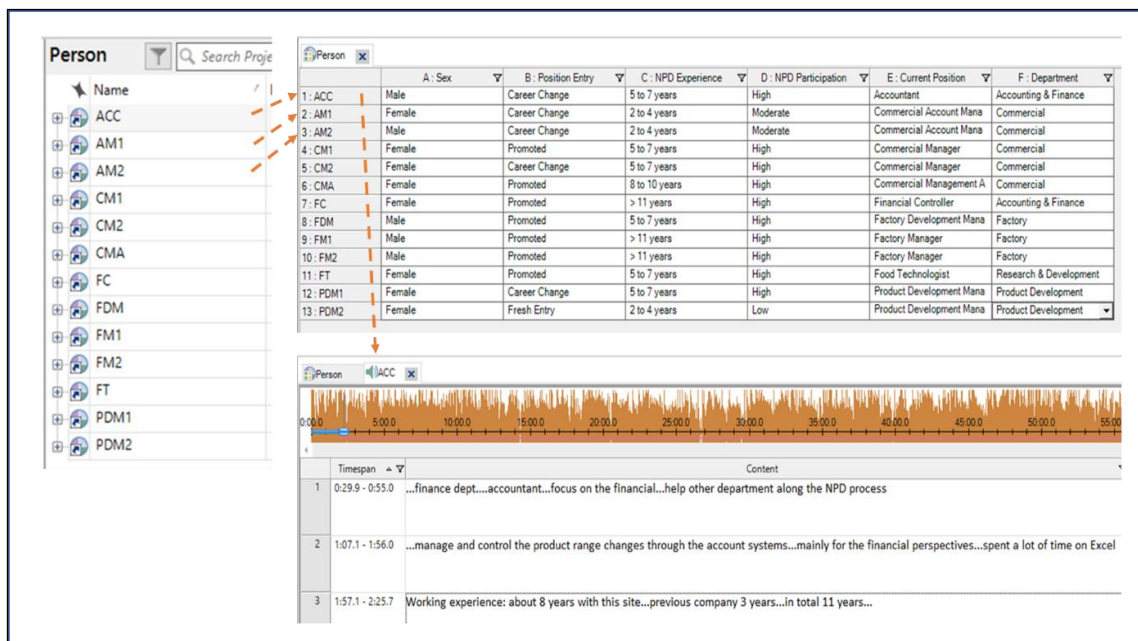


Figure 7: Case Node, Case Classifications, and Transcribing Process

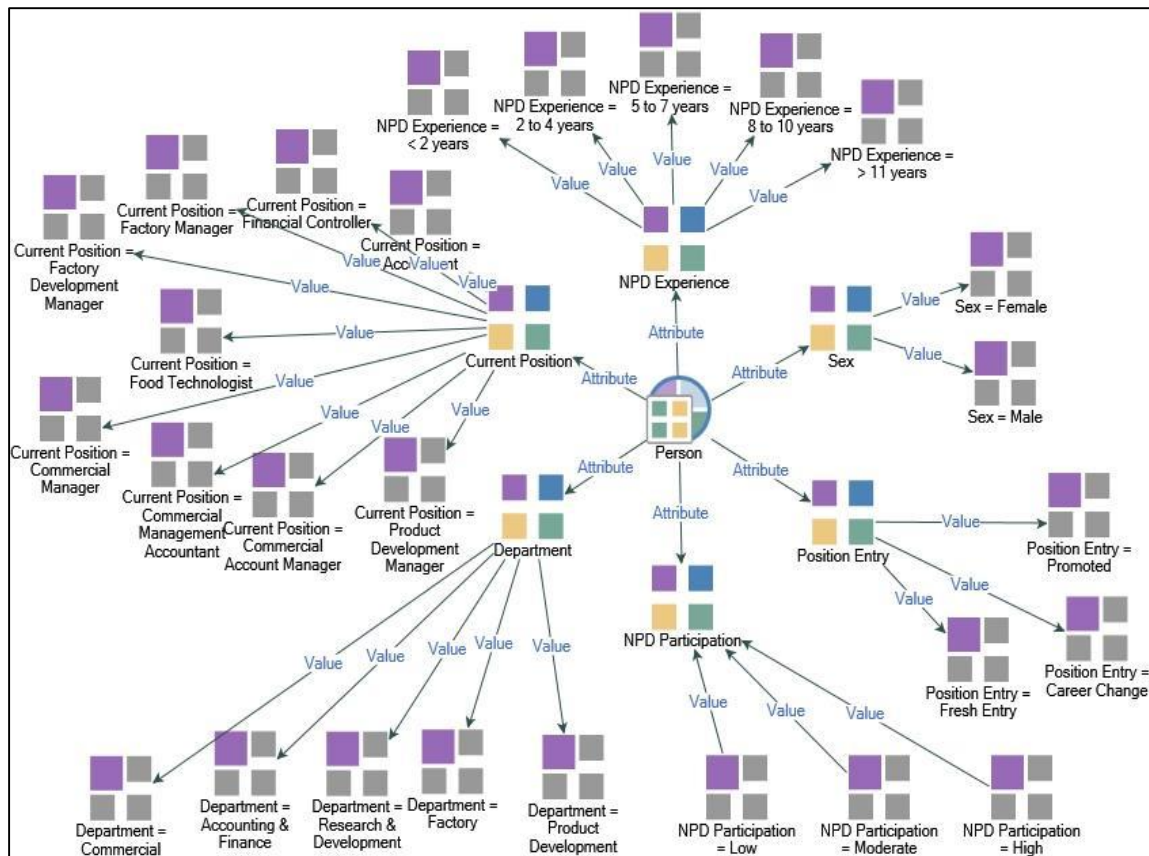


Figure 8: Selected Project Maps That Visualise the Links Between Data

3.8 Reliability and Validity

Research credibility in the qualitative approach has generated a vigorous debate particularly in the positivist paradigm (Partington, 2002). Guba and Lincoln (1994) suggested trustworthiness and authenticity are criteria to assess research quality. In order to ensure reliability and authenticity, this study complied with established guidelines by adhering to a logical research design throughout the conduct of this research.

The reliability test ensures that other researchers can derive similar findings by following the same research procedures outlined by the original researcher. The objective of the reliability test is to minimise biases and errors. By adequately documenting the procedures of the case study and making the steps as operational as

possible, other researchers can repeat the process and retrieve similar outputs. As such, reliability can be enhanced by applying the case study protocol (Yin, 2003).

As for bias issues by the researcher and respondents, there may be a possibility of bias between the researcher and the study contexts in light of the organisation, the organisation members, and the problems related to this study. In order to minimise the aspect of bias, the researcher did his best to minimise the effect of the relationships by integrating opinions from various departments. In the attempt of addressing biases from the respondents, this research was conducted within three days and each respondent was assigned to a specific date and hour. This allowed the respondents to be more relaxed and behave naturally (Cavana et al., 2001). Additionally, the researcher performed a case study protocol. This protocol helped the researcher to carry out data collection by focusing on the case study subject and anticipated several case study issues.

Internal validity is developed by establishing the causal relationship by showing certain conditions that lead to other conditions. This is to differentiate it from a spurious relationship. In the case study data analysis, pattern matching is one of the many techniques that can increase internal validity. The empirically-based pattern is compared with the predicted pattern of the research. If the patterns match, the results help to strengthen the internal validity of the case study (Yin, 2003). External validity tests “if the findings of a study are generalizable beyond the immediate case study” (Yin, 2003). Yin (2003) emphasised that statistical generalisation is possible in survey research, where the sample can be generalised to a larger universe. However, for case studies, statistical generalisation is not possible due to the purposefully small sample to examine a phenomenon in-depth. Thus, for case studies, generalisation depends on analytic generalisation. The analytic generalisation compares the findings of a current study to a previously developed theory. According to Yin (2003), if two or more cases are shown to support the same theory, replication may be

claimed. In the case studies, a complete research design represents the “theory” of what is being studied (Yin, 2003). Cavana et al., (2001) asserted that case studies can only be replicated in organisations with a similar situation concerning the nature of the problem and problem definition.

To allow successful transferability from this research study context to a reader’s present context, the researcher provided full descriptions of the research for reference and comparison. The early section of this chapter explains the underlying research strategy and design, such as how the case study site selection was made, how the conceptual and theoretical frameworks were developed, how the data collection instrument was developed, and how the samples were selected. Such information assists readers to make decisions regarding how closely the contexts may or may not match. The efforts made by the researcher to achieve the methodological rigour are presented in Table 4.

Internal Validity	Construct Validity	External Validity	Reliability
Provide a diagram of the research framework explicitly derived from the literature.	Provide an explanation of data collection and data analysis.	Provide the rationale for selecting the case study context. Interviewees were identified by the gatekeeper (Product Development Manager)	Use of a semi-structured interview guide. Developed a case study database to keep interview records, printed documents, cost table, etc.

Table 4: Criteria Used for Methodological Rigour in This Research

3.9 Theoretical framework

The particular interest of this study is to investigate if the UK’s food manufacturer could practice the target cost management in developing a new product. In this regard, the researcher applied the Rain theoretical framework drawn from the literature due to its relevance for seeking in-depth knowledge about the organisational readiness level for implementing target cost management in the new product development stage. To this extent, the framework enabled the management to manage the business to be profitable in a

very competitive manner by evaluating the gap between target costing and Rain's six critical elements for successful implementation of target cost management in the new product development stage. The Rain theoretical framework approach was tested thoroughly and partially in past studies by Feil et al., (2004), Vaisle et al., (2013), Briciu et al., (2013), Swenson et al., (2003), and Sulayman (2014). Although the studies offered some evidence about Rain's six essential elements, none has exclusively investigated the successful implementation of target cost management in the food manufacturing industry except Abdel-Kader and Luther (2008). Thus, an examination of the food manufacturing industry is a worthwhile pursuit not only to understand Rain's six essential elements, but also in contributing to the literature by undertaking a study that focused on a single sector in a relatively homogenous geographic, economic, and political setting.

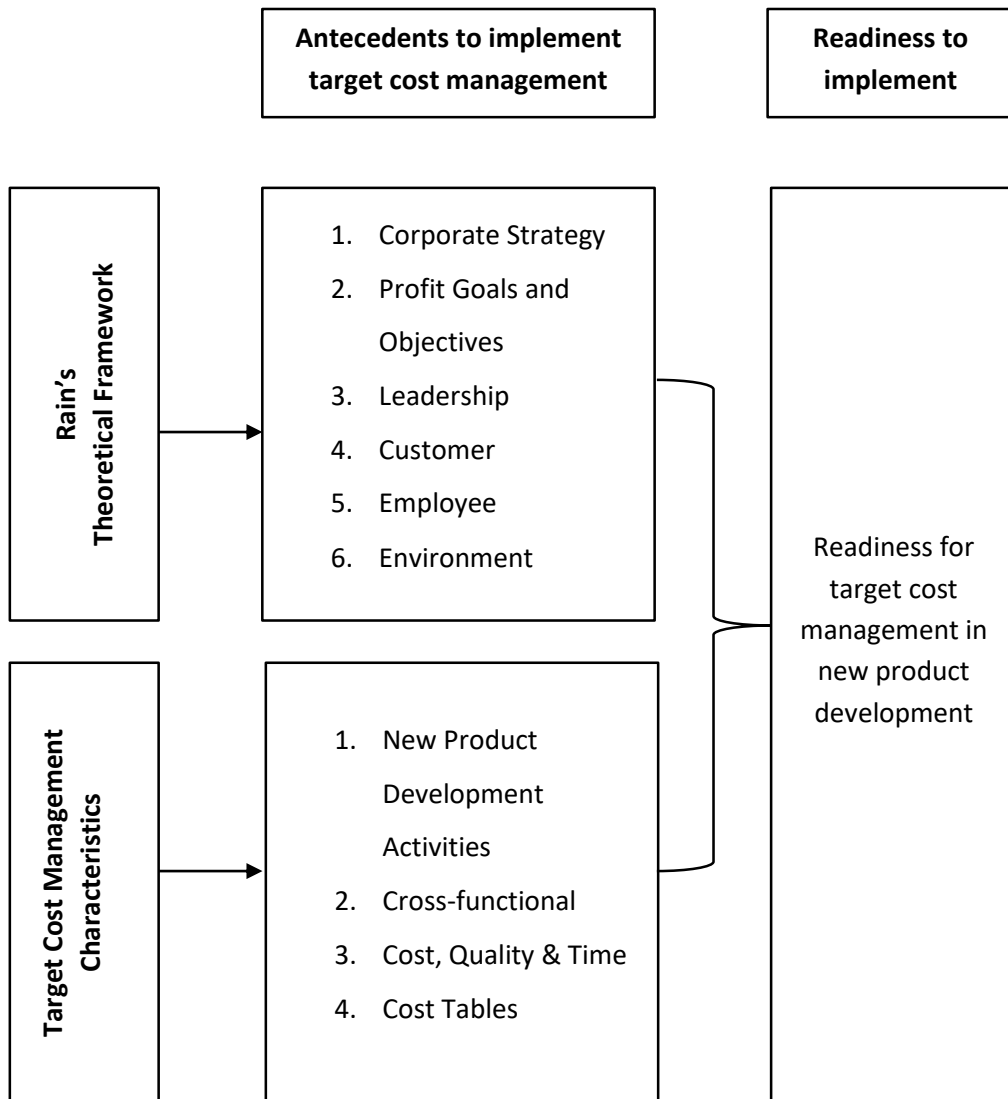


Figure 9: Theoretical Framework of the Current Research Context

3.10 Ethical Consideration

One of the significant aspects that every researcher has to consider regardless of the qualitative or quantitative approach is the ethics of research. In ascertaining the validity, the reliability, and the suitability of a study, the researcher is expected to emphasise on all sorts of research ethics that are appropriate from the perspective of the study (Sekaran & Bougie, 2010). The researcher had gone through the process of ethical consideration at the university level prior to visiting the Fresh Foodie UK to gather data. The application was submitted for review by the Portsmouth Business School ethics committee. This research had received the necessary ethical approval from the related committee. Some of the collective research ethics that were considered by the researcher at the time of conducting this study are listed in the following:

3.10.1 Data Management

Managing research data is part of integral research activities, which is significant to research effectiveness. Management of data is exposed to some specific problems that can potentially evade research ethics. The researcher has to ensure that the data are collected ethically and responsibly. Any personal information of the informants must all the appropriately managed, along with the surety that it could not be accessed by a third person with no connection with the study (Walliman & Walliman, 2010; Andrew et al., 2011).

Therefore, at the time of conducting the research, the researcher ensured that all the gathered data were secured and managed effectively. Anything that was inappropriate was not mentioned in the study. This research collected in-depth narrative information, as well as cost data, from the managers employed at the Fresh Foodie UK. Each stage of the interview sessions was digitally recorded. Next, the interview data and the cost data were transferred to a personal laptop and protected by a password.

3.10.2 Privacy

The privacy of the organisation and informants is essential to secure before, during, and after the study as it is part of the ethical requirements and agreement achieved between the researcher and Fresh Foodie UK.

The responsibility of the researcher is to ensure the confidentiality of the data gathered from various individuals (Babbie, 2010; Wood & Kerr, 2011). The analysis must also maintain confidentiality so that privacy of the organisation and the informants are not affected. In this study, the researcher secured the place where the information was stored using passwords that were shared only with authorised persons. The data collected were not publicly shared and not uploaded onto a social network. All personal and organisation information remained anonymous although some of the interview data were initially quoted.

3.10.3 Informed Consent Letter

In this study, two different informed consent letters were designed and had been forwarded to the Fresh Foodie UK and the informants. The Fresh Foodie UK was invited to participate in this research through this letter and was posted to the key contact at the organisation. The letter contained a brief introduction about the researcher, as well as the purpose and the research objectives. The organisation was also requested to propose the potential respondents for this research. The second letter was an individual informed consent letter prepared for those who agreed to participate in this research. This letter was designed in two parts: Part 1 – Information sheet, and Part 2 – Informed consent letter. Both the organisational and the individual informed consent letters are presented in Appendices 1 and 2, respectively.

3.10.4 Interview Guide

The interview guide (see Appendix 3) applied in this research had been composed of two sections: Sections A and B. Section A contained questions related to the demographic information of the informants. This section also contained questions that focused on informants' industrial background in the food and drinks

industry. As for Section B of the questionnaire, questions that retrieved information about cost management activity was posed. Each question was grouped accordingly into six elements (Rains, 2010), which were: corporate strategy, profit goals and objectives, customer focus, employee focus, and environmental focus. Each question for different elements contained interview probes. Interview probes enabled the researcher to ask follow-up questions, in relation to the initial questions. The objectives of the interview probes are to clarify what the research informants had answered, to ask for more details, as well as to understand the research respondents' feelings, rationale, and thoughts.

3.11 Case Study Limitations

This research has several limitations. This section presents the constraints faced and how the researcher addressed the limiting issues.

The issue of gaining access to the targeted company and the potential respondents appeared to be a critical challenge and required adequate preparation. As such, a qualitative case study in management accounting seemed challenging as the information sought may involve confidential information only accessible to particular managers. In this research, access to Fresh Foodie UK and the managers was initiated by contacting the gatekeeper who previously on the list in a research project conducted by the research coordinator. The research coordinator contacted the gatekeeper via email to inform the purpose of the research and to introduce the author as the researcher. Several discussions took place via email and phone before the gatekeeper agreed to have a meeting at the targeted company. In the meeting, the gatekeeper had decided to help the author to enrol potential interviewees. This process mitigated the issue of gaining access to appropriate sources, as well as identifying poor characteristics of the interviewee.

