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Design effectiveness: Building customer satisfaction and loyalty through design

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Abstract

The contribution of design is regarded as one of the most crucial factors in business. However, there remains ambiguity about how design affects the building of customer satisfaction and loyalty. Furthermore, in terms of any business situation, the output of design efforts and investment should arguably be greater than management expect in order to be recognised as a worthy investment. This paper presents a novel combined conceptual framework of the design audit and value typology. By employing design embedded business theories, design value can be both assessed. Taking Freeman's stakeholder theory and conflating this with Holbrook's typology of value, a novel and more inclusive theory emerges upon which to clearly identify the scope of perspectives of value across all stakeholders within a business. Empirical findings through customer survey verify the suitability of the proposed measuring matrix used in this study. Furthermore, this empirical finding from customers can be the corner stone of determining the effectiveness of design in the food and beverage service industry by embedding design perceptions in a business theory of practice.

Key words

Design effectiveness; Design value; Design audit; Service-profit chain; Value typology

Introduction

"Goods and services are no longer enough", as Pine and Gilmore (1999) state, the leverage of *experience* in business has emerged. Positively recognised experience arguably triggers repeat consumption of goods or services within the same brand. As the emergence of post-Fordism business models, mass customisation, by emphasising the customer-company relationship which stems from customers' hedonic experiences, had become a major stream of marketing research (Addis and Holbrook, 2001). In addition, customers are willing to share their experience with others in various ways. Information technology, which has developed dramatically in the last few years, boosts the impact of this sharing of experience

significantly through social media. The experience of one person may not be confined to one person or small groups; it proliferates to other people or groups with preconceived value. Among the significant influencers of perceiving value, the recognition of design is regarded as the most significant impact upon the customers' perception of a given brand (Baker et al. 1994; Smith and Colgate 2007). However, due to the ambiguity of assessing, the contribution of design cannot stand alone. It is critical to dissociate the design contribution from the overall marketing outcomes in order to identify the effectiveness of investing design, therefore, a business can analyse the outcome of design clearly and encourages its continuous design efforts.

Conceptual Framework

In order to investigate whether design efforts can contribute to a successful business, it is necessary to contemplate two key definitions of its value creation network; what makes a brand preferable and who create the value for the scope of stakeholders? When value is considered in a business context, it is often regarded as a customer surplus (Bowman and Ambrosini, 2000) and superior customer value has become a key competitive advantage for business (Ravald and Grönroos, 1996). By defining the customer as a decision maker who is keen to maximise the economic effort invested, Holbrook (2006, p.715) proposes that customer value is an "interactive relativistic preference experience". In addition, the created value is described as the subtraction of opportunity cost from customer's willingness to pay (Brandenburger and Stuart, 1996). Payne and Holt (2001, p.159) classify the value from customer perspective into three categories; "creating and delivering customer value", "customer-perceived value", and "value of the customer". Thus, it is reasonable to divide the value related activity of a company into creating, delivering, and perceiving.

When a business is addressing customer perception value, the business needs to consider whether the customer perception value will claim future consumption. Future consumption can be derived from potential or existing customers. Penetrating and developing a new market through a potential customer may increase total volume of sales while it may not be beneficial, considering mostly saturated market condition and additional marketing cost. As a result, customer retention has obtained leverage and a significant role in value creation (Payne and Frow, 2005). In other words, appropriately created values are the impetus to recall valuable experience (customers' additional needs) which facilitates a business' sustainability. Hence, it is important to know how customers perceive value and how a company transfers value to company's profitable activities. To associate perceived value activity with created values activity, it is also necessary to investigate the mediator (need)

which is triggered by perceived value and triggers created values. Thus, a value chain for sustainable business is suggested to include emergence or reconstitution of needs, created values, delivered value, and perceived value.