As highlighted in Section 3.5.1-Sample Size, qualitative sampling is an issue that usually receives attention from both quantitative and qualitative methodologists. The author was aware that 13 managers (key

informants) interviewed in this research may invite debate from interested methodologists. However, as described in Section 3.4-Research Design, if generally classified under interview, this research successfully conducted 16 interviews. The first interview was carried out with 'Academia A', who has technical and research background in the food and drink industry and followed by 13 managers of Fresh Foodie UK who served as the key informants. Two experts from the food and drink industry were selected to certify the information gathered from the key informants. On the other hand, if only the 13 managers had been counted as the sample size (see Table 4.1), it is still considered sufficient as they are experts within the research context (Mason, 2010). The rationale is that this research adhered to the recommendations offered by qualitative methodologists concerning sample size (Marshall et al., 2013). Hence, the sample size in this research is acceptable for this case study research (Guest et al., 2006).

3.12 Chapter Summary

This section describes the research philosophy and paradigm adopted in this study, along with the selected methodology. As the study explored the readiness of a food manufacturing company in the UK for using target cost management approach during the new product development phase, a qualitative case study was employed. The chapter elaborates the design of the study and the methods of data collection. The interview technique and analysis method have been described. Lastly, issues related to research reliability and validity are presented and addressed, apart from depicting the ethical considerations and their impact on this study. This study complied with some criteria of logical research design. The research design, the data collection methods, and the analysis were cautiously designed to address reliability, validity, and triangulation issues.

CHAPTER 4 RESULTS

4.1 Introduction

This chapter presents the analysis and the results obtained from the four-phased qualitative study in addressing Fresh Foodie UK's readiness towards the implementation of target cost management for new product development stage. Chapter 4 presents the results of the individual face-to-face interviews, product cost reports, and phone interview. The first part of the study discusses the transcribed research results from 13 face-to-face interviews. Next, the second part of the study analysed the implementation level of cost analysis of four food products manufactured in Fresh Foodie UK. Finally, the third part discusses the findings from two phone interviews, in order to confirm the information collected from the key informants. In the following sections, information from prior data collection is discussed.

4.2 Prior to data collection

This research faced some issues in gaining access to the targeted company, as well as the interviewees. Identifying and recognising the most suitable interviewees are crucial to ensure that only reliable and valuable information is retrieved. According to Barbour (2013), key informant refers to one who can offer useful sources of information about a research setting and 'to stand back from the situation to a degree'. Social sciences methodologists recognise that the targeted interviewee has "specific interpretive knowledge" and procedural knowledge" (Littig, 2009).

Figure 4.1 illustrates the flow of data collection process at Fresh Foodie UK. Prior to the qualitative interviews, the gatekeeper was briefed about the aim of this research and was asked to provide suitable informants for this research. The gatekeeper informed 16 key informants who agreed to participate in this research. Before the qualitative interviews day, the researcher received the list of the informants (managers)

and the interview schedule that was prepared from the gatekeeper cum informant GPDM4. However, on the interview day, the gatekeeper informed that three key informants withdrew from the interview session as they had a business meeting outside the company, thus left only 13 key informants. Hence, the study successfully interviewed 13 informants from Fresh Foodie UK.

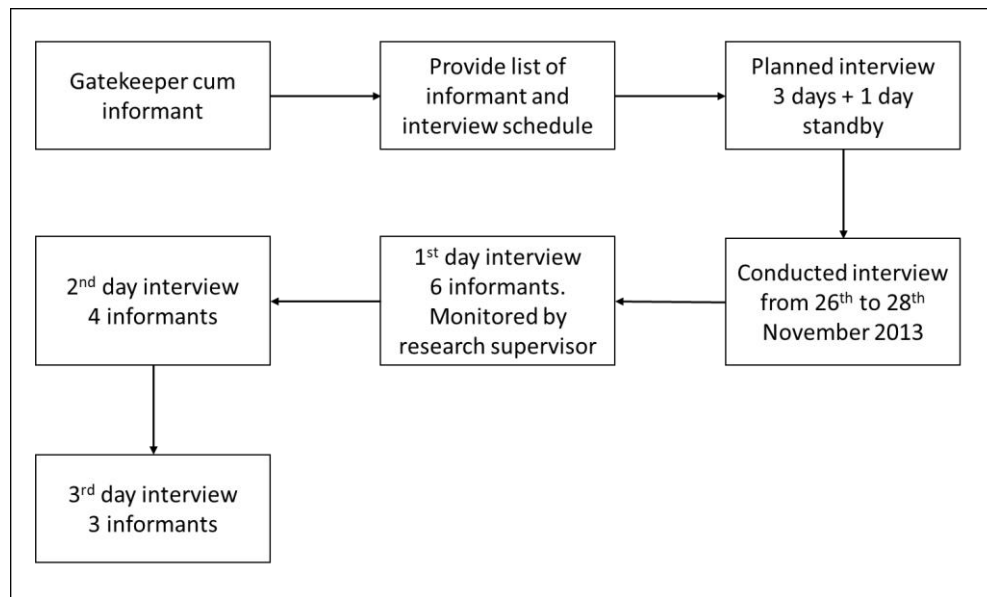


Figure 10: Data Collection Process at Fresh Foodie UK

The interviews were scheduled for 3+1 working days and were conducted at the case study site – Fresh Foodie UK. The interview sessions were carried out over three continuous working days, from November 2013, at the Fresh Foodie UK. The first three days were the main interview sessions set by GPDM4. Meanwhile, the next day (day 4) was a standby-day in case there was a request to postpone the interviews from the managers. The interviews were utterly conducted from 26th until 28th November 2013. Each respondent was assigned a day to be interviewed. Six managers were interviewed on the first day of the interview sessions, followed by four and three managers on the second and third days of the interview sessions, respectively. On the first day of the interview session, the interview process was conducted by the

researcher while being monitored by the research supervisor. Any feedback related to the interview procedures and strategies, which were received from the research supervisor, had been improved before the next day of interview sessions.

4.3 Description of Key Informants

Dexter (2006, p. 19) defined experts as “the influential, the prominent, and the well-informed” groups. The informants of this study referred to experts as they had specific characteristics in the food and drink industry. They were experts who had worked at Fresh Foodie UK and represented varied departments and factories, which were closely involved in new food product design and development activities. The informants were selected by the gatekeeper based on their technical background in the new product development stage. Table 4.1 presents the renamed informants, their job title, and their designated department/factory at Fresh Foodie UK.

Due to confidentiality issues, anonymity was maintained to protect the actual respondents. The positions and departments of the informants are mentioned to demonstrate the tendency and variation of the responses provided by the informants based on the department. Therefore, each informant was anonymously re-identified based on their current position and the number of the interview. The new identification had been consistent with the ethical requirement to protect the confidentiality of the respondents. For instance, the gatekeeper was the Product Development Manager and was the fourth interviewee; hence the gatekeeper was labelled as ‘GPDM4’. As for the validity issue, all the informants were managers and were considered as credible sources of information.

Key Informants	Job Title	Department/Factory
GPDM4 PDM13	Product Development Manager Product Development Manager	Product Development
AM3 AM10 CMA7 CM11 CM14	Commercial Account Manager Commercial Account Manager Commercial Management Accountant Commercial Manager Commercial Manager	Commercial
Acc5 FC8	Accountant Financial Controller	Accounting & Finance
FacM16 FacM9 FacDM2	Factory Manager Factory Manager Factory Development Manager	Factory 1 Factory 2 Factory 3
FT6	Food Technologist	Research & Development

Table 5: List of Managers

They were the most suitable informants for this research based on two reasons:

- i. All informants were carefully identified and selected by the gatekeeper. The gatekeeper had more than two years of working experience with the new product development team at Fresh Foodie UK.
- ii. All informants had experienced from the design and development stages for the production of new food products. Furthermore, with the vast experiences, the selected informants could provide significant information on the cost management used during the development of new food products.

Based on the above reasons, the researcher understood and explained the organisational readiness towards the implementation of target cost management for new product development stage.

4.4 Research Context: Fresh Foodie UK

This section discusses the qualitative findings on Fresh Foodie UK history. The data were obtained from interviews, company internal documents (operation procedures, presentation materials, and reports), observations, and company website. The company is the subsidiary of Foodie International founded in the 1980s. At the time of the study, the company produced a vast amount of food products and employed almost 20,000 employees in the UK and across the world. The company vision is to grow and to be recognised as the world's leading fresh food manufacturer. The information gathered from the company website revealed that the management team had designed four primary strategies that allowed the company vision to be achieved. The strategies are listed in the following:

- i. To build on the company's leading positions in high-potential, fast-growing fresh prepared foods markets;
- ii. To leverage the company's strong customer relationships to drive mutual and profitable growth;
- iii. To set the industry benchmark for safety, quality, service, and innovation through the talent and commitment of our people; and
- iv. To deliver sustainable long-term growth through capital investment and a continued focus on efficiency.

The company designed its core values to inspire the management, as well as employees' beliefs and commitments in their everyday business activities, including establishing a secure connection with existing and potential customers. Table 4.2 presents the five core value statements of Fresh Foodie UK. Fresh Foodie UK is one of the subsidiaries for Foodie International and located in the East of England. Fresh Foodie UK's history began in the early 1960s when it was opened for banana processing and packaging

centre. In the late 1970s, Foodie International transferred freshly prepared food business operations to Fresh Foodie UK. The restructuring has expanded Fresh Foodie UK into the Group’s largest operations site in the UK, which contributed to 89% of group sales. In the year 2015, Fresh Foodie UK added to almost £2 billion of the Group’s revenue growth.

Core values	Description
Customer care	The company is committed to offering outstanding service, quality and value, and never forgetting that the company’s relationship with the customers is pivotal to the company’s success.
Motivation	The company encourages personal initiative and empowers its people to make things happen. The company motivation comes from the determination to succeed in ‘all we do’.
Teamwork	The company believes that everyone has a valuable part to play in the success of the business. The company aims to communicate effectively and is committed to the highest standards of ethics and integrity.
Innovation	The company thrives on new challenges, looking for innovative ways to grow and improve their business further.
Getting/keeping it right	The company strives to deliver the right result every time in the most effective way of providing value for their customers and stakeholders alike.

Table 6: Company’s Core Values

Fresh Foodie UK’s top management had been featured for continuous excellent performance in the global food markets by orchestrating four listed strategies. The strategies are meant to increase sales and efficiency at Fresh Foodie UK by improving product’s ingredients, improving testing rooms, relocating manufacturing operations and administration, as well as remodelling product development process. The top management is committed to ensuring that the company’s vision and mission adhered to and the evidence can be seen through the successful delivery methods practised.

Through the observations made, the researcher found that the company's business strategies and core values were presented in the form of posters and hung in every corner of the office and factory. The company printed and distributed flyers that contained details of the company strategies and core values to all staff members. Consistently, the findings from the observation and individual interviews, all 13 informants displayed clear awareness of the goals and objectives of the company. Furthermore, most of the informants claimed that the methods used by the company had motivated all staff members to continue to support the aspirations of the company.

4.5 In-depth Interview Findings

This section presents the results of the in-depth interviews conducted with 13 informants from Fresh Foodie UK. The qualitative analysis employed selective coding of the interview scripts to arrive at themes and categories based on the research questions. The groups were derived inductively from the data during the process of coding and analysis using both Nvivo and manual review. Response patterns were also compared to the theoretical considerations drawn from the literature.

As advised by methodologists (see Eisenhardt, 1989; Yin, 1994), the discussion incorporated relevant phrases from the in-depth interviews to express the experiences and the viewpoints of the key managers. The analysis and arguments were organised into the following four sections:

1. Section A – Findings of the respondent profiles, new product development, cross-functional activities during new product development processes/stages, and cost management during new product development processes/stages.
2. Section B – Findings based on Rain's theoretical framework.
3. Section C – Results derived from the company cost data.

4. Section D – Results derived from the phone interview.

4.5.1 Management Profiles

A summary of the demographic information of the management is presented in Table 4.3. There were more female informants than males (61.5% and 38.5% respectively), while the level of industrial experiences ranged between 5 and 7 years (46.1%), followed by 2 to 4 years (23.1%), above 11 years (23.1%), and 8 to 10 years (7.7%). Most of the informants' current position in the organisation had been attained via promotion (53.8%), switched job from another company (38.5%) and a new entry (7.7%). Finally, as for the informants' level of new product development knowledge, 76.9% of them had a high level, followed by 15.4% to be at the moderate level, and 7.7% of the informants had low-level knowledge.

In describing the results, the data are presented with direct quotations to demonstrate trends and variability of opinions. In the early session of the interviews, the managers were asked to provide their personal information and working experiences associated with the food and drinks industry. All the managers started their career with the food and drinks industry and most of the informants were females. With respect to employment, 54% of the managers had ample experience in various levels in the organisation before they were promoted to the management level. As commented by the Commercial Management Accountant:

“I have been working with this company for seven years. Three years ago, my previous position was production manager. I have also worked in a different level of position with this company before promoted to the current position.” [CMA7]

Apart from CMA7, another informant (GPDM4), commented:

“I was appointed as a product development manager since the last two years after completing my A-levels.” [GPDM4]

As for the level of experience in the food and drinks industry, 46.1% of the informants spent between five and seven years, while 23.1% of the informants recorded above eleven years and two to four years of working experience each. The informants were requested to describe their responsibilities with the new product development at Fresh Food UK. As presented in Table 7, most of the informants (76.9%) were actively involved in the new product development stage. Except for GPDM4 (only past two years assigned as a manager in new product development department), the rest of the informants had either moderate or high level of participation and responsibilities in the product development department. Two of the informants claimed:

“Normally we get involved at the final stage of product development before production.” [FacM9 and FacM16]

Most of the informants declared that they had previously been assigned to a new product development team for seasonal events or specific orders from their customers. For instance, the company’s accountant was responsible for ‘monitoring and controlling costing and finance of new products’. The informant stated:

“The discussion with the new product development team is regularly carried out to ensure the product could maintain the company’s desired margin and to protect product and company’s profitability.” [ACC5]

Management characteristics (n = 13)	All informants (in percentage)
Gender	
Male	38.5
Female	61.5
Current position in the organisation	
Promotion	53.8
Switch company	38.5
Fresh entry	7.7
Industrial level of experience	
< 2 years	0.00
2 to 4 years	23.1
5 to 7 years	46.1
8 to 10 years	7.7
> 11 years	23.1
new product development level of participation	
High	76.9
Moderate	15.4
Low	7.7

Table 7: Management Profile

The product development manager pointed out:

“The product development team was established ‘to design and develop unique products for Retailer T.’” [PDM13]

“Dealing with the customer’s margin, as well as proposing acceptable margin to the retailers, is part of product development activities at the early stage before the production.” [CM14]

In spite of this, the product development manager explained:

“I am responsible for new product development process (from concept to launch) starting with a briefing to consumers, dealing with Retailer W, and analysing the company margin. I am also dealing with feasibility study with the other departments, such as finance and material ... and also presenting the product’s concept to the Retailer W.” [PDM13]

The other roles of selected management are presented in Table 8.

Key Informants	Roles
PDM13	<ul style="list-style-type: none"> • Monitoring production activities at labour and automated oriented factory.
AM10	<ul style="list-style-type: none"> • Assisting commercial team during the idea generation stage with Retailers T and W. • Aiding the finance and account department to establish cost data for a product.
Acc5	<ul style="list-style-type: none"> • Advising, monitoring and controlling costing and pricing activities for new products.
FC8	<ul style="list-style-type: none"> • Protecting the company’s present and future profitability, meeting company and government’s standards, and maintaining the company’s profit margin.
FacM9	<ul style="list-style-type: none"> • Responsible for products with high volume, low complexity, and highly automated features. Previous roles include leading the team ‘towards company profitability and safety by producing high-quality products efficiently’.
FT6	<ul style="list-style-type: none"> • Assisting new product development team to ‘develop a product based on customer’s need and within the estimated costs’ during the idea generation stage. • Rectifying the products based on feedback received from the departments and retailers during the feasibility study and customer submissions, respectively.

Table 8: Selected Management Roles in New Product Development

4.5.2 New Product Development

As for the informants' perceptions on new product development, most informants claimed that developing a new product was very challenging, time-consuming, and required dedication team. The commercial manager noted the following:

“The food industry is a fast pace process with ever-changing trend and growth, and the new product development team has to work harder for the demands of our customers.” [CM11]

In supporting the commercial manager's point of view, the factory manager stressed:

“I experienced things that are so difficult during the new product development process, ... the company, sometimes, spent so much effort in maintaining the types of costs based on the retailer's cost estimation. For instance, there are some modifications in one of the factories in response to the estimation provided by the retailer.” [FacM9]

Subsequently, the product development manager illustrated that:

“The company's productions will enormously increase during special seasons, such as Christmas and New Year. Hence, the new product development team can be bustling before the celebration starts.” [PDM13]

In concluding the other manager's statements, the commercial manager expressed:

“... stressful ... I must manage to hand over the product's concept within 12 to 14 weeks, and launch the food product in about 18 weeks after trials.” [CM11]

It seemed that all the informants' claims were consistent with the achievement of Fresh Foodie UK. As commented by the Factory Development Manager:

“Fresh Foodie UK has recorded enormous changes in the production of new products and generated around £36 million turnovers from Factory 3.” [FacDM2]

Factory 3 has recorded the changes in food productions within 12 years due to new product development. According to the factory development manager:

“About 10 years ago, I was involved in the production of five types of food products ... over the past two years, we at Factory 3 produced about 50 types of food products.” [FacDM2]

The findings corresponded with the report published for the year 2012, where the company produced over 6,000 food products across 18 varied categories. Most of the products manufactured were for major global grocery retailers and international foodservice operators (Fresh Foodie UK Report, 2012).

4.5.3 Cross-Functional Activities

Cross-Functional activities between departments in new product development are one of the key strategies for developing a successful food product. The factory development manager described the involvement of the factory in the new product development activities and commented:

“In my opinion, the product development department plays important and close roles with the other team of a new product.” [FacDM2]

However, some managers expressed their concern over the collaboration with the new product development department. For example:

“I have tried to explain to the new product development team ... if we cost it correctly and we do the process and deliver the products efficiently, the profits will easily flow to the company. ... and sometimes it did not happen as expected.” [FT6]

In support, the Commercial Account Manager illustrated:

“[T]he new product development should be more receptive to change or improve as I believe that we (managers from other departments) also are responsible for new product development when the company received an order for the first time.” [AM10]

In spite of this, the Food Technologist manager added:

“[T]here is a suggestion for product development department to closely work with the departments, including factory line to control the cost related to the trial programs.” [FT6]

The answers provided by the informants reflected an active collaboration among departments, but specific issues highlighted needed further improvement to ensure the success of new product development.

4.5.4 Cost Management Activities

In the interview, the managers were asked to share their experience in cost management activities in Fresh Foodie UK. Overall, most managers reckoned the importance and benefits of managing and controlling the costs of food production. Besides, most managers also acknowledged the role of costs during product

development activities. As for the costing operations and new product development, this study used follow-up questions to ‘extend the responses provided by the managers’ (Qu & Dumay, 2011). The managers were asked to share their perceptions about costing activities and cost management system during new product development activities. Overall, the managers acknowledged that the conventional cost management approach was practised. However, some managers had begun noticing flaws in the conventional costing activities and they commented differently about the emerging issues, for instance:

“[T]raditional cost management is less effective to track and produce accurate costs of the product.”

[AM10]

“[T]raditional cost management resulting in low-cost feasibility and cost accessibility.” [CMA7]

The interview with the Accountant also revealed that Fresh Foodie UK only used Microsoft Excel spreadsheet as the database to record costing information on food products, as shown in Figure 11. The product categories are left anonymous. This database was created by the Accountant (Acc5) and protected with a password. The database contained details of cost information that managers had to retrieve for new product development or future product development costing. The drawback of this spreadsheet is, the details of cost data for all units of products were not published as required by the organisation. The database could only be accessed by staff members attached to the finance and account department, and not by other department managers. Managers from other departments who need the cost information must notify the finance and account department. Despite approval given by the commercial manager to access the database, there is a shortcoming that needs further attention from the finance and account department.

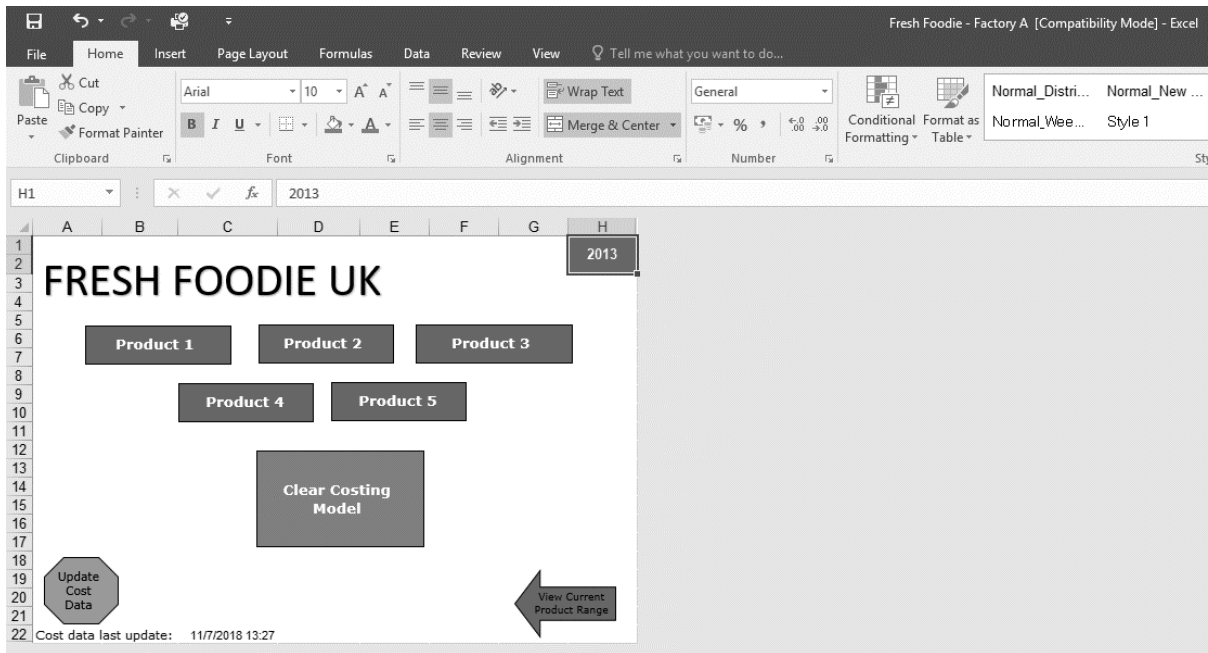


Figure 11: Front Page of Fresh Foodie UK Cost Data

The commercial manager stated:

“I think it (the security level) is very good ... but the costing model is sometimes inappropriate ... if we do not get it right, every effort from the departments is for nothing, and it will be diluted ... achieving the accuracy of costing is the real weakness in new product development.” [CM7]

Another problem with the conventional cost management system is that it appeared to be less organised and did not improve the value of product and cost reduction exertion. The commercial manager remarked:

“If you have an idea about the cost before the process was completed, then you can do the value engineering instead of waiting until obtaining the cost at the end. This did not happen with our project because value engineering came after the completion of cost estimation.” [CM14]

In support, the product development manager (PDM13) and the food technologist (FT6) expressed concerns over the cost incurred during the trial stage:

“Substantial use of raw materials during product’s trial was cost-ineffective. The company must attempt to minimise raw material usage by limiting the number of product trials because the company did not recognise costs incurred during the trials as part of the product cost.” [PDM13]

“These concerns correspond with the product development process at Fresh Foodie UK as the company has two-stage trials: ‘customer submissions’ and ‘factory trials’ stages. Both stages involved immense activities of trials and used a significant amount of raw materials.” [FT6]

In spite of the mixed statements, the factory manager (FacM9) and the financial controller (FC8) depicted:

“Based on my experience, the efficient cost feedback requires sufficient detailing efforts in the designing phase of new product development. It is done so to result in more work during early phases of design as compared with the projects not aligned with the approach of target cost management.” [FacM9]

“Hence, any effort to improve the present approach is highly recommended.” [FC8]

Given the above illustration, the product development manager (GPDM4) mentioned that there was an expectation of a new costing model from the managers:

“... the cost estimation system from the initial phases of the product development would be beneficial. If something is done in earlier phases, it is better for the product development phases. A system for the information modelling in which there is more integrated design with the people involved in the process in the conceptual design, then you can estimate the cost in the more effective way, and it would be helpful for the organisation and customers’ requirement.” [GPDM4]

In response to the above arguments, the accountant (Acc5) was aware that the costing model had to be improved or changed. The accountant claimed that:

“[T]he company yet plans to purchase new software, but the current costing model has been improved to promote the cost feasibility and every department in the Fresh Foodie UK has access to the costing data.” [Acc5]

4.5.5 Six Elements for Target Cost Management

Based on the in-depth interview conducted, this study assessed the Fresh Foodie UK’s target cost management readiness in the new product development stage through the Rain framework’s six elements (corporate strategy, profit goals and objectives, customer, employees, environment, and leadership).

4.5.5.1 Corporate strategy

The vision of Fresh Foodie UK’s is “to be recognised and respected as the world’s leading freshly prepared foods provider” (Fresh Foodie UK’s Information Pack, n.d.). The company aimed to achieve its profitable growth through four-point business strategy. The managers’ feedbacks seemed to highlight the company missions and visions clearly. Besides, all managers clearly understood and knew how to achieve the targeted objectives. This finding is in line with Von Krogh’s (2001) finding that most of the managers were satisfied with the company’s attention on strategic growth opportunities, as well as organisational effectiveness and

efficiency. The managers were very satisfied with the approach the company used to communicate about the company visions and values to all employees. Based on the observation, Fresh Foodie UK actively ingrained its strategic views and values across the organisation via effective presentations, including via printed materials such as poster frames and booklets, as well as displays in lobby, administrative office, and factory. This condition is linked to Trott (2008) and Daft's et al., (2010) suggestion that organisation that implements the strategic vision and continuously be ahead of the competition as it fine-tunes its integral efforts, most likely to be rewarded by the market. It is vital to building competitive advantage proactively.

However, some managers hoped that the company could give more attention to the issue of environmental as one of the company visions. The Factory Development Manager stated:

“I was quite impressed with the company's visions on this day... it is time for my employees to recognise the elements related to the environment as their vision.” [FacDM2]

The Commercial Manager further stated:

“This company and the entire food industry have a direct connection on environmental issues. I believe that this company has clear objectives on the environment but not explicitly stated in the visions or values.” [CM14]

The next question is more specific to new product development. The researcher posed a question about the relationship between corporate strategy and new product development. The Commercial Manager claimed:

“My experience tells me that this company has improved the relationship between corporate strategy and new product development. This company, recently, focused more on customers. This has enabled us to identify and meet the high demand for new products.” [CM11]

The Product Development Manager further explained:

“This company has a very clear vision for new product development. One of the strategies is to build a strong relationship between the company and our customers. This company has invested in a new market to meet the high demand for Chinese foods. This achievement proves that the company is always aware of the potential of new products for our local and international markets.” [GPDM4]

One of the long-term corporate strategies of Fresh Foodie UK is “customer care”, as the company gives priority to long-term relationships by recognising customer requirements. This effort gave the opportunity to the company in strengthening its new product development stages. Bhuiyan (2011) claimed that a new product should comply with business strategies, and these are derived from the company corporate strategy and objectives. The development of a new product is vital to business survival and success (Cooper, 2013). As cited by Kahn (2013), the success factor included market-driven and focus on customers (Cooper, 2011a).

4.5.5.2 Profit Goals and Objectives

The second element of the assessment is the company’s profit goals and objectives. Each company has its own short and long-term profit goals and objectives. From the analysis, most managers were satisfied with the company’s short and long-term profit plans. The managers claimed that the company’s profit goals and objectives were correlated and disseminated across functions,

departments, and new product development cycle. Theoretically, of particular interest is whether product differentiators, cost leaders (Porter, 1985) or implementers (Cooper & Slagmulder, 2004) and confrontational strategy are more likely to adopt a target cost program as a function of their profit goals and competitive environment. Despite the agreement, a manager pointed out the difficulties faced related to profit plans.

“The company has scheduled the productions by monthly and annual bases ... Changes in the commodity market have much impact on the company’s short- and long-term term profit plans. Sometimes, we have difficulties to achieve short-term profit plans and must restructure our long-term profit goals. My plant (factory) often receives the direct impact of the changes.”

[FacM16]

The managers were also required to share their satisfaction related to the company’s cost management strategy that had been applied during the study period and to what extent the approach used had an impact on company profit goals and objectives. Most of the interviews revealed that Fresh Foodie UK employed target gross margin. In sharing the strategy, the Accountant claimed:

“[T]arget gross margin was used to deal with the overhead cost that not directly assigned to costs of a new product. Furthermore, the company currently facing stiff competition from the competitors and struggling to meet the retailer’s requirements. Introducing a new cost management approach could reduce pressure throughout the organisation to achieve its objective.” [Acc5]

The above qualitative findings appear to be in line with that reported by Nagle and Müller (2017) that target costing is the means to achieve competitive advantage via active management of inevitable

trade-offs and constraints faced by any organisation that offers goods and services to the market. Besides, emphasising proactive, rather than reactive, cost containment, target costing ensures short- and long-term profitability and success by putting customer needs and functionality first (Sakurai, 1996), using them to drive the design, development, manufacture, and provision of products, which will redefine the competitive playing field profit goals and objectives (Kumar & Reinartz, 2018).

4.5.5.3 Leadership

According to Goethals (2014), leadership aims for social nature achievement through the outstanding performance of a business organisation. From the interviews, the managers were asked to provide their perceptions of leadership quality in the Fresh Foodie UK. The Commercial Manager [CM11] stated that “leaders in the Fresh Foodie UK have the element of trust and understanding... they are flexible and always share the company’s values and goals”. The Food Technologist added,

“My head of department always encourages creativity and usually gets involved with the new product development process.” [FT6]

Looking primarily at leadership practice, Ahn et al., (2004) emphasised, that to be useful, the leadership development initiatives must be taken into account and change must penetrate three levels of the organisation – the individuals, the teams, and the organisational culture. Goleman et al., (2002) argued that the improvement processes must create adequate space for the learning process to take place, hence making it challenging but not too risky.

The Product Development Manager commented:

“...the managers noticed there was leadership participation and supported during new product development process despite it was not regularly practised.” [GPDM4]

Overall, leaders in the Fresh Foodie UK shared their goals with the management and the employees, wherein the leaders applied both top-down and bottom-up approaches to achieve the company visions and objectives. The findings are in agreement with that depicted by Goleman et al., (2002), who revealed that the leader must embed strategy in the organisation: choose an excellent team, pick the right roles, and let the rest of the team make the strategic moves.

4.5.5.4 Customers

Rains (2010) proposed how customer input is required throughout the new product development process, which is illustrated in Figure 12. At the time of the study, the company's focus has changed to customers, instead of the manufacturer. Customer-focus was clearly emphasised in organisation website, company profile, and visions. Similar to that found in some studies (see Ansari et al., 2007; Lind & Strömsten, 2006; Tani et al., 1994), understanding customers' perceived value is critical for the entire product development process and translating customers' perceived values into design attributes.

According to the financial controller:

“...the process of developing a product is market-oriented process while using the current cost management approach. It involves the minimum standards for the quality and functions from the customers' perceptions.” [FC8]

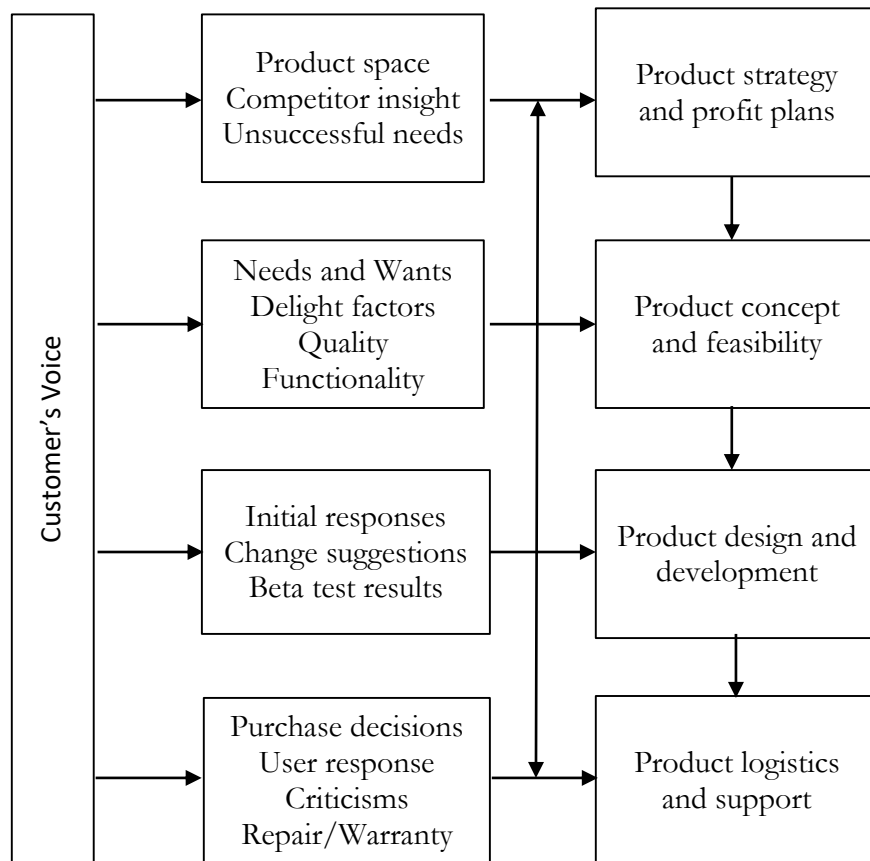


Figure 12: Customer Input in New Product Development Stages

During the interview, the managers acknowledged that the process sometimes made the team and the organisation have less room for repose. A manager commented:

“Retailer W generally sells unique products. Sometimes, the retailer requested us to produce a product within a short time.” [CM7]

“Sometimes the company has an emergency meeting based on the ad-hoc request from the retailers ... the pressure from the retailers ... put every department working at a non-relaxed pace.” [PDM13]

The managers classified the customer as the retailers and the internal stakeholders (staff and organisation). From the interviews, the company always aimed to understand and fulfil the needs and demands of consumers. Therefore, there is a retailer and supplier participation during the new product development process. Driven by the 'voice of the customer' to better understand what product and service attributes are needed, target costing becomes the means to long-term growth attained by doing what the customers want; better and faster than the competition (Cooper & Slagmulder, 2004).

During the interview sessions, some managers reflected their thoughts about customers, especially retailers.

“I think it is somewhat confusing to talk about retailers' perceptions because it is not easy to highlight their needs and requirements. They are sometimes stressed, and when they say something, it means that there can be some contradictions.” [GPDM4]

“I believe that the new products are developed for fulfilling the retailer's price and the requirements of the quality while being opposed to the manufacturing cost of the products.” [Acc5]

During the follow-up question related to the power of retailers, the Commercial Management Accountant revealed that:

“Retailers sometimes move a launch date as they are less flexible on the requirements of a new product as compared to the company. The retailers could switch to the other manufacturers if the company is not able to fulfil the requirements of retailers. I sometimes feel stressful and painful to complete, but I am aware of the fact that the company cannot ignore the needs and requirements of retailers.” [CMA7]

The above statement is consistent with the findings reported by Abdel-Kader and Luther (2008). They claimed that the issue of "customer power is particularly relevant to food and drinks manufacturer because of the concentration of the food and drink retail sector" (ibid, 2008, pg. 21).