Stakeholders

Freeman (1984) introduces the original broad groups within stakeholder theory; shareowners, employees, customers, suppliers, lenders and society, with the definition of stakeholder as groups of economic units who critically support an organisation's survival. Defining stakeholders who are involved in a business, in terms of their influences, is an ongoing debate. Two main streams of determining stakeholders are "Value maximisation" and "Stakeholder theory". The former argues that aiming one specific stakeholder's profit could achieve the maximised outcome of a business. By considering the cost of maintaining market share, Jensen (2001) argues, from value maximisation viewpoint, that there is an optimum point where a business can be most profitable and it can be achieved by focusing one stakeholder value. However, Jensen (2001) also emphasises that missing one of the key stakeholder's benefits by unfair distribution of benefits could lead to an unsuccessful business in the long term. In terms of the sustainable growth and profitability, a business needs to consider the contemporary and protean environment. In order to be an agile business in this situation, the strategy should be flexible as it is argued in the Stakeholder theory. In addition, Freeman (2003) also emphasises his arguments by proposing that the application of stakeholder theory can be flexible, considering the characteristics of industries. The conceptual framework which is introduced later in this research considers every possible stakeholder and clusters them as groups of customer, employee, investor, and others.

Although the framework is being considered to be adopted practically, having flexibility in classifying stakeholders is critical as argued by Freeman (2003), some may argue that blurring the other stakeholders group could make it ambiguous and hard to apply practically. However, in order to explain today's large range of industry sectors and different characteristics of individual firms even in the same sector, a flexibly transforming framework can be used to explain and analyse better. Other stakeholder groups may share constituencies with environmental factors. Once a constituency is considered as a minor stakeholder, it could be involved in environmental factors, which may affect the cycle of a value chain, but not prominently other in other stakeholder groups. In addition, each stakeholder group should be considered as an integrated group of individuals, not one constituency with the same interests (Sundaram and Inkpen, 2004). Even though one individual joins one of the primary stakeholder groups, expected value and standard from the

organisation are likely to vary. Regev et al. (2006, p.90) define flexibility in business as “the ability to yield to change without disappearing, losing identity”. In other words, the flexibility of one group which has its various range of constituencies in contemporary business circumstance could allow the framework to encompass different cases in a specific group, e.g. social responsibility of a large firm in the same industry could be considered more significantly than one of a small firm, in terms of its more crucial economical and environmental influence in the society. Hence, local society and government could be taken into account more seriously in larger firms. In short, in the sense that the contemporary business situation is unpredictable and transforms rapidly, it is critical to consider Freeman’s stakeholder theory prior to building the conceptual framework for establishing flexibility in response to the dynamic character of a competitive market place.

However, at this stage of research, confirming the conceptual framework and suggested measuring method from the customer perception is crucial. First, the designed questions are based on the SERVQUAL (Zeithaml et al., 1990) which is designed for measuring customer perception on service quality. Secondly, although other stakeholder groups can impact on a business critically, the customer is still the most significantly influencing group (Woodruff, 1997; Holbrook, 1999; Ulaga and Chacour, 2001; Verhoef and Lemon, 2013). Hence, investigating the proposed measuring method later in this study and conceptual framework from the customer perception can underpin the expandability of current findings to other stakeholder groups.

Conceptual framework of value network in a sustainable business

The framework for value network in a sustainable business is proposed as presented below (*Figure 1*). The framework divides the process into four major steps; emergence of Needs, Created values, Delivered value, and Perceived value and its surroundings (Environmental Factors). Need is the antecedent of this framework, derived from customers, employees, investors, and other stakeholders.

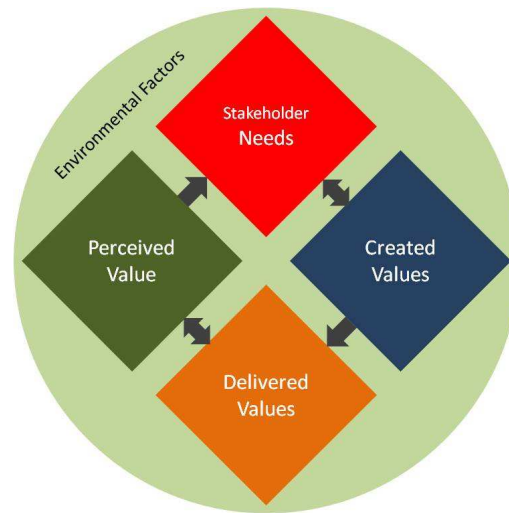


Figure 1 Conceptual framework of value network in a sustainable business

In order to have the continuous loop (in other words, sustaining a business), each step should occur by following previous steps. However, there are two relationships between emergence of Needs and Created value; Delivered value and Perceived value, where the sequential order may not be applied.

First of all, information technology development facilitated the leverage of customer influence in product or service development, which substantiated the emergence of customer-company's co-creating experience era (Prahalad and Ramaswamy, 2004). Verganti (2003, p.38) classified these interactions between needs and drivers into three models of innovation (*figure 2*). Verganti defines innovation as "the result of generation and integration of knowledge". The purpose of innovation in a company will likely be to deliver products or services that positively influence the customer for their profit. Hence, Verganti's description for innovation could be interpreted to the value created by a firm. In short, the first two steps, customer needs and created values, are closely correlated so that determining the sequential priority of them might be meaningless. Verganti (2003) instantiated the *Metamorfosi lamp* by Artemide to explain that customer needs can be created by the "languages" which designers have chosen to create value. In addition, by defining designers as sociologists, Borja de Mozota (2002) insists that aesthetically created product sociologic value is not derived from either the customer or the producer domain, it is co-created values from interactions between consumers and the corporation. In short, there is a complementary relationship between the emergence of customer needs and created values.

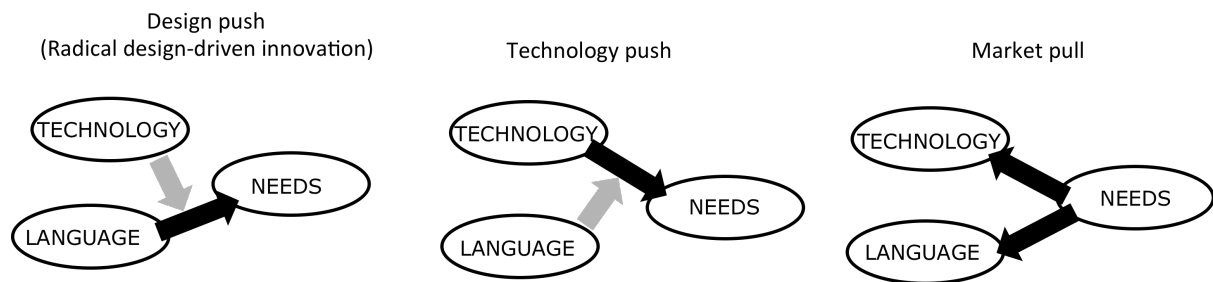


Figure 2 Knowledge drivers in different modes of innovation (Verganti 2003, p.38)

Secondly, there are two different viewpoints about explaining perceived value; one emphasises the fact that customers or stakeholders can only perceive the value that they receive and the other highlights the preference of specific customers and resources that produce the offering (Bowman and Ambrosini, 2000). In the former context, the relationship between delivering and perceiving is irreversible since customer perception cannot influence inversely. However, increasing and emphasising corporate social responsibility and sustainable growth induces the concept of responsible consumption, e.g. Fairtrade. Málovics et al. (2008) emphasise careful actions and responsibilities in the business sector among those related to ecological environmental worries. In other words, customers are more concerned about how the goods or services which they purchase are produced responsibly than at any other time. From the customer perspective in a value chain, how they perceive the goods or services provided, as a member of society, could affect their choice. Hence, the perceived value and the delivered value of stakeholders can be mutually related.

Once a cycle of the value created network is completed, it should generate satisfaction through valuable experiences from products or services offered. Satisfaction is the driving force of needs, which keeps the value chain circulating. Ranaweera and Prabhu (2003) prove that satisfaction is the more significant factor than trust to retain customers. The link, emergence of additional needs to make first value chain cycle loop again, may be described as *figure 3*. In order to encompass all stakeholder groups' cases (customer, employee, investor, and other stakeholders), the third step of the process is described as Stakeholder Retention. In doing so, it is more relevant to explain how other stakeholders' needs can be sought in a value chain, e.g. considering shareholders' top priority of investment in a large firm is their dividends paid, if they are well paid, their satisfaction could possibly effect more investment in the firm or at least potential investment in the future.