Overall, all the managers were able to differentiate the characteristics of customers, their concerns over the impact of retailer-driven timescale on staff performance, and new product launch schedules. These findings are also in line with prior studies conducted by Swenson et al., (2003) and McNair et al., (2001), who reported that the best practice companies demonstrated certain commonalities in their operations and the way in which they supported the target cost management activities. Swenson et al., (2003) revealed that the best practice companies had effective organisational structures, responsive to customers, active product development process, and active participation of supply chain to achieve cost target objectives.

4.5.5.5 Employee

Most of the managers were satisfied with the company policies and practices concerning the organisation, as well as the new product development process. The managers also claimed that the condition had facilitated and motivated the management and the employees to be more proactive and creative. In light of this, Zsidisin et al., (2003) agreed that the ability of all individuals to fully participate in cost management activities could lead to the development of valuable knowledge.

The Factory Manager commented:

“I have seen the improvements from the technology to the equipment in the organisation. The technical standards within the factory appear to be consistent and safe. Recently, the working

environment has also improved. However, there is the requirement for providing continuous training program through the human resource department.” [FacM9]

Further interview with the managers revealed that the company was no longer sponsoring the employees to participate in training programs specific for particular tasks or functions. The managers and the employees had to gain approval from the Human Resource department to join the training conducted on weekdays. In light of this, several studies found that practice presents a prime opportunity to expand the knowledge base of all employees (Bailey et al., 2018; Davis et al., 2016) and will give the employees greater understanding of their responsibilities within their role, and in turn, build their confidence (Omotayo, 2015; Keep, 2014). These findings are rather puzzling given the inconsistent finding in this study on training and development when compared to that depicted in the literature concerning employees.

Accountant (Acc5) felt that greater provision of training courses could deliver benefits to the organisation and the employees. As for training courses, the managers requested for specific training programs, such as new product development, cost management, and lean manufacturing workshops. Regarding training courses, the product development manager claimed:

“We (the Fresh Foodie UK) are currently facing stiff competitions and challenges from the market ... an extensive workshop on new product development is crucial for improving the development process and product.” [PDM13]

On the fear side, cost setting negotiations shoulder too much of the cost reduction pressure, particularly smaller partners with less power within the chain. Design changes and cost-cutting measures may even cause employees to fear for their jobs and work against the target costing process (Helms, 2005). The Product

Development Manager (PDM13) also agreed that the teamwork spirit is utterly vital during the new product development process, as it can contribute to the company success through continuous training programs. From the interviews, the managers appeared to be committed to meeting the 'target times to launch' new product by working collaboratively within and across departments, although high constraints on training program could occur due to tight timescales during the product development cycle. Overall, most of the managers agreed that specific training could ease knowledge and information sharing, apart from enhancing the new product development process and business outcomes.

4.5.5.6 Environment

The interviews revealed that some managers seem unaware of the company objectives and commitment on the environment, although the company continuously promoted their commitment to the environment through legislation compliance, organised environment management team, and participation in the activities of waste management program (Fresh Foodie's Annual Report, 2012-2015). From the company's annual report, the Fresh Foodie UK was aware of their responsibility in managing resources carefully and in reducing the direct impact of the business operations on the environment (Annual Report of Fresh Foodie UK, 2015). Besides, the company had set-up specific management board risk management, led by a group of technical directors responsible for Health & Safety and Environment, including for making decisions and acting in the present, usually guided by their experience and information available to them about the past. However, the policy on environmental issues and sustainability is not part of the core values given attention by this company (see Section 4.2).

Feedback from the interviews revealed that all the managers agreed that the issues of environmental sustainability are one of the essential topics that should be emphasised in the organisation, and is similar to

that found in Epstein's (2018) study. The Food Technologist and the Commercial Manager claimed, respectively:

“We (the Fresh Foodie UK) are dealing with the food products and the largest manufacturing industry ... we might produce more waste than other industries ... I am not aware of any activities, but I strongly support any efforts or programs for the environment.” [FT6]

“The company should educate and encourage the employees to take part in the environmental activities.” [CM14]

Further interviews with the Accountant revealed that environmental costs were not recognised as the costs of the food product and the company usually deferred the costs. The Accountant further admitted that the accounting system seemed less suitable to capture environmental impact. Nevertheless, the Accountant believed that these costs would be part of financial reporting. With regard to the Accountant's statement, Schaltegger and Burritt (2017) argued that advanced accounting systems can provide up-to-the-moment operational data (cost and physical units) that assist a firm to reduce and to avoid wasteful and environmentally damaging practices before they are transformed into significant expenses in the form of purchases for pollution control devices, fines for exceeding regulatory limits, and clean-up costs.

Concerning the discussion above, the study outcomes revealed that Rain's framework did offer the managers a tool to attain correct decision-making in the costing area, which can help a company meet its goals. Among the six elements, corporate strategy, focus on long-term profits and goals, leadership, and customer focus emerged as significant in achieving sustainability and success of Fresh Foodie UK. Nonetheless, the two other elements (employees and environment) required further assessment and

intervention program on business activity to support managerial decision-making and to help the firm gain and maintain success.

Although the contemporary market is dynamically changing, considerable variability of the business environment increases and makes it necessary for firms to look for methods of assuring survival. From a business point of view, the risk is understood as uncertainty or the possibility that desired expected profits will not be achieved; that actual future profits will deviate from the profits expected to result from managerial decision-making processes (Rain, 2010).

4.5.6 Fresh Foodie Cost Data

Cost data were a crucial criterion in Fresh Foodie UK. Although the primary aim of the company is to gain as high profit as possible, costs always influenced in determining a company's success or failure rate. Since the cost can signify the direction of a company, a company must have efficient and sufficient information to manage and control the cost. As observed, Fresh Foodie UK applied Microsoft Excel to record cost data that enabled the Accountant to estimate the costs of new products. Information included in the cost table refers to machine hour rates, labour rates, cycle times, and operational cost. As observed, the Accountant recorded cost data in three different groups of costs, as suggested by Ansari et al., (2010), which were: feature cost data, attribute cost data, and function cost data (ibid, 2010 p. 118).

The Accountant, however, admitted that the cost information recorded in Excel was specifically designed for financial reporting and inventory valuation. The cost table also ignored other cost elements, such as the cost of sending waste to landfill and depreciation on new investment. The Accountant revealed that the cost table was not updated on a regular basis and recorded less specific information. The Accountant (Acc5) claimed:

“Regular changes of costing table will affect the company’s target margin.”

This statement contradicts that depicted by Ansari et al., (1997), wherein target cost management must have particular cost information and updated on a regular basis.

The researcher further reviewed the products of Fresh Foodie UK and found that some of the products did fail to achieve the company target margin. The five selected main products produced by Fresh Foodie UK are presented in Table 4.5, in which they were anonymously labelled as NPD1, NPD2, NPD3, NPD4, and NPD5. In practice, Fresh Foodie UK developed cost data for each product which recorded cost estimation using Microsoft Excel. It is worth mentioning here that all products should have similar costing criteria, but each product in the studied company had unique costs of ingredients and quantity. Therefore, without loss of generality of information provided by Fresh Foodie UK, details about the costing of components are explained in the following sections and subsections.

As presented in Table 9, product NPD1 accounted for annual sales amounting to £2,751,840, annual cash of £800,843, and overall target margin of 25% was achieved as the net margin accounted for 29.9%.

Product Code	Annual sales	Annual cash	Target margin (%)	Net margin (%)
NPD1	£2,751,840	£800,843	25	29.9
NPD2	£314,600	£87,644	35	29.9
NPD3	£448,230	£129,648	35	30.6
NPD4	£269,360	£190,498	25	20

Table 9: Target and Net Margin of Fresh Foodie UK Products

As for product NPD2, it was noted that the annual sales were £314,600 and the annual cash accumulated was of £87,644. The total cost per unit was 78.91p and net manufacturing selling price was 112.6p. The net margin was of 29.9%, and therefore, the target margin of 35% was not achieved. Similarly, product NPD3 accounted for £448,230 of annual sales and £129,648 of annual cash. It achieved almost 30.6% of net margin but failed to hit the target margin of 35%. In this case, the total cost per unit was 61.80p and the net manufacturing selling price was 89.0p. Product NPD4, on the other hand, accounted for annual sales worth £269,360 and a net margin of 20%, which was even lower when compared to the minimum net margin of 25%. In this case, the total cost per unit was 57.36p, while the net manufacturing selling price was 71.7p. These clearly show that the net manufacturing selling price of NPD4 significantly relied on the total cost. The above findings supported the claims made by Accountant (Acc5), in which some products failed to achieve the company target margin because some retailers had set their margins, and the company faced difficulty in negotiating the price. These findings support the previous finding of “customer power” (Abdel-Kader & Luther, 2008). As far as the targeted costs are concerned, it is clear that Fresh Foodie UK had managed to spend a very good amount on each of their four products while failing to hit the company target margins. There may be a reason that Fresh Foodie UK anticipated massive profits from products that were not truly favoured or consumed frequently by clients. This does not apply to all products in general, but only for the products in this company. Therefore, Fresh Foodie UK would need to take effective steps in planning and pricing accordingly.

For instance, Fresh Foodie UK would need to conduct parametric estimating on its product creation, after which Fresh Foodie UK would want to undertake product cost models, as well as design for manufacture and assembly, in which they should set the targeted costs. The parametric estimation would ease Fresh Foodie UK to set targeted costs, whereby these targeted costs can be achieved effectively afterwards.

Process design refers to the third phase in the development of the product, which then set the standard for

the product, and lastly, in the production phase, the cost accounting systems would be concerned. All these phases, if given equal attention, would be able to provide useful suggestion to Fresh Foodie UK to create effectively targeted costs for all selected products, and then, to achieve the pre-set targeted margins.

4.5.7 Phone Interview

Finally, the third part discusses the outcomes retrieved from two phone interviews, which had been carried out to confirm the information collected from the managers of Fresh Foodie UK. The two informants, classified as Experts 1 and 2, were not from Fresh Foodie UK. Both refer to experts from the food and drink industry in the UK. Both informants were asked to share their opinions about the cost structure and how food manufacturing companies assigned their direct and indirect food costs (raw materials, labour, and overhead).

Based on the phone interview sessions, Experts 1 and 2 explained about the cost structure and how food manufacturing companies assigned their direct and indirect costs. They mentioned that practically most of the food manufacturing companies applied the rule of thumb in cost – 30% on overhead and the remaining 70% for both raw materials and labours. According to Expert 1, companies do attempt to reduce product costs and the efforts that the company take to reduce costs are often short-term in focus, tend to be transactional in nature and fail to achieve a sustained impact on the direct cost of the product itself. According to Hill (2017), understanding the total cost is critical, which does not only mean knowing what goes into making the product, but also identifying and recognising the "hidden" costs that arise when decisions are made in the name of reducing product cost that has a negative impact on the revenue side of margin calculations.

Despite the 30/70 rule, the costing method was still applicable in the manufacturing industries. The commodity price fluctuation scenario could also affect the cost structure and automatically raise the price of the products. This information is consistent with the statement provided by Acc5: “Daily changes of costing table will affect the company’s target margin”.

By assigning direct and indirect food costs, Expert 1 highlighted that:

“It is a frustrating situation in dealing with the retailers.”

Sometimes, due to the high level of demand, the retailers take a longer time to correspond with the manufacturing company. This situation eventually causes the supplier to switch to an alternate manufacturer if their request goes unfulfilled. Most managers admitted the influence of external characteristics, and they refer to this situation as the ‘power of retailers’ or ‘power of customer’ (Abdel-Kader & Luther, 2008). According to Lovreta (2015), in the ever-growing market share, there arises the opportunity for retailers to demonstrate their buying power to producers and their suppliers. In such condition, the power imbalance between members within the marketing channels creates the opportunity for more powerful members to act opportunistically and to impose force (Belaya & Hanf, 2009), which eventually can endanger cooperation and efficient functioning of cost structuring. In order to overcome this situation, Expert 2 added that the company must have some strong negotiation skills to deal with retailers, including customer relationship management.

Due to the opposite side of this issue, Fresh Foodie sometimes adhered precisely to the retailers’ requirements until they affect the company profit goals. These comments are in line with the claims made by Acc5 and FacM16, along being confirmed with Rain’s framework in its fourth element (customer):

“By continuously providing what the customer wants at the price that they are willing to pay for it, you will be well on your way to achieving the ultimate success.” (Rains, 2010)

Although Ansari et al., (2007) stated that understanding customers' perceived value is critical for the entire product development process, including translating customers' perceived values into design attributes; Fresh Foodie UK has no option but to follow the demand made by the retailers. Sometimes, Fresh Foodie UK has to sacrifice its target margin in order to fulfil the requirements made by the retailers and to secure the contract. This initiative has to be taken for the survival of the company and long-term planning. Finally, information obtained from the phone interview sessions offered useful insight into the target cost structure implementation. This signifies that cost is a crucial criterion in a company and the primary aim of Fresh Foodie UK has been to gain as high profit as possible, likewise any other company. Furthermore, it is acknowledged that cost has always played an integral role in determining the success of a company.

4.6 Chapter Summary

This chapter describes the background and the history of Fresh Foodie UK. Based on the qualitative findings, this chapter depicts that the managers did have experience with new product development processes/stages and were able to elaborate the new product development processes that were applied in the company at the time of this study. The findings also demonstrated that the informants had experiences with cross-functional activities about new product development processes/stages and applied the element of cost in new product development processes. This chapter reveals the practice of cost table in Fresh Foodie UK. Finally, the chapter concludes with an explanation and confirmation given by two phone interview informants on how food manufacturing companies assign their cost structure.

CHAPTER 5 DISCUSSION

5.1 Introduction

The previous chapter discusses the qualitative evidence of new product development processes that had been applied in the selected company based on experiences of the informants with cross-functional activities and costing elements in new product development processes for successful implementation of target cost management. This chapter reflects on the significance of the findings in the context of the existing information about the research problem outlined in this study. The first section presents an overview of the research by restating the research background, objectives, and approaches taken in this study. After that, the second section answers the three research objectives by summarising the significant variances between the approach implemented in Fresh Foodie UK and that published in the literature under target cost management. The next section discusses the six elements of target cost management. Finally, this chapter ends with a proposed new conceptual framework on the target cost management implementation process.

5.2 Recapitulation of the Study

This study employed the qualitative case study approach in the selected food manufacturing company. This research exercised in-depth semi-structured interview and applied past hypothetical cost data from the selected company to stimulate target cost accounting processes and to assess the feasibility of using target costs. Besides, phone interview sessions with selected food players were conducted to collect qualitative information in the light of this study, apart from verifying the cost structure and how food manufacturing companies assigned their direct and indirect food costs. These steps ascertained that the research objectives were met, as listed in the following:

1. **Research Objective 1:** To investigate the awareness amongst managers on and practice of target cost management in the studied food manufacturing company.

2. **Research Objective 2:** To determine the extent of target cost management implementation for new product development in the studied food manufacturing company.
3. **Research Objective 3:** To evaluate the extent to which target cost management can be improved in new product development within the food and drinks industry.

5.3 Discussion on Research Findings

The key findings of the three research objectives are summarised and explained within the context of the present academic knowledge.

Research Objective 1 - To investigate the awareness amongst managers on and practice of target cost management in the studied food manufacturing company.

The analysis of this objective focused on whether the Fresh Foodie UK managers have awareness regarding, and practised the target cost management approach. It is notable that all the interviewed managers did indicate that they were completely aware of the concept of target costing and exercised it accordingly. In Fresh Foodie UK, the managers described that the pricing method practised was to reduce the overall cost of products. Target costing, in principle, is the art of avoiding exceeding the customer's approved budget within a project to achieve the desired goal and to minimise cost. In spite of this, all the managers agreed that the fundamental principles of the target cost management systems reflect the information and the decision-making needs of the managers who use them. The managers described that the strategic orientation of a cost management system must incorporate and reflect the strategies of the organisation and the core competencies that support the achievement of strategic goals. Similar to Ibusuki and Kaminski (2007), this study revealed that customer-driven information system design, integration, and use must be centred on defining and meeting customer requirements. The study also found that value-based competitive advantage

and profitable growth stemmed from understanding how and where the organisation created value for its customers. Given this, the managers also believed that the process of integration must incorporate the flows of materials and information across and between organisations, hence highlighting interdependencies.

The study outcomes clearly demonstrated that the decisions and behaviours of managers in promoting innovation appeared to be omnipresent with a significant influence on the outcome of new product development projects. The interviews confirmed some findings from previous studies, in particular, confirming that managers' support and knowledge-transfer between functions are essential drivers of new product development performance. The food technologist expressed: "... there is a suggestion for product development department to closely work with the departments including factory line to control the cost related to the trial programs." This statement indicates that indirect effects also play prominent roles in explaining the influences on project performance. Project planning and process performance do not only have direct effects on project performance but also serve as essential mediators between managerial support and project, as well as firm performance. Nevertheless, the results indicated that some factors mediated the effects of managerial behaviour on new product development performance.