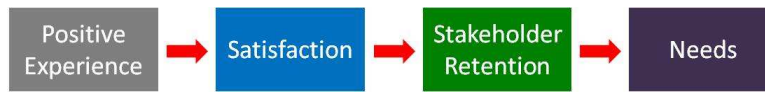


Figure 3 Creating Needs from positive experience

In addition to the four steps in the framework, environmental factors which surround the four step procedure play a significant role. Environmental factors may include rivalry (both domestic and international), geographic concentration, and government policy. All these factors could be included in the other stakeholders group accordingly.

Value theory

From the customers' perception, value is defined as the outcome of evaluation (Holbrook, 1999) or trade-offs (Zeithaml, 1988) calculated by the customers. The key to the sustainable business framework suggested above (*figure 1*) is to create value continuously. Positively exceeded value enriches the business environments within a society, stimulating the expectation of another transaction (Holbrook, 1999).

In order to create the value for customers, a business should have competitive advantages over other alternative choices. Porter (1990) states that the sustainable competitive advantage is derived from differentiated sources and continuous improvement. By emphasising sustainability, Porter also argues that basis of advantage must be broader and cumulated. Hence, long term relationship with customers (in other words, customer retention as this study addresses previously) is critical to be successful.

In the long term customer relationship context, three major elements; value creation, customer satisfaction, and customer loyalty, are proposed by Heskett et al. (1994) as *figure 4*. This chain is facilitated the embedment of design perspective which will be addressed later in this study. Three main advantages of maintaining long term customer relationship were introduced in business to business context research (Flint et al., 1997) as follows; utilising shared resources, obtaining useful information in advance, and minimising market penetration cost for new customers. Despite the fact that researchers indicate that, in business to business contexts, reducing financial risk for new market is relevant to business to customer situation, especially in saturated market condition.

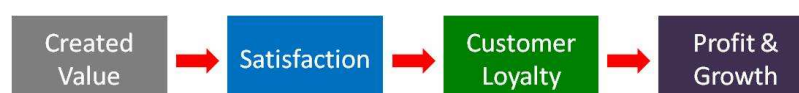


Figure 4 Service-profit chain (Heskett et al. 1994)

Once stakeholders' efforts for creating and enhancing value reach its end-cycle, profit & growth, the network should encourage stakeholders to reengage with the same

network/brand. In order to generate next needs of customer, a company should attract new customers or existing customers. By considering relatively higher cost and potential risks of failing to obtain new customers' attention, retaining customers is regarded as more efficient way to maintain a business (Flint et al., 1997; Kumar et al., 2011; Ranaweera and Prabhu, 2003; Reichheld and Sasser, 1990; Zeithaml et al., 1996). Furthermore, continuous customer needs are the impetus of the framework proposed above. Reichheld and Sasser (1990) demonstrate the importance of customer retention by emphasising their findings that reducing 5% of customer defection rate can impact on the sales profit from 25% to 85%. In short, the sustainability of creating value can be linked to a business' profitability, which stems from customers' multiple purchases.

This raises the question: What triggers these customers to stay? Holbrook (1999) classifies the triggers (in other words, value) into eight different dimensions, considering three major conditions (*Intrinsic – Extrinsic, Self oriented – Other oriented, and Active – Reactive*) as shown in *figure 5*. below.

		Extrinsic	Intrinsic
Self-Oriented	Active	Efficiency (Output/Input, Convenience)	Play (Fun)
	Reactive	Excellence (Quality)	Aesthetics (Beauty)
Other-oriented	Active	Status (Success, Impression Management)	Ethics (Justice, Virtue, Morality)
	Reactive	Esteem (Reputation, Materialism, Possessions)	Spirituality (Faith, Ecstasy, Sacredness, Magic)

Figure 5 Typology of Consumer value (Holbrook 1999, p. 12)

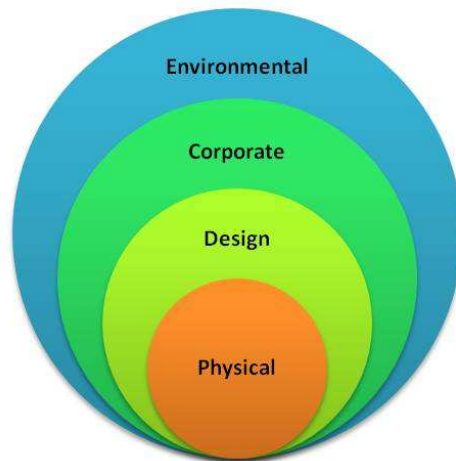
Despite its complex and ambiguous concept, Holbrook's typology of consumer value is regarded as a sophisticated typology which explicates modern consumer behaviour (Addis and Holbrook, 2001; Sánchez-Fernández and Iniesta-Bonillo, 2007). In Holbrook's detail explanation, extrinsic and intrinsic dimensions divide whether the consumption is the ultimate goal of customer. Self and other oriented value are classified based on the fact that the consumption is for themselves or considering reactions of other people. If customers manipulate products or services either physically or mentally (e.g. driving a rented car - physically; solving puzzles – mentally), the value belongs to the active dimension. On the other hand, if customers are manipulated by products or services (e.g. having their feelings touched while watching a movie), the value belongs to the reactive dimension.

Design audit

The audit provides the objective information about current operation to its management. Since design becomes a major strategy of a company's operation, managements becomes interested in whether its design strategies operate effectively and accord with corporate missions. However, like other audits, it is difficult to define clear boundaries of design audit elements and principles (Cooper and Press, 1995). Although specific measures of design audit are rarely mentioned, Cooper and Press (1995) argue that there are three levels to be considered; the corporate philosophy and strategy, how the company operates, and how design function communicates. This broad view is extended to explain the hierarchy of design audit. Cooper and Press argue that there are four hierarchies of design audit; "Physical manifestations of design, Design management, Corporate culture, and Environmental factors" (Cooper and Press 1995, p.214). By employing this view, design activities within a corporate can be clearly classified, thus, the design audit for functions within the company can be addressed. However, since the co-created value considers multiple stakeholders who are involved in the value creating network, it is necessary to investigate beyond the corporate viewpoints in order to encompass the value of other stakeholders for the expandability of framework such as customers and suppliers.

Despite its restrictions, what Cooper and Press (1995) argue can be construed as building the value of employees as well. Leadership, competencies, management, and people are positively related to the loyalty of employees, which may stem from greater employees' value and satisfaction on their work situation (Martensen and Grønholdt, 2001). These principles are already embedded in the hierarchy of design audit as shown in *figure 6*. Hence, the hierarchy of design audit will be significantly concerned in the classification. Therefore, in this section, the conceptual framework of value network in a sustainable business (*figure 1*) will be reinterpreted for understanding the relationship between stakeholders at the co-

creation of design value phase; and design audit elements and principles are disassembled and classified into clustered value typology.



Physical manifestations of design

- Visual identity
- Corporate design standards
- Product
- Work environment
- Pre-project

Design management

- Design resources: human, physical, internal, external
- Design skills
- Design training
- Design management: process, procedure, guidelines
- Design funding: investment and return
- Design department: location, services, aims and objectives
- Project management

Corporate culture

- Corporate design strategies
- Design awareness/understanding
- Design champions
- Design and other function integration
- Design activities undertaken

Environmental factors

- Market trends which could impact design decisions
- Design trends
- Legislation
- Standards

Figure 6 The levels an organisational design audit might address (Cooper and Press 1995, p. 214)

Design for value typology

There have been many efforts to evaluate a company’s design activities. From building a company’s visual identity to a communication tool with customers or the necessity of corporate marketing strategy, design has broadened its contribution to corporate management (Van Riel and Balmer, 1997). The concept of design audit for its effectiveness has been recognised as a key activity of a company’s development (Oakley in Oakley et al., 1990; Kotler and Rath, 1984; Cooper and Press, 1995). Nevertheless, it is difficult to define the criteria for assessment and boundaries of design audit. In addition, auditing design is rarely mentioned nor investigated in depth (Cooper and Press, 1995). For these reasons, design traditionally tends to be investigated and applied separately so that it often cannot be harmonised with the original goal practically or academically (Lockwood in Cooper et al., 2011). Hence, the attempt to embed design perspectives or theories into the business field is worth for being investigated.