Prior studies have highlighted how difficult it is to study the adoption of cost management practices and how this may improve the performance of an organisation (Baines & Langfield-Smith, 2003). The perception of gaining benefits from practising target cost management has a significant role in its adoption (Chenhall & Langfield-Smith, 1998). For example, Joshi (2001) reported that the adoption rate of conventional cost management practices is strongly related to the perception of their benefits. Findings from this study are in agreement with those reported in prior studies. In fact, the product development manager expressed: "I am responsible for new product development process (from concept to launch) starting with the brief to the consumer and dealing with Retailer W and analysing the company's margin. I

am also dealing with feasibility study with the other departments such as finance and material ... and also presenting the product's concept to the Retailer W". In this regard, the product development manager perceived cost management methods as beneficial to support new product development process and hence, the adoption of cost management methods seemed to be related to this perception of their helpfulness.

The findings revealed that the cost-effective integration should focus on essential data and decisions made within an organisation, instead of on a comprehensive combination of all organisational available data. The factory managers claimed that "during the product development process, I experienced things are so difficult ... the company spent so much effort in maintaining the types of cost based on the retailer's cost estimation. For instance, there are numbers of modifications in one of the factories in response to the estimation provided by the retailer". Additionally, the study discovered that the relationship based on integrated information systems must be based on and highlight the performance of critical transactions and associations across the value chain. Therefore, in concluding above, the interviewees agreed with the practices of target cost management in Fresh Foodie UK.

Research Objective 2 - To determine the extent of target cost management implementation for new product development in the studied food manufacturing company.

In the course of conducting the interviews with the managers, it was necessary to reflect on how the target cost management was being used by Fresh Foodie UK and the structures that embedded the conventional tools. Some essential steps were considered by the management of the company while employing target cost management during the new product development stage. This study revealed that the initial phase while determining the price of a product relies on surveying the business market, wherein the company has to produce new food products. It is vital for the marketing and new product development teams to decide the

arrangement of product elements that customers are destined to purchase, including the sum that they are bound to pay for those components (Zahra & Alireza, 2014; Shah et al., 2011; Lin & Yu, 2002). It is also essential for the teams to determine the apparent estimation of an individual element, so as to ensure the impact on product cost if certain aspects are discarded. It is vital to cut a product highlight later if the team concludes that the component is unviable while yet meeting its product manufacturing expense. Towards the end of this procedure, the team must have an idea on meeting the objective cost that offers the proposed product with specific planning elements, and how it must change the cost upon elimination of some product features (Baharudin & Jusoh, 2015; Shah et al., 2011).

In taking the discussion further, the second critical step when employing the target cost management approach as a cost management technique is determining the necessary cost of product manufacturing. It is the responsibility of the organisational management to supply the evaluation team with a gross margin that has been invested in the product manufacturing so that they can highlight an appropriate cost while evaluating the market trend. By subtracting the ordered apparent perimeter from the anticipated product value, the team should be able to decide the necessary target cost that the product should accomplish prior to production (Kee & Matherly, 2013). In a number of instances, the literature depicts that the planning of a product carries paramount importance in target cost management. The designers and acquisition staff in the group have a significant function in making the product. The obtainment staff members are especially critical if the product has a vast extent of acquired pieces; they should decide segments evaluating by weighing in several aspects, such as quality, conveyance, and amount levels expected for the product. Outsourcing parts may be viable if they are lower in costs. The food technologist, the chef, and the designer must plan the product to meet the cost target, which will probably incorporate various outline emphases to determine which mix of re-examined elements and configuration contemplations results in the most reduced expense (Langfield-Smith, 2008; Afonso et al., 2008).

It is crucial for the management of the company to maintain a continuous pace in organisation or product exercises; once a product plan is completed and affirmed, the team is reconstituted to incorporate fewer fashioners and more modern architects. The group now enters into another phase of lessening generation costs, which proceeds from the life of the product. For instance, cost reduction may originate from waste decreases underway (kaizen costing), or from planned supplier cost reduction (Baharudin & Jusoh, 2015; McLellan & Moustafa, 2011). These continuous cost decreases yield sufficient extra gross edge for the organisation to minimise the cost of the product after some time, in light of expansions in the level of competition. Another job for the evaluation team is to utilise different ways that might help them to deal with cost management and cost reduction strategies in a more convenient manner. For instance, fixing the product with its determined sector is also part of the evaluation team.

It is vital for the evaluation team to dispense the cost reduction objective among different product parts (Dekker & Smidt., 2003; Baharudin & Jusoh, 2015). The approach tends to bring about incremental cost decreases to the same segments utilised as part of the last cycle of the product. It is generally used when an organisation attempts to invigorate the current product with another form and needs to hold the same basic product structure. The cost can be decreased through the approach to tending to be moderately low, aside from bringing about a high rate of product accomplishment, and a short plan period. This shows that the target cost activities at Fresh Foodie UK are not yet fully implemented as companywide activities.

Research Objective 3 - To evaluate the extent to which target cost management can be improved in new product development within the food and drinks industry.

Based on the findings retrieved from interviews and observations, Fresh Foodie UK used conventional costing to allocate costs of manufacturing overhead. Conventional costs do not reveal the true cost of manufacturing for each food category. This approach allocates arbitrary and inaccurate costs of manufacturing overhead. Bloomfield and Luft (2006) claimed that it is essential for the organisations to have competency in making decisions, particularly when product costs and related projects for their associated product lines and products with a specific end goal are required to assess the cost of the new product, including its attributes. The conventional costing is too simple and less accurate to allocate manufacturing overhead. Hence, Fresh Foodie UK should adopt another method to determine the more accurate allocation and total cost of the product. Fresh Foodie needs to adopt activity-based costing to accurately allocate manufacturing overhead, thereby facilitating target cost management implementation. Despite activity-based costing has been considered as an approach suitable for a product already in production, it can capture cost rate tables underpinning target cost management (Cokins, 2002). Activity-based costing has helped most organisations to focus on determining the appropriate cost of their product and services in light of manufacturing cost. The technique is focused on broad guidelines for doling out costs to products, material scrap rates, direct work based on overhead rates, activity-based costing takes into thought product, process, and different contrasts to precisely relate the costs of production with appropriate results (Schulze et al., 2012). Agndal and Nilsson (2009) asserted that determination of costs with particular exercises, such as acquiring, accepting, material, setups, and investigation, is essential at the early phase in the activity-based costing procedure that offers high deceivability to conceivably inefficient exercises. This progression in the activity-based costing procedure is known as 'activity-based management' as it serves as a helpful guide to kaizen costing. Gulamhussen and Guerreiro (2009) claimed that key suppliers play a critical role in product outline, development, and cost. Working intimately with their customer, key suppliers can show extra routes by which elective product plan or preparing decisions can positively, or antagonistically, influence the

supplier's costs. Therefore, the working relationship with suppliers right on time links them to the function-costing group, which can add to enhanced comprehension and improvement of product costs.

Multinational companies across the world focus on target cost management; organisations such as Toyota, Nissan, and NEC do not apply activity-based costing strategies. This seems to repudiate the past passages. However, with the development of companies in regard to activity-based costing, costing practices make it more justifiable. These factors have created the urge for the company to implement total quality management within their practices in order to sustain their position in the marketplace. Chen et al., (2005) asserted that activity-based costing and total quality management help a company to lead to incline production situations. Hence, a high extent of product costs may be specifically distinguished to them.

As highlighted by Jariri and Zegordi (2008), activity-based management is a beneficial approach that the management of the organisations utilises within their operations in helping them to deal with getting a grouping of exercises, separate amongst price and no value, as well as dispense with inefficient exercises. The dominant organisations working across the world have their experience with activity-based costing, and they have determined that it is a systematic way to deal with better-determined costs to products in regard to production cost and market trends. The determination helps the companies to reduce the risk of market failure, for instance, Toyota focused on activity-based costing that had further helped them to improve their processing factories so as to distinguish a high extent of their costs directly to moderately homogeneous product families, and hence, dismissing activity-based costing (Zengin & Ada, 2010).

The analysis of the operationalisation of target cost management during new product development phase on food products suggests that Fresh Foodie UK required difference functional background. For instance, in order to set the target selling price for a new product, R&D is required to determine the market demand and

customer perceived value, and the marketing demands creative and attractive advertisement to promote and sell to customers at the desired target price. In respect of the analysis outcomes, the interviewees agreed on the barriers they faced. Due to the implementation of target cost management, the effect of innovation on business success in the food industry is very much comparable to that in other sectors (Fortuin & Omta 2009). The food market has also become a mature market, particularly in the Europe and US, in which food companies have to deal with cumulative factors of a squeeze from retailers, changing consumer tastes and preferences, private label penetration, and price competition (marketing week). In order to ensure profitability, food companies must introduce a range of new products in the market. The literature indicates that the European food and beverage industry has been rather conservative about its R&D investments and introduces genuinely new products into the market (Costa & Jongen, 2006). In general, most food companies make use of either 'Process-Oriented' or 'Organisation-Oriented' approach in their new product development process. The new product development approach reflects the organisational structure of the company (Moskowitz, Straus, & Saguy, 2009). Many large food companies use the stage-gate based system that helps to focus on prioritised initiatives and ensures that every department can process the work required to bring specific actions to the market (Moskowitz et al., 2009).

Research findings from this case study concerning the project team have confirmed that team tenure is a critical factor in new product development. It is essential to change team composition on a moderate level to ensure sufficient internal and external communication to optimise project performance (Katz, 1982). When talking about new product development, it is also important to distinguish between R&D activities. The R&D refer to entirely two varying disciplines and therefore, demand different management and people (Chiesa, 2001). An essential characteristic of development is project management skills concerned with managing time, costs, and quality of a project. Managing new product development projects are becoming increasingly challenging since development projects are becoming more difficult and complicated. A higher

degree of complexity can be caused by new technologies, increasingly sophisticated customers, and partnered development projects (Kim & Wilemon, 2003a).

Furthermore, in operationalising new product development within the food and drink industry, the redesign of the front-end stages of the company's new product development process needs to be developed.

Restructuring is crucial for a company to create new product concepts that can deliver sustainable growth by ensuring consumer insights based on differentiated concepts. Besides, redesigning should be based on close multi-disciplinary cooperation, as well as the synergy between marketing and R&D inputs. Implementation of technology assessment that requires multiple data from both marketing and consumer insights can be a tool for improving and aligning R&D, marketing goals and strategies (Slowinski & Sagal, 2010).

Another important phase in the redesign is the flow of new ideas initiated by R&D into the new product development process. New ideas flow almost solely from the marketing department into the new product development process, with an exception for some value engineering projects that are set up by a few people from the R&D management team. The third phase of the redesign concerns technical translation of the marketing brief that includes consumer insights and a clear project definition, into several products, processes, packaging or nutritional options. This phase is the pre-homework that is conducted before translating into possibilities. This pre-homework includes; desk research, benchmarking of competitor products, and store checks. Clear product objectives, in which consumer preferences are clearly stated, (consumer-centric) are essential for good translation into feasible options. These options form the basis for the development of prototypes. Subsequently, these prototypes will be assessed by the R&D management, and the best prototypes will be used as input for both feasibility check and consumer research.

Feasibility check should focus on four essential feasibility aspects: financial, organisational, market, and product. The last phase of the redesign deals with project start-up that includes finalisation of the timeline, planning, and R&D brief. In summary, a company strategy that adopts the target cost management should communicate well with all departments involved, as they may be useful in decision-making and develop the good practice of corporate culture. Development speed and new technologies are employed to bring the product first to the market, hence significant. Moreover, reducing time-to-market could gain advantages from the market due to less competition.

5.4 Elements for Target Cost Management

The accounting literature suggests that management control systems should match the strategy of the company (Boyer & Lewis, 2002). Control systems, methods, and techniques are chosen in accordance with company strategy (Bisbe & Otley, 2004). These findings lead to believe that specific methods are required for a company to carry out its strategic priority successfully. For example, the target costing method is adequate for fulfilling the strategic priority of leadership (Chenhall & Langfield-Smith, 1998). Hence, a strong relationship between cost management methods and the strategic priority of the organisation is congruent with prior studies and the nature of our set of practices. An analysis of strategic priorities was conducted to identify the organisation's emphasis on selected six elements of corporate strategy, profit goals and objectives, customer, employees, environment, and leadership. These elements were used to assess the organisational readiness level of target cost management in the new product development stage. Although the results showed that Fresh Foodie UK had a slightly higher emphasis on all six elements, these results challenged the understanding of the literature, which suggests that some priorities contradict each other (Boyer & Lewis, 2002). By addressing the objectives of this research, the adoption of cost management was explained by the six elements, and all components were indeed related to the company strategic priority and constituted the first set of antecedents of target cost management readiness. The strategic priority of each

firm is necessary to enable the analysis of organisational preference. This is shortly explained by the assumption that some priorities do not fit together within a single company (Boyer & Lewis, 2002).

5.4.1 Corporate Strategy

Since target costing is built upon the design-to-cost approach with a focus on market-driven target prices as a basis for establishing target costs, Fresh Foodie UK can have a specific blueprint of target cost management. For any new product-to-be, marketing delivers an estimated price and sales quantity schedule. From this information, and information available on capital outlays required (an approximate estimate), a decision should be taken to target a price point. From this price point, the required profit margin should be deducted to achieve a target cost for the product, wherein the product development team shall give this target cost as the development goal (Feil et al., 2004). Therefore, the development team has a technical objective, the new product has to perform the specified function, it must be durable, maintainable, it must have quality, and also within the target cost. Thus, in order to ensure that the developed product is within the target cost, the development team needs cost estimation assistance on a continuous basis. Value engineering, on the contrary, is usually taken up after some years of selling the new product, in which target costing requires concurrent value engineering and cost information. Therefore, the managers have a significant role to play in the organisation to pursue target costing as a corporate strategy.

5.4.2 Profit Goals and Objectives

The fundamental aim of target cost management is to enable managers to utilise proactive cost planning, cost management, and cost reduction practices. Costs are planned and managed out of a product and business, early in the design and development cycle, preferably during the later stages of product development and production (Ulrich, 2003). These strategies do not only apply to new products but also applicable to products that require modifications or succeeding generations. These might also be applied to

existing products, but costs are more difficult to reduce once a product is developed and designed. Despite the wide-ranging applications, Fresh Foodie UK's target cost management lies within product development and design stages. The costs most typically emphasise on the target costing process, such as materials and purchased parts, conversion costs (labour and identifiable overhead expenses), tooling costs, development expenses, and depreciation.

In spite of these, all costs and assets that may be affected by early product planning decisions should be considered based on the company's profit goals and objectives. This would include more indirect overhead expenses throughout the production stage, and beyond, such as service costs, and assets (inventory) (Horngren, 2009). Indeed, through target cost management, Fresh Foodie UK has the intention to get their managers to think ahead and deal with all costs and other implications of the decisions they make. As for any system to be effective in supporting decision-making in an organisation, the staff from the relevant departments must come together to tap their creativity to achieve both costs and company profit goals.

5.4.3 Leadership

It is in the best interests of the whole company to profit from market recognition of their high-quality products. Companies may focus on the most suitable cost management methods to attain such quality leadership. For example, management accounting methods have become more meaningful to foster communication between customers, marketing, engineering, and manufacturing departments to ensure that customers recognise the quality of products (Swink, 2003). Quality may be interpreted as the pursuit of a viable project to develop a new product. Hence, further cost management techniques support the design of such projects (Fuchs & Kirchain, 2010). Regardless of past findings, this study reveals a significant relationship between quality leadership and the use of target costing methods, which are supported in the literature as integral for developing high-quality products. Moreover, Fresh Foodie UK managers displayed

quality leadership as their priority, which serves as an antecedent of the adoption of target cost management. Furthermore, quality leadership can be associated with perceived helpfulness of the target costing whose scope deal is with individual products. Thus, although it seems that they do not find useful for this purpose, Fresh Foodie UK (product development department) acknowledged the benefits of quality from using target cost management. This is consistent with the responses obtained from the interview sessions. They expressed that quality and cost reduction has a great impact on the strategic priority of quality leadership.

5.4.4 Customer

Customer integration is commonly related to the collaboration between a company and its customers to develop new products. This includes the involvement of customers' ideas, needs, and wants during the early stages of product design (Bajaj, Kekre, & Srinivasan, 2004). Empirical evidence suggests the adoption of certain cost management practices occur when the organisation is willing to involve customers in their new product development process. For example, quality function deployment stimulates the team consciousness about customers' needs and market information (Swink, Narasimhan, & Wang, 2007). Hence, this method can be used to understand the customers' environment, to convert this understanding into technical requirements, and most importantly, operationalising customers' input. When technology roadmaps are used, organisations extend their development efforts to cover the entire supply chain, e.g. in exploiting a partnership between suppliers and customers (Miller & O'Leary, 2007). Manufacturing companies adopt such methods to their needs; hence customers' input remains vital requirements when applying specific cost management methods. Thus, current and potential customers can provide detailed data required to use particular techniques to manage their cost structures for product development.

Adel-Kader and Luther (2008) asserted that the voice of customers is another essential factor for food processing companies. It suggests a strong relationship between customer needs and target cost

management. Since target cost management is market-driven, the voice of the customer related to product features, attributes, and function serves as key inputs in the new product development process.

Overall, all the managers at Fresh Foodie UK, despite facing challenges during negotiation stages, were able to differentiate the characteristics of their customers, their concerns over the impact of retailer-driven timescale on staff performance, and their new product launch schedules.

5.4.5 Environment

Interview with the accountant revealed that the environmental costs were not recognised as costs of the food product, mainly because the target costing establishes specific and quantifiable goals for product costs, constrained by the market price for product functionality. It focuses on the principles of setting goals early, developing cost-effectiveness trade-off studies to explore a broad trade-off space, and selecting an affordable, best value solution (Kirby & Mavris, 2000). These principles have a natural fit in their applicability to environmental sustainability. Target costing can be applied as a tool for holistic, enterprise-wide environmental sustainability management, and decision support. First, companies often use free online calculators to calculate energy usage or to provide an environmental impact point estimate for events, such as aircraft and airline flights. An organisation is more likely to use sophisticated software to meet carbon-reporting requirements. While calculating a carbon footprint meets most regulatory requirements, the process of managing its reduction or making other energy-related improvements is still needed as a guide.

Target costing principles can provide status-to-target visibility and help manage risks and opportunities related to meeting environmental sustainability goals. An integral part of target costing is the active management of the product configuration and its associated current cost estimate, as it compares with the defined target cost of the product for successful market pricing (Horngren, 2009). Therefore, Fresh Foodie

UK should entail monitoring the current cost via tracking metrics and understanding how the current cost is compared to the cost objective. This estimate also includes related risks and opportunities that can cause the product cost to increase or decrease. Managers should be aware that risks and opportunities can take three forms: cost, technical, and schedule. Despite the often overlapping impacts regarding risk or type of opportunity, target costing manages the cost impacts of risks and opportunities.

5.4.6 Employees

The interview with managers revealed that Fresh Foodie UK was no longer sponsoring its employees to participate in training programs for specific tasks or functions. In the execution of target costing, the physical interactions among members of many departments are essential. These interpersonal interactions among employees of various departments can be realised with multi-functional teams formed and developed in the target costing processes. Multi-functional teams are composed of representatives of various firm functions (e.g., design, production, marketing and accounting) and external parties (e.g., suppliers, distributors and customers). Multifunctional teams can promote cross-fertilisation of diverse knowledge and iterative learning, besides creating an atmosphere of cooperation between the varied functions (Imai, Nonaka, & Takeuchi, 1984).

The establishment of cooperation between different departments can result in the development of a common language among the members of the target costing team towards achieving a common goal. Cross-functional teams also serve as a tool that draws creativity or knowledge from employees in several departments and applies it to practical situations. In the target costing processes, the functional manager who is responsible for a stage in product development should influence the activities of the employees of the subsequent and preceding stages to achieve, through cooperation, the target costs and quality, as well as the timely introduction of new products to the market. Product planning and cost meetings in target costing

are the devices used to promote interactions among functional managers and employees from different departments. Through interactions, members of many departments can share knowledge and values. In firms that use target cost management successfully, knowledge flows smoothly among marketing researchers, product designers, manufacturing personnel and cost analysts, etc. Therefore, Fresh Foodie UK should sponsor its employees to participate in training programs specific to particular tasks or functions to benefit target cost management.

5.5 Proposed Conceptual Framework

Based on the significant variances explained in the elaboration of three objectives and Six Element Target cost management assessment framework, Figure 5.2 illustrates the conceptual model of target cost management implementation process for Fresh Foodie UK. Nevertheless, in the actual process, some of the activities may occur concurrently. For more natural understanding, the target cost management implementation process flow has been divided into PDCA stages and seven steps. This new proposed conceptual model for target cost management implementation process could also be applied to other companies within the same context, i.e. loose supplier relationship, limited cost information, limited customer orientation, and target cost management activities that are not completely integrated with other manufacturing systems.

Notes: Number on the top left shows the step number of the target cost management process. [1] STEP 1: Setting the target-selling price; [2] STEP 2: Setting the target profit; [3] STEP 3: Setting the target cost; [4] STEP 4: Conducting the profitability feasibility study; [5] STEP 5: Achieving the target cost; [6] STEP 6: Monitoring and reporting the cost achievement status; [7] STEP 7: Cost improvement.

The Plan stage consists of four steps: (1) setting the target-selling price, (2) setting the target profit, (3) setting the target cost, and (4) conducting a profitability feasibility study. In the first step, based on the

company product plan and business plan, the new product specifications and features are pre-determined. Then, the new product market research is conducted to confirm these assumptions. Based on the market survey and the company product plan, the tentative target-selling price is set. In the second step, the target profit is set based on the company business plan and the predecessor product's profit trend. Meanwhile, in the third step, the target cost is determined by subtracting the target profit from the target-selling price. Then, the target cost is broken down to all cost items, such as purchased parts cost, investment cost and in-house production cost. As for the purchased parts cost, the target cost is further broken down to R&D designer group level only. At the same time, all the related costs are estimated based on assumptions. If a gap is present between the target and estimated costs, an achievement scenario planning as a set of cost reduction strategies must be planned to bridge the gap. In the fourth step, after setting the target-selling price, target profit, target cost and estimating all the costs, the initial profitability feasibility study is calculated to assess the per unit vehicle profit and loss. Upon top management judgment, the process can proceed to the next stage.

In the Do stage, (5) the cost reduction activities are conducted to achieve target cost. Based on the inside estimation, the suppliers' quotations are compared and challenged. Further cost reduction activities or negotiation will be conducted if the suppliers' cost exceeds the target cost. The cost achievement status is monitored continuously until the mass production timing.

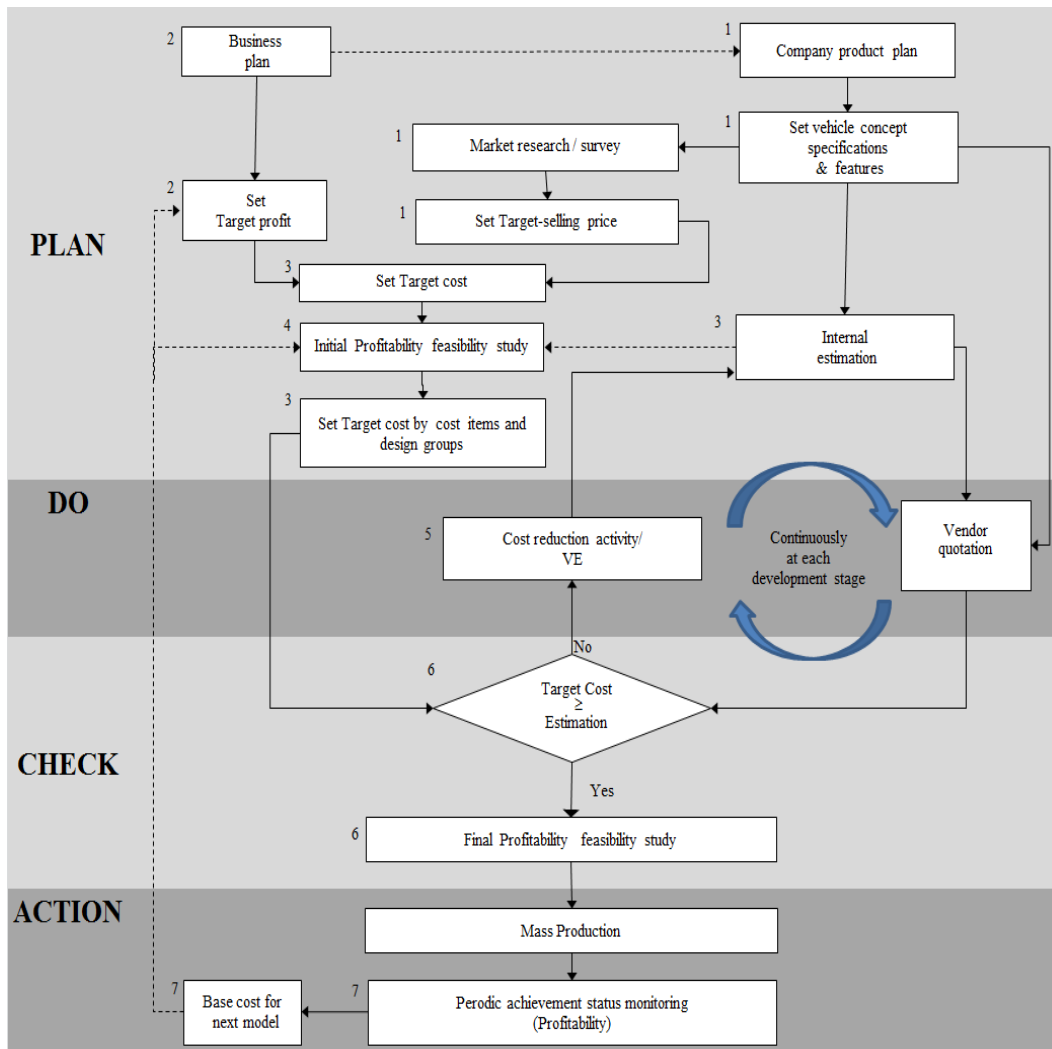


Figure 13: Proposed Conceptual Model for Target Cost Management

Next in the PDCA-Check stage, (6) the achievement status is monitored continuously until the mass production stage goes through regular meetings. Prior to the mass production stage, all the latest costs are captured to finalise the profitability feasibility study. The profitability feasibility study results, i.e. the estimated total cost and simulated profit per unit vehicle, are reported to the management before the new product proceeds to the mass production stage.

Finally, in the PDCA-Act stage, (7) after the product has gone through the mass production stage and introduced to the market, the actual profitability is analysed against its original targets to grasp the product's profit achievement status. The real profitability is continuously monitored with some adjustments made based on project assumptions to observe the product's profit achievement by periodic basis until the end of the product model life. As for the new product's base cost, appropriate timing of the actual monthly profitability or historical accounting statement will be selected as the base cost. The real profit trend of the predecessor product will be used as the basis to set the new product profit level.

Similar to other models, the proposed model may have a drawback in retrieving data to support the successful implementation of target costing. As posited by the contingency theory, the application of any management accounting system, target cost setting must be designed with an adaptive framework. This is because; all elements in the organisation must fit well with one another to perform optimally (Drury, 2004). Generally, the case study revealed that Fresh Foodie UK was unable to fully implement target cost management as highlighted in the target cost management conceptual model due to several contextual constraints. Anderson and Young (1999) highlighted that the setting of strategic management costing is unlikely to thrive regardless of how competent the implementation is managed because the contextual factors have a significant influence on the performance outcome. Nevertheless, the improvement made on the process factors may mitigate the indirect effect of contextual factors on strategic management costing implementation outcomes.

This case study also showed that Fresh Foodie UK utilised its available resources or capabilities to cater to the contextual constraints in target cost management implementation process. As posited by dynamic capabilities theory, the dynamic skills in the organisation can influence the company's existing resources and transform them to new resources so that the company can enhance or sustain its competitive advantage

(Teese et al., 1997). Since target cost management can be considered as a bundle of routines or capabilities, this case study seemed to explain target cost management from the dynamic capabilities perspective. In particular, this case study showed that within the company's external and internal positions, it managed to adapt, integrate, and reconfigure its resources via target cost management activities to achieve company goals.

5.6 Limitation: New Product Development and Target Cost Management

This sub-section summarises the restriction that might have caused the differences in new product development and target cost management practices, apart from explaining how the case company managed its resources.

5.6.1 No Integration with Other Systems

The ultimate goal of target cost management implementation is to achieve the target profit (Kato,1993). Nevertheless, in the early stage of target cost management development in Japan, the target cost management was seen as a cost reduction tool (Monden et al., 1991; Tani et al., 1994). As the target cost management developed and integrated with other business elements, the perspective of target cost management shifted from a cost reduction tool to a profit management tool (Ansari et al., 2007; Feil, Yook, & Kim, 2004). The target cost management definitions also evolved from a cost reduction technique (Sakurai, 1989) to an integrated, systematic profit management technique (Kato et al., 1995). A full integration stage of target cost management integrates and links various business functional areas into one coherent system (Kato et al., 1995). For instance, the companies used a total product portfolio that derived from mid-term and long-term profit planning to set the target profit for each new product (Kato et al., 1995; Okano, 2005). This ascertained the close relation between target cost management and corporate profit planning (Monden et al., 1991). Accordingly, by linking the short-term competitive plan and long-

term strategic plan with target cost management, the multiple loops feedforward system helped the company to take proactive action in achieving its targets (Nishimura, 2005).

The main objective outlined by Fresh Foodie UK for implementing target cost management was to remain profitable by securing profits generated from its new product. In setting the target profit for its new product, there was no connection between the new product's target profit and the strategic profit planning of the company. Thus, there was no integration between stages and there was lacking multiple loops feedforward system in the target cost management practice at Fresh Foodie UK. This was because; Fresh Foodie UK did not implement activity-based costing method and/or kaizen costing in target costing. They only had budget-based business planning and did not have a robust strategic profit planning for long-term and mid-term profit planning that considered the target profit level of future competitive products. Thus, Fresh Foodie UK failed to set its new product target profit based on mid-term and long-term profit planning. In order to address such information limitations, Fresh Foodie UK had set its new product target profit based on a particular month of the predecessor product's historical profit by considering the estimated profit increment and decrement. However, this conventional method appeared to be ineffective as the total cost figures were manipulated due to lack of control over the internal system in Fresh Foodie UK. Additionally, the budget-based business plan and an annual average of the predecessor product's historical profit trend were employed as the reference points to justify the target profit level.

The case study found that the target cost management activities at Fresh Foodie UK focused on the design and development stage that involved limited departments, mainly R&D Department, as well as Procurement and Cost Planning Department. Although the costing activities were conducted on the existing products at the mass production stage, there was no continuation to achieve the target cost of the new product after the mass production stage. Besides, the in-house target cost, which was set during the design stage, was hardly monitored or improved after the mass production stage.

Ellram (2000) asserted that the ideal situation for target cost management requires full integration with the other activities and value chain, but not all organisations have the resources and support to create this aspect. Based on Ansari's et al., (2007) five stages of management practice life cycle, the target cost management practice in Fresh Foodie UK can be categorised in the third stage of the life cycle - the organisational context of the practice stage. The target cost management implementation process was still in the process of adaptation within the company context, but not integrated with other corporate tools and methods, besides lacking in the information cycle.

The attention of the top management should be on the application of techniques and training that should be extended for employees about their roles, as well as the application of target and kaizen costing techniques. With proper training, the concepts of target and kaizen costing methods can be enhanced amongst all staff regarding the importance of implementing these techniques. It also suggests that skills and past work experience of the team members due to collaboration offer added values to the new products. Employees from all departments should freely share their knowledge, experience and candidly discuss their problems and issues. The management also should focus on integrated work, instead of separation or individual work.

As for the absence of environmental policy, Fresh Foodie UK should establish an ongoing environmental sustainability effort in a relatively small step to make the connection between the two processes and benefit from their linkage. In the absence of this foundation, the typical change-readiness evaluation would need to be accomplished first by including an assessment of recent support for target costing efforts, openness to improvement initiatives, and experience responding to change. The implementation step is linked with identifying the tools and data required to support the initiative, performing a survey to determine gaps, and creating an acquisition plan to bridge the gaps. As for environmental sustainability, new data requirements,

such as energy requirements for manufacturing processes, emissions information for purchased raw material, and others, will undoubtedly arise and would benefit from using the cost trade-off and target-cost tracking tools.

5.6.2 Low Degree of Customer Orientation

Target cost management helps companies plan and design product quality that best meets the needs of customers (Sakurai, 1989). Accordingly, before the development starts, intensive market research is conducted to determine customer needs (Lee & Monden, 1996; Cooper & Slagmulder, 1999). The companies also change their design during the development stage to cope with competitors' products (Kato et al., 1995). The companies, to meet the cost target, mainly focus on the design effort by improving its product design in the design and development stages or even earlier without sacrificing the value-added functions (Tani et al., 1994; Kato et al., 1995). The degree of customer orientation, particularly concerning determining the features and requirements of the product, might have caused the differences in the target cost management practices at Fresh Foodie UK. Since Fresh Foodie UK has limited scope in determining the design or making major changes from the base design, the degree of customer orientation regarding identifying and integrating all customer requirements in products' features and specifications might vary. As a result, a thorough new market survey to decide the requirements and features solely from the customers' requirements might be necessary for Fresh Foodie UK.

5.6.3 Cost Information Constraint

Target cost management requires comprehensive internal and external information (Cooper & Slagmulder, 1999; Kato et al., 1995; Monden & Hamada, 1991). Besides, instead of relying on the accounting outcomes, companies believe in communicating with the shop floor people during the planning, designing, and production stages. This allows proactive and fast action with respect to cost reduction activities (Okano &

Suzuki, 2007). It also creates cost information cycle between design and production stages (Monden & Hamada, 1991).

However, Fresh Foodie UK relied solely on the information from the financial accounting as the primary source of target cost management cost information. This finding supports that reported by Chenhall and Langfield-Smith (1998), who posited that conventional and advanced management accounting tend to complement each other. In fact, this finding is similar to the study findings of Nishimura (2005), who found that management accounting still relies on financial accounting, budgetary or standard cost information. As Fresh Foodie UK used the actual costing method in preparing its financial accounting report, the actual incurred indirect costs were allocated to each product by using volume and standard time. Thus, the cost per unit did not reflect the actual cost incurred for a particular product. Some cost adjustments were made to increase cost estimation accuracy. For example, the company used a monthly average historical accounting statement to calculate the new product profitability. Johnson and Kaplan (1987) claimed that financial accounting information was initially designed for external financial reporting principles and procedures. Thus, the management accounting reports prepared from this source may be unsuitable for operations related to making strategic decisions (Johnson & Kaplan, 1987).

Hoque (2003) suggested that strategic management costing is “the process of identifying, gathering, choosing, and analysing accounting data to help the management team in making strategic decisions and to assess organisational effectiveness”. Accordingly, to counter the cost information constraint issue, Fresh Foodie UK identified, gathered, and chose the most suitable accounting data and adjusted the cost data as the base cost of the new product profitability and feasibility study calculation. After mass production, Fresh Foodie UK also continued to monitor a particular product’s profit and loss, so as to track the project achievement from the viewpoint of target cost management planning. In summary, this research suggests

the cost information limitation might have caused the variances in the target cost management practices at Fresh Foodie UK. Besides, Fresh Foodie UK used the most usable and available cost information, such as historical accounting statement and existing suppliers' quotations, to address its cost information constraint.