However, there are some challenges for combining two concepts (value theory and design audit). First, the concept of evaluation mainly focuses on business performance (whether the result influences to a company’s tangible or intangible achievement). Determining its value might be ambiguous. Furthermore, evaluating the value driven by design activities could

make it even more complex. Second, due to the fact that design has strong associations with aesthetic, many aspects of design's value can converge on one dimension of value theory (e.g. aesthetic dimension in Holbrook's value typology). Third, what kind of methodology can demonstrate best for the result from two ambiguous concepts?

The aforementioned conceptual framework can be grouped into two (provider and receiver), considering their main agents. According to the conceptual framework, two groups influence each other as shown in *figure 7*. It can be interpreted that when one stakeholder group is being considered as receiver, the rest of stakeholder groups can be the provider of the sustainable value creating network. For example, if a customer who is buying a cup of coffee from a local independent shop is reckoned with the receiver of sustainable value creating network, the barista (employee), the owner (investor who decides to invest design elements for the shop), and the local community surrounding the shop (other stakeholder) can affect the value for the receiver (customer). Therefore, it can be posited that overall value created within the network is the output of interrelated value co-creating efforts.

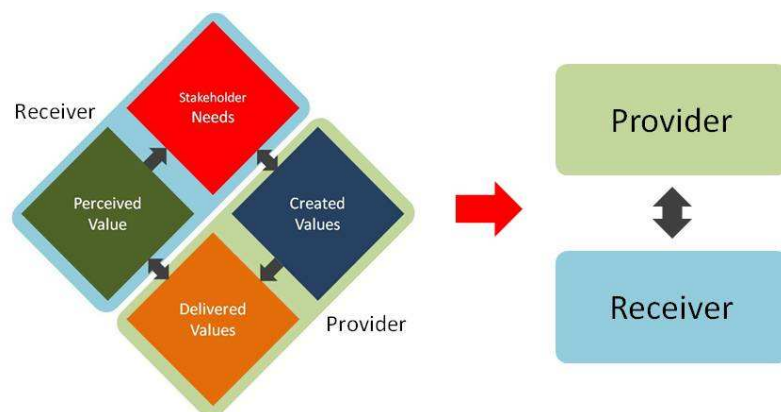


Figure 7 Grouping the conceptual framework

The service-profit chain (Heskett et al., 1994) is employed for verifying whether design perception from embedded measurement by the customer (through measurement of brand loyalty for example) can follow the same process as proposed in *figure 8*. Heskett et al. (1994) argue that there are two different strands of satisfaction in the entire service-profit chain; employees and customers. The customer becomes the *receiver* in the service-profit chain. Satisfaction and loyalty from the employee perspectives can create higher customer value and the employee can arguably be the *provider* as expressed in *figure 7*. This underpins the current argument that there is a mutual relationship between provider (employees) and receiver (customers), thus, it can be proposed that value within a sustainable business is co-created, not exclusively provided by a company. Therefore, the co-created design value which can contribute to the satisfaction of design elements and disciplines now need to be tested.