5.6.4 Loose Supplier Relationship

Target cost management implementation requires internal and external cooperation (Monden & Hamada, 1991; Okano, 2005). An effective target cost management requires joint effort through the companies or through the entire value chain to achieve the target cost as the pressure of reaching the target must be communicated and well-understood by all parties in the supply chain, especially suppliers (Helms et al., 2005). According to Ellram (2000), target cost management companies will reach a full integration stage when they have a close relationship with suppliers.

Nevertheless, this research found that the relationship between Fresh Foodie UK and its suppliers was somewhat moderate, which was more to win-lose or lose-win relationship instead of a win-win relationship. This might have caused the variances in the target cost management practices at Fresh Foodie UK. Similarly, Rattray et al., (2007) found that New Zealand manufacturing companies had moderate involvement with suppliers in target cost management activities. Accordingly, the low or moderate supplier relationship meant that the company did not have any long-term commitment to its suppliers. To adapt to the loose supplier relationship, Fresh Foodie UK should re-evaluate their supplier's characters. Kim and Choi (2015) proposed four types of suppliers: "closely tied and cooperative buyer-supplier"; "a closely tied but adversarial"; "an arms' length and adversarial"; and "an arms' length but cooperative". This re-evaluation is a strategic approach to ensure a successful relationship and to sustain their long-term competitive advantage (Krause et al., 1998).

Several limitations may affect its premises of fostering competitive advantage, although they are not necessarily consistent in the literature. First, there is an argument that target costing focuses excessively on cost drivers and tends to ignore revenue drivers, such as time-to-market technology or considering changing customer needs. These issues seem to be more relevant than cost issues and product cost drivers in high-technology industries. Thus, since target costing is bound to the product development process, managerial attention tends to ignore critical success factors and privilege cost drivers. The second limitation of target costing is that it is time demanding, especially when time-to-market and technology are fundamental to profitability. In such a context, product development teams are not able to focus on alternative searching and estimating their cost-effectiveness to the final product or even choosing the one that minimises costs.

Finally, the level of detail in target costing is another limitation. Similar to Davila and Wouters (2004), Ansari et al., (1997) and Cooper and Slagmulder (1999) expressed the need for complex cost models, such as activity-based costing and life-cycle costing applications to capture the entire value chain. Furthermore, in hypercompetitive environments, these applications usually reflect current processes instead of prospect processes that are mandatory for product development decisions. In this way, there should be time dedicated to the development of capabilities, especially those related to teamwork. From the arguments above, Davila and Wouters (2004) asserted that target costing is more useful in stable industries whose product life cycles can be easily forecasted and where pricing is established. Besides, technological changes need to be fully understood, and product costs should be significant to an organisation's profitability.

5.7 Chapter Summary

This chapter presents the qualitative evidence of new product development processes applied in Fresh Foodie UK and the interview results with cross-functional activities, as well as the costing elements in new product development processes for successful implementation of target cost management. This chapter

illustrates the six elements of target cost management assessment framework. The chapter ends with the newly proposed conceptual framework of target cost management implementation process, apart from elaborating the seven steps of implementation. This chapter discusses the limitations of the project and offers a solution to overcome the barriers. The next chapter provides the theoretical, practical, and policy contributions, as well as the implications of the findings for practice that may be of interest to academic researchers, policymakers, and practitioners.

CHAPTER 6 CONCLUSION

6.1 Introduction

This chapter presents the discussion, the implications, and the conclusion of the thesis. The chapter begins with the thesis summary and followed by theoretical contribution and a discussion on the readiness of Fresh Foodie UK for implementing target cost management during new product development. It also describes the implications of the findings for practice that may be of interest amidst academic researchers, policymakers, and practitioners. The next section discusses the limitations associated with the present study and the recommendation for future research. In the final part, the chapter is concluded with a summary of the contribution this study has made to the existing knowledge of target cost management.

6.2 Thesis Summary

This research focused on organisational readiness for implementing target costing during new product development in a selected food manufacturing company in the UK. The previous chapter explains the readiness displayed by Fresh Foodie UK for implementing target cost management during new product development and the target cost management conceptual model. A context from the contingency and dynamic capabilities theory viewpoints mentioned that the application of any management accounting system to the organisation setting must be designed with an adaptive framework. This is because; all elements in the organisation must fit well with one another to perform in optimal condition (Drury, 2004). Generally, the case study showed that Fresh Foodie UK was able to implement target cost management. Anderson and Young (1999) highlighted that the setting of strategic management accounting is unlikely to thrive regardless of how competent the implementation is managed because the contextual factors have a significant influence on the performance outcome. Nevertheless, the improvement of the process factors might mitigate the indirect effect of the contextual factors on the strategic management accounting implementation outcomes.

This case study also showed that Fresh Foodie UK utilised its available resources or capabilities to cater to the target cost management implementation process. As posited by dynamic capabilities theory, the practical skills in the organisation can influence the company's existing resources and transform them to new resources so that the company can enhance or sustain its competitive advantage (Teece, Pisano, & Shuen, 1997). Since target cost management can be considered as a bundle of routines or capabilities, this case study describes target cost management from the dynamic capabilities perspective. In particular, this case study showed that within the Fresh Foodie UK's external and internal positions, the company managed to adapt, integrate, and reconfigure its resources via target cost management activities to achieve company goals.

Based on the qualitative findings, to some extent, the organisational culture at Fresh Foodie UK could be a source of competitive advantage if it is rare, valuable, and inimitable (Barney, 1986). The teamwork orientation culture was somewhat active at Fresh Foodie UK through support by the cooperation and coordination displayed. This notion is supported by Feil et al., (2004) who suggest that team orientation culture is a critical factor for the successful implementation of target cost management. Similarly, Lynn and Akgun (2003) discovered a positive impact between teamwork and new product development.

As highlighted in the previous chapters, Fresh Foodie UK had a vertical and hierarchical organisation that lacked a multi-skilled expertise workforce, and the target cost management activities only involved specific departments. Nevertheless, in spite of the constraints, all the target cost management related departments played their roles well in each target cost management activity to achieve company goals. In fact, all target cost management members showed a high sense of responsibility and enthusiasm to tackle the target cost management issues related to their departments. The trustworthy attitude and a sense of camaraderie among target cost management members created a healthy working environment for information and knowledge sharing among the members. These reasons might have caused the teamwork orientation organisation

culture to be considered as a critical element that supports the target cost management practice in Fresh Foodie UK context. Accordingly, within this case study context, teamwork is positively associated with the successful implementation of target cost management.

Based on the qualitative findings, support and commitment from the top management were rather strong at Fresh Foodie UK. This was supported by the six essential elements (corporate strategy, profit goals and objectives, customer, employees, environment and leadership), which showed that the support and commitment displayed by the top management had a positive association with successful implementation of target cost management. This finding also supports the previous findings reported by Kuen and Zailani (2012), who posited that top management support and commitment are vital for project success.

When compared with Japanese companies, Fresh Foodie UK faced many environmental constraints mainly due to lack of information and loose supplier relationship. The managers at Fresh Foodie UK acknowledged the situation by providing adequate resources and visible support to promote the target cost management practice. For example, Fresh Foodie UK management made frequent re-structuring within the business units and division levels. These changes were made to create a stable and robust organisation to adapt to the changing markets. The management of Fresh Foodie UK had set a clear cost reduction target under their company vision. This vision helped to communicate the cost reduction mission and to create cost awareness among the employees. In the UK context, the management is indispensable to direct and pull the workforce towards the company's direction. The management in the Fresh Foodie UK played its roles well by delivering its robust and active support to the target cost management implementation by providing necessary resources, determining the path, and evaluating the result. Therefore, in the current research context, management support and commitment are associated with organisational readiness towards successful implementation of target cost management.

The consequence of the research at Fresh Foodie UK demonstrated that, if any, execution of target cost management had altogether enhanced the liquidity position and the productivity level of the undertakings explored. This result is in concurrence with the assessment that the most ultimate achievement of cost management is to see the amount it will cost to produce a product and to monitor the advancement against the financial plan. Both cost control and cost reduction are about dealing with the business costs proactively and keeping a vital perspective on the costs drivers. The case of Fresh Foodie UK fitted in with sentiment and emphasised the centrality of investigating the variables of cost management systems and their impacts of hierarchical culture upon upgrading business growth and survival. The consequence of the study was paired with the assessment conducted by Hibberts et al., (2003). They asserted that a portion of the benefits of target cost management could be investigated to adapt to a dynamic business environment of small and medium scale undertakings in creating the economy for enhanced productivity.

6.3 Contributions and Implications

The findings of this research have several significant implications for researchers and practitioners. This chapter segregates the research contributions and impacts into theoretical contributions and practical suggestions. From the accounting perspective, target cost management is a competitive tool that may assist companies to gain competitiveness (Rains, 2010; Ansari et al., 1997). Nevertheless, there has been a growing amount of target cost management researches, both regarding topics and theoretical basis. Much of the work conducted had been based on economic theory and from the categorisation of mainstream management accounting research. There has been a developing movement towards the use of target cost management resulting in the development of interpretive and critical management accounting research area.

However, due to limited theoretical discussions in the intermediaries and broader organisational literature, target cost management practices have remained comparatively low. Notwithstanding, theories of justice are discussed in business ethics and corporate governance, but there is limited empirical research. Bowman et al., (2013, p.313) claimed that the most significant immediate obstacle to radical policy experiment is not the corporate self-interest, but the policymakers' mentality that resist the implementation of an active industrial policy. The policymakers believe that food policy is and should be more modestly about promoting competition in every market because competition will (with suitable horizontal regulation against monopoly and collusion) deliver social and economic benefits for consumers. Bowman et al., (2013) concluded with a generalised call for policymakers to maintain "a sustainable and profitable supply chain contributing to national objectives such as food security and continuous employment", which must be part of a fair basic structure.

Further discussion on the implication of target cost management, Abdel-Kader and Luther (2006) stated that direct costing among intermediaries has been widely practised and relevant, in contrast to activity-based costing and full absorption costing. Despite the limitations of conventional budgets, they remain a central management accounting "pillar" and are frequently used in "what if?" analyses. In spite of this, the balanced scorecard and other non-financial performance measures are perceived to be essential, but never or rarely used by companies. Surprisingly, product profitability analyses are frequently applied, and the profitability of supplying individual customers has been commonly calculated of the population.

Neu et al., (2014) illustrated a situation where intermediaries can be directly gathered to verify accounting-related information. This "reasonable" decision changes the types of interactions that occur among respondents, resulting from being multiple respondents on the shop floor trying to control production quality and speed. Arguably, these gathering and use practices do not only frame the interactions between

the intermediary and factory owners but also change the dynamics and intensity of control on the shop floor. Thus, Neu's et al., (2014) findings foreground some of the specific ways that the institutional context and the hierarchy of social positions within this production chain in influencing accounting practices.

Meanwhile, Jack et al., (2012) stated that the main risk identified in food chain business is the commercial risk, including the risk of losing customers or suppliers at relatively short notice for reasons other than their inability to supply or meet requirements. Intermediary food companies play a crucial, pivotal role in attempting to align strategic and operational planning in the industry. In order to develop the long-term relationships that make preparation and negotiation more active and to ensure their own survival, they should display the best practice in delivering on-time, in-full, and to-specification to the retailer, and in creating value-adding relationships with suppliers based on constant communication and business support, as well as by providing some protection for suppliers against commercial risk. Finally, the elements of the Balanced Scorecard approach had been evident although no example of full scorecard was found, thus suggesting that the influence of the method has extended beyond multinationals. Performance measurement through the supply chain is based primarily on non-financial measures related to quality, customer service, and learning. Apart from the above contribution to the body of knowledge, Jack et al., (2018) used John Rawls' theories of 'justice as fairness' to investigate relational power and fairness in commercial relationships by intermediaries. Firmly, Jack's et al., (2018) contributions are to extend the sparse accounting and control literature on intermediaries by providing further empirical evidence of accounting and control practices in UK fresh produce supply networks.

Overall, this thesis has made contributions both to the empirical study of the food manufacturing industry and also to understand the process of change in target cost management practice in manufacturing companies. Notwithstanding, the conventional management accounting is "alive and well" (Abdel-Kader &

Luther, 2006), but there are indications of likely increased use of information concerning the cost of quality; non-financial measures related to employees, and analyses of intermediaries and new information about how target cost management works in new product development within food industries. Such a study would examine the extent to which accounting practices were developed and information shared had contributed to relational resources, such as trust and transparency, whether accounting was given more of a voice and the extent to which dominance was reduced to appropriate spheres of bureaucratic need, in which the work of Anderson and others might be indicators of relational justice.

6.3.1 Contributions To Knowledge

As mentioned above, there are very few studies of intermediaries in accounting generally and management accounting particularly (Jack et al., 2018; Neu et al., 2014; Bowman et al., 2013; Jack et al., 2012; Abdel-Kader & Luther, 2008). The contributions of this research can be considered into providing new understanding of target cost management practice in UK food manufacturing contexts. Nevertheless, due to the lack of in-depth empirical case studies, the target cost management practices in the UK have remained comparatively unknown. From the management accounting perspective, target cost management is a practical cost management tool that may assist companies to achieve long-lasting competitiveness. This research offers preliminary evidence of detailed insights of target cost management implementation process in the UK context generally and food manufacturer particularly. Yazdifar and Askarany (2012) considered target cost management as an integrated mechanism that ties various functional units in a company together into one cohesive system. The proposed framework in this study may serve as a path that could link the dynamic capabilities as an influential factor for successful target cost implementation.

Much literature has focused on identifying the critical success factors in new product development. Feil et al., (2004), for instance, identified some of such factors. Factors relevant to the focus of this study include:

accurate predictions about (and clearly defined) customer needs, wants, and preferences; knowledge about market competition and competitor strategies; clearly defined product concept/features; and cross-functional development teams and intensive communication between team members during the development process. Abdel-Kader and Luther (2008) highlighted 10 contingency variables that can influence the implementation of advanced management accounting practices. This research contributes to the current understanding concerning the six elements in a relationship towards successful implementation of target cost management in a typical UK food manufacturing company context. By understanding the influence of these elements, the essential elements to support the target cost management implementation are unravelled, and management could take necessary actions to mitigate the constraints. The comprehension of target cost management constraints in the case study context may help future potential target cost management companies to modify the target cost management implementation process to best suit their settings. Eventually, this may help UK food manufacturing companies to utilise target cost management as a tool to increase their competitiveness as a whole.

6.3.2 Practical Implications

Apart from the contributions highlighted in Section 6.3.1, this research has implications for practising managers to consider the adoption of target cost management. Total costing is a tool that may help a firm bring about new product development success. However, as this study suggests, practising managers could investigate if a fit exists between the firm's environment (intensity of competition) and the use of target costing. Firms without access to reliable information about customer requirements and competitor behaviour could consider other means of achieving success with new product development.

This research found, amongst all the elements, corporate strategy, profit goals and objectives, customer, and leadership had significant impacts on successful implementation of target cost management in the UK food

manufacturing company. Managers can expect that by increasing the element of teamwork and by providing more visible top management support and commitment, the level of successful implementation of target cost management would increase. Furthermore, non-target cost management user companies in the same context may try to equip themselves by giving priority to these elements before starting to apply target cost management. However, this case study also found employees training and lack of environmental awareness to be the main contextual constraints in target cost management implementation. The new potential target cost management companies within the same context can mitigate and leverage the risk of failure in implementing target cost management by modifying the target cost management implementation process to suit the contextual environment constraints. Nevertheless, if the UK food manufacturing companies focus on building a long-term employee relationship, it would help them create trust, cooperation, and open information exchange with the top management. Eventually, this environment of cooperation would assist in achieving the target cost, reducing the food price, and increasing the competitiveness of UK food manufacturing companies.

6.3.3 Research Method Contribution

This research adhered to a methodological guideline suggested by methodologist. Much of the work relating to changes in management accounting practice utilised cross-sectional surveys that gave information about what is used but provided no further contextual evidence as to why or how. The surveys did not explain the process through which management accounting practices changed, but only provided limited insights into practice. As promoted by management accounting scholars, the use of an in-depth case study approach, as in this research, allowing for much discovery of the actual practices and processes used in the organisations. In this research, the case study showed how the managers should implement the target costing management practices and how the conduct of the product development managers and accountants had influenced the

outcomes. This research offers new insight into the current understanding of how target cost management change can be achieved.

6.4 Limitations and Recommendations for Future Research

This study investigated the readiness of food manufacturing companies of the UK for using target cost management approach during the new product development phase. A single embedded case study was conducted to answer the research questions. As emphasised by Scapen (2006), a single case study helps the researcher to understand the variation in the management accounting practices and its complicated mishmash of interrelated influences. The objective of the single case study is to understand the practice in-depth and not to determine what is generally true for many (Meriam, 1998). Accordingly, comparison across varied organisational contexts using multiple case studies was not adopted as the methodology for this research. Instead, the comparison was made within the same organisation by applying a single embedded case study. These findings can only be replicated to organisations with a similar situation concerning the nature of the problem and problem definition (Cavana et al., 2001). Nevertheless, as stressed by Yin (2003), in the context of case studies, generalisation is feasible to the theoretical propositions with the objective of expanding and generalising the theories.

In order to understand the successful implementation of target cost management in the case company, only those who were involved directly with target cost management were selected as the respondents. Even though various precautionary steps were taken to eliminate research bias, such as using multi-sources of data collection and data triangulation, the researcher admits that potential bias still exists along the process of interpreting the collected data. Future research should conduct multiple case studies across a similar type of organisations to understand the organisational readiness for target cost management implementation within the UK context.

Implementing the target cost management is very long and complicated, apart from involving many stakeholders. Even though this research employed a case study with single-source data collection, it only focused on Rain's theoretical model and selected characteristics of the target cost management. It did not focus more on a holistic view of target cost management. Future research should look at another theoretical model. For example, Ansari et al., (1997) proposed a conceptual model that considers four elements to measure organisational readiness for target cost management, which is: "behavioural base"; "cultural base"; "technical base"; and "political base" (Ansari et al., 1997).

6.5 The Conclusion of the Study

Under the current global competitive market, the biggest challenge for companies is to remain profitable. Despite many studies unravelling the characteristics and benefits of target cost management, many companies have still underestimated the power of target cost management as a critical competitive tool (Ansari et al., 2007). Concerning prior findings related to successful characteristics of target cost management, this research limited the discussion to six elements and selected core characteristic of target cost management. This research investigated the organisational readiness for target cost management implementation using the case study method. It offers practical application of know-how in a specific environment of target cost management. This helps potential target cost management implementers to understand the constraints of target cost management in the UK context and the critical factors that are likely to assist the target cost management implementation. This research also proposes a conceptual model for the target cost management implementation process within the same context. Furthermore, this study has added to the debate topic by contributing a view based on the food manufacturing industry that has been missing both from the general research on management accounting practice and also on management accounting change. The study has contributed to the potential debate regarding the theory-practice gap from the food manufacturing perspective. In a nutshell, target cost management is environment-specific.

Accordingly, any company cannot directly “plug in” the target cost management to their company system (Kato et al., 1995). Is this company ready for target cost management? Based on six elements, this company displayed the potential to implement target cost management in new product development process successfully. But the company should attempt to mitigate current gaps identify through this research, as well as other factors highlighted in past findings.

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APPENDICES

Appendix 1 – Organisational Consent Letter

Organisation Information sheet & Informed consent letter

Title of research: The implementation of and the impact of target cost management in UK food processing companies.

Director of Studies:

Professor Lisa Jack
Lisa.Jack@port.ac.uk

Name of researcher:

Safrul Izani Mohd Salleh
Safrul.MohdSalleh@port.ac.uk

Organisation: Portsmouth Business School, University of Portsmouth

This documents consist of an information sheet and informed consent section.

Dear Senior Management Team,

My name is Safrul Izani and I am a PhD student from Portsmouth Business School, University of Portsmouth. My supervisor, Professor Lisa Jack, is a leading researcher in cost management in the food supply chain. The purpose of this letter is to invite your organisation to take part in a research project called *Target Cost Management in UK Food Processing Companies*, led by Prof. Lisa Jack and myself.

Target cost management has proved highly successful for new product development in other industries and as researchers we see the potential of target cost management to enhance value in the food and drinks industry. The aim of target cost management is to reduce the overall cost of a product over its entire life cycle with a focus on customer requirements and involving all employees in an organisation. It can develop robust connections between new product development, lean manufacturing and supply chain management, and improve customer satisfaction.

We seek your support in this research project because companies that use target cost management successfully are those already engaged in the lean management, such as your organisation. Also, your company has major experience in new product development that contributes to your strong position in the food market and strong supply chain relationships. By participating in this research project your company may

be among the first food companies to discover the value of target cost management on the cost and quality of products.

The project design has three phases:

1. Interviews with managers and other members of staff in the organisation to establish its preparedness for target cost management, and to analyse the steps needed to implement it. Between 10-15 interviews would be appreciated to get a full picture of new product development.
2. Use of past or realistic hypothetical cost data (whichever the organisation is most comfortable with) to simulate target cost accounting processes and assess the feasibility of using target costs in food processing.
3. A series of focus groups (up to five) within the organisation to evaluate the findings and to assess the impact it might have in the organisation, and on the industry.

This information could lead to further projects to identify and benchmark effective ways to use this concept in the food and drinks industry.

If your organisation are agree to take part in this research project, please acknowledge me at +44 (0)23 9284 4780 or by email Safrul.MohdSalleh@port.ac.uk. You can also communicate with my supervisor Professor Lisa Jack by telephone at +44 (0)23 9284 4600 or by email at Lisa.Jack@port.ac.uk. I would be most grateful if you could let me know if we need to complete any documentation from you. All information obtained will remain confidential and anonymous in any outputs from the project.

Thank you in advance for your interest and assistance with this research.

Sincerely,

.....
Safrul Izani Mohd Salleh
Researcher
Portsmouth Business School
University of Portsmouth, UK

ORGANISATION INFORMED CONSENT LETTER

Title of research: The implementation of and the impact of target cost management in UK food processing companies.

Director of Studies:

Professor Lisa Jack
Lisa.Jack@port.ac.uk

Name of researcher:

Safrul Izani Mohd Salleh
Safrul.MohdSalleh@port.ac.uk

Organisation: Portsmouth Business School, University of Portsmouth

I, the undersigned is an authorised person on behalf of the organisation named:

_____, confirm that (please tick (√) box as appropriate):

1.	The organisation have read and understood the information about the project, as provided in the Information Sheet dated _____.	
2.	The organisation have been given the opportunity to ask questions about the project and the organisation participation.	
3.	The organisation voluntarily agree to participate in the project.	
4.	The organisation understand that withdraw at any time without giving reasons will not be penalised for withdrawing nor will be questioned.	
5.	The procedures regarding confidentiality have been clearly explained (e.g. Use of names, pseudonyms, anonymisation of data, etc.) to me.	
6.	The use of the data in research, publications, sharing and archiving has been explained to the organisation	
7.	The organisation understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they	

8.	The organisation, along with the Researcher, agree to sign and date this informed consent form.	
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***The organisation will be given a copy of the full Informed Consent Form**

Name of authorised person: Authorised Signature: Date:

Name of Researcher: Signature: Date:



Appendix 2: Individual Consent Letter

Individual

Individual Information sheet & Informed consent letter

Title of research: The implementation of and the impact of target cost management in UK food processing companies.

Director of Studies:

Professor Lisa Jack
Lisa.Jack@port.ac.uk

Name of researcher:

Safrul Izani Mohd Salleh
Safrul.MohdSalleh@port.ac.uk

Organisation: Portsmouth Business School, University of Portsmouth

This documents has **Part I & Part II:**

Part I: INFORMATION SHEET

1. Introduction

I am Safrul Izani from Portsmouth Business School, University of Portsmouth and carrying out a research project with my supervisor, Professor Lisa Jack, on the target cost management in food and drinks industry. Your management suggested your name as a participant in this project.

2. Purpose of the research

Target cost management is a strategic approach for cost management along the old product life-cycle. It has been successfully implemented in the leading industries in Japan and widely accepted in other industries, such as electronics, computer peripherals, manufacturing equipment and semiconductor companies. We are investigating the visibility of introduction target cost management in the UK food processing companies. We believe that you can help us by telling us your point-of-view about the current cost practice used in your company. We want to know about the role of cost management in the product design phase. We will be investigating the readiness of the company for target cost management

3. Your Involvement

In-depth interview: This research will conduct in-person interview or on the phone. The interview would last about 45 to 60 minutes and would be arranged at a time convenient to your schedule. The information recorded is confidential, and no one else except researcher and the Director of Studies will access the information documented during your interview. The interview will be recorded and the audio recording as well as transcripts of all

information you provide will be classified as confidential and will be securely stored. In this research, the participant's personal identity will be made anonymous.

Focus groups: You are also invited to take part in one of the five focus group sessions at a later date, which at last for about one hour and guided by a researcher (the moderator) and the Director of Studies (will assist as a note taker). Around four to six managers will be invited for every session. A set of questions and topic will be addressed and you are allowed to share your thoughts, ideas and feelings on certain subject related to the main topic of this research. This conversation will take place at the University of Portsmouth or National Centre for Food Manufacturing (NCFM), University of Lincoln: Holbeach Campus unless impracticable, in which case another location will be sought. Each session will be attended by the assigned participants, the researcher and the Director of Studies. The entire discussion will be recorded, but no-one will be identified by name. The data will be stored electronically and password protected in other file or database. The access to the information recorded is strictly confidential, except researcher and the Director of Studies will have access to the data.

1. Voluntary Participation

Participation in the interview and focus group session is entirely voluntary. You may decide to withdraw from this research for any reason and at any time, without any negative consequences, by letting us know your decision.

2. Confidentiality and Anonymity

To safeguard your confidentiality and anonymity, all identifying information, such as your name, the company or department will not appear in any thesis or publications resulting from this study. All data including files and transcripts only available to the researchers, and will be destroyed after publication of all papers derived from the dissertation.

3. Contact Information

I assure you that this study has been reviewed and received ethics clearance through the Ethics Committee at the University of Portsmouth, which is a committee whose task it is protecting all parties in this research from harm. If you have any questions regarding this form or would like additional information about participating in this research, please contact me at +44 (0)23 9284 4780 or by email Safrul.MohdSalleh@port.ac.uk. You can also communicate with my supervisor Professor Lisa Jack by telephone at +44 (0)23 9284 4600 or by email at Lisa.Jack@port.ac.uk. Thank you in advance for your interest and assistance with this research.

Sincerely,

Safrul Izani Mohd Salleh
Researcher
Portsmouth Business School
University of Portsmouth, UK
Part II: Certificate of Consent

Part II: INDIVIDUAL INFORMED CONSENT LETTER

Title of research: The implementation of and the impact of target cost management in UK food processing companies.

Director of Studies:

Professor Lisa Jack
Lisa.Jack@port.ac.uk

Name of researcher:

Safrul Izani Mohd Salleh
Safrul.MohdSalleh@port.ac.uk

Organisation: Portsmouth Business School, University of Portsmouth

I, the undersigned, confirm that (please tick (✓) box as appropriate):

1.	I have read and understood the information about the project, as provided in the Information Sheet dated _____.	
2.	I have been given the opportunity to ask questions about the project and my participation.	
3.	I voluntarily agree to participate in the project.	
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	
5.	The procedures regarding confidentiality have been clearly explained (e.g. Use of names, pseudonyms, anonymisation of data, etc.) to me.	
6.	If applicable, separate terms of consent for interviews, audio, video or other forms of data collection have been explained and provided to me.	
7.	The use of the data in research, publications, sharing and archiving has been explained to me.	
8.	I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.	

Individual

9.	Select only one of the following. I would like to participate in the:	
	i. Individual interview research & focus group research.	
	ii. Individual interview research	
	iii. Focus group research	
10.	I, along with the Researcher, agree to sign and date this informed consent form.	

***You will be given a copy of the full Informed Consent Form**

Name of Participant:

Signature:

Date:

Name of Researcher:

Signature:

Date:

Appendix 3: Interview Guide

Selected semi-structured interview guide.

1. Qualitative interview introduction

Introducing myself and the University

Interview length: 45 to 60 minutes

Main Objective: To investigate if your organisation is ready for target cost management in new product development (NPD) stages. The conversation should focus on your experience in new product development, your opinions and what you think/feel about the research topic.

2. Individual consent letter

Invite the interviewee to read the 'individual consent letter'.

Question: Would you like to participate in this interview?

If YES: Invite the interviewee to sign the 'individual consent letter'.



If NO: The interviewee is allowed to leave the interview room.

Inform the interviewee that a copy of 'individual consent letter' will be submitted to the correspondence person (Product Development Manager – GPDM4)

3. Background information

Invite the interviewee to tell about him/herself: General information about:

- i. Current position in the company
- ii. Previous working experience in the food & drink industry and NPD.

4. New product development experience

- i. Can you please tell me about your experience in NPD?
- ii. What is your opinion about NPDs in this company?
- iii. Any issues or recommendations?

5. Cross-functional activities

Can you please tell me about cross-functional activities in this company?

- i. What is your opinion about the cross-functional activities in NPD?
 - a. Any issues/challenge?
 - b. Any suggestion for improvement?

6. Cost management activities

- i. What do you think about the cost management activities implemented in this company?
- ii. Who regulates cost management activities in this company? Do you have access to cost data?
- iii. Can you identify any issue concerning cost management activities? Any suggestion for improvement?
- iv. Ask the Accountant about cost data: General information about costing method cost elements & allocations, etc. Request the Accountant to explain the costing process. Does cost data regularly update? If NO, Why?

7. Six elements for target cost management

Element 1: Corporate strategy

- i. What do you think about the current corporate strategy in this company?
 - a. Is information about corporate strategy easily accessible?
 - b. Can you explain the company's corporate strategy? What is the medium of communication?
- ii. How well are the company's strategies connected to new product development?

Element 2: Company's profit goals and objectives

- i. Please describe the company's profit goals and objectives.
 - a. Clear goals & objectives?
- ii. How are they related to new product development stages?
- iii. Do you have any issue concerning the company's profit goals and objective? Issues on cost management strategy?

Element 3: Leadership

*Higher ranking from interviewee position.

- i. Tell me about your leadership style.
- ii. Tell me about your leadership support in new product development.

Element 4: Customer

- i. Who is your customer?
- ii. Can you tell me about customer participation during the new product development process?
- iii. Did any issues emerge during the process?

Element 5: Employee

- i. Can you tell me, in general, about the company's training initiatives/policies?
- ii. How about training initiatives/policies in new product development?
- iii. Do you need training in more specific tasks/functions?

Element 6: Environment

- i. Can you tell me about the company's environmental initiatives/policies?
- ii. Asking Accountant – Are environmental costs (i.e. costs of waste) part of the cost data? Why?

Appendix 4: FORM UPR16

FORM UPR16

Research Ethics Review Checklist



Please include this completed form as an appendix to your thesis (see the Postgraduate Research Student Handbook for more information)

Postgraduate Research Student (PGRS) Information		Student ID:	UP 618641
PGRS Name:	SAFRUL IZANI MOHD SALLEH		
Department:	PBS	First Supervisor:	PROFESSOR LISA JACK
Start Date: (or progression date for Prof Doc students)	1 October 2011		
Study Mode and Route:	Part-time <input checked="" type="checkbox"/>	MPhil <input type="checkbox"/>	MD <input type="checkbox"/>
	Full-time <input type="checkbox"/>	PhD <input checked="" type="checkbox"/>	Professional Doctorate <input type="checkbox"/>

Title of Thesis:	ORGANISATIONAL READINESS FOR TARGET COST MANAGEMENT IN NEW PRODUCT DEVELOPMENT: A CASE STUDY OF FOOD MANUFACTURING COMPANY IN THE UK
Thesis Word Count: (excluding ancillary data)	63698

If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University's Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study

Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).

UKRIO Finished Research Checklist:

(If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: <http://www.ukrio.org/what-we-do/code-of-practice-for-research/>)

a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
b) Have all contributions to knowledge been acknowledged?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
c) Have you complied with all agreements relating to intellectual property, publication and authorship?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
e) Does your research comply with all legal, ethical, and contractual requirements?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

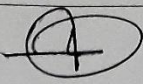
Candidate Statement:

I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s)

Ethical review number(s) from Faculty Ethics Committee (or from NRES/SCREC):	E248
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If you have *not* submitted your work for ethical review, and/or you have answered 'No' to one or more of questions a) to e), please explain below why this is so:

Continue Appendix 4: FORM UPR16

Signed (PGRS):		Date: AUGUST 2018
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UPR16 – August 2015

Appendix 5: Selected Target Cost Management Research Studies

Author(s)	Country	Methodology	Objective
Dekker & Smidt (2003)	Dutch	Survey (32 manufacturing companies)	To examine the target cost management adoption in Dutch companies
Filomena et al. (2009)	Brazil	Case study (1 Brazilian manufacturing company)	To operationalize the target cost management model by breaking down the target costs into product parts, features, and common elements
Yazdifar & Askarany (2012)	UK, Australia, New Zealand	Survey (584 manufacturing and service companies)	To investigate the level of target cost management implementation and factors that influence target cost management adoption
Ratray et al. (2007)	New Zealand	Survey (12 manufacturing companies)	To examine the target cost management practices in New Zealand companies
Shank & Fisher (1999)	USA	Case study (A paper mill process company)	To examine the relevance of target cost management in a process industry company
Ellram (2002), Ellram (2000)	USA	Case studies (11 companies)	To investigate the supply management and purchasing role in the target cost management process
Hibbets et al. (2003)	USA and German	Case studies and survey (9 USA companies, 3 German companies)	To investigate the relationship between competitive environment and company strategy of target cost management companies

Monden & Hamada (1991)	Japan	Case studies (Automotive companies)	To examine the features of the total cost management system in Japanese automotive companies
Tani et al. (1994)	Japan	Survey (180 manufacturing companies)	To investigate the target cost management design and practices
Tani (1995)	Japan	Survey (180 manufacturing companies)	To investigate target cost management practices and to develop a theory explaining target cost management
Kato et al. (1995)	Japan	Case studies (Daihatsu Motor Corp., Matsushita Electric Works)	To examine the target cost management process and its effect on Japanese companies
Cooper & Slagmulder (1999)	Japan	Case studies (Isuzu Motors Ltd., Toyota Motor Corp., Nissan Motor Corp., Komatsu Limited, Sony Corp., Topcon Corp, Olympus Optical Company Ltd.)	To examine the generic approach of target cost management
Okano (2005)	Japan	Case studies (Toyota Motor, Matsushita Electrical Industrial, Nissan Motor Co., Ltd.)	To explore the direction of target cost management in the Japanese management system
Huh et al. (2008)	Japan	Survey (162 companies)	To examine the target cost management success factors and performance of target cost management

Gandhinathan et al. (2004)	India	Case study (Automotive product manufacturer)	To investigate the effect of Quality Functional Deployment (QFD) and Value Engineering (VE) on target cost management
Ax et al. (2008)	Sweden	Survey (57 manufacturing companies)	To investigate the impacts of competition and uncertainty on target cost management adoption