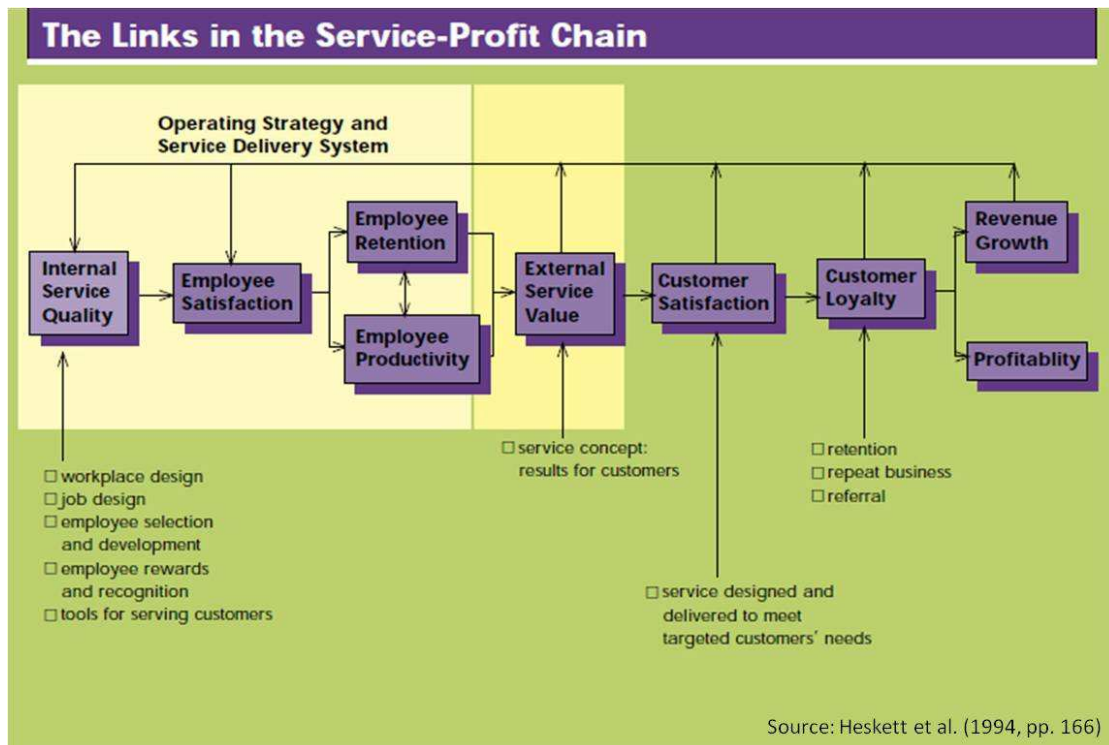


Figure 8 The links in the Service-profit chain

The interactions in *figure 9* between stakeholders under co-created design value stage are derived from the provider and receiver concept in *figure 7* in the sense that if one stakeholder becomes the receiver, the other three groups cooperate as the provider and interact with the receiver.

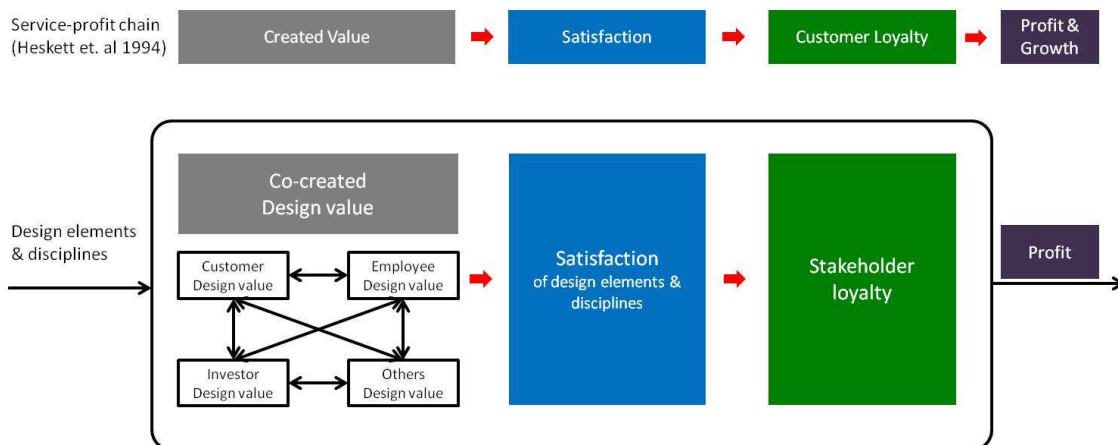


Figure 9 Adopting the service-profit chain into the conceptual framework

Clustering audit elements and principles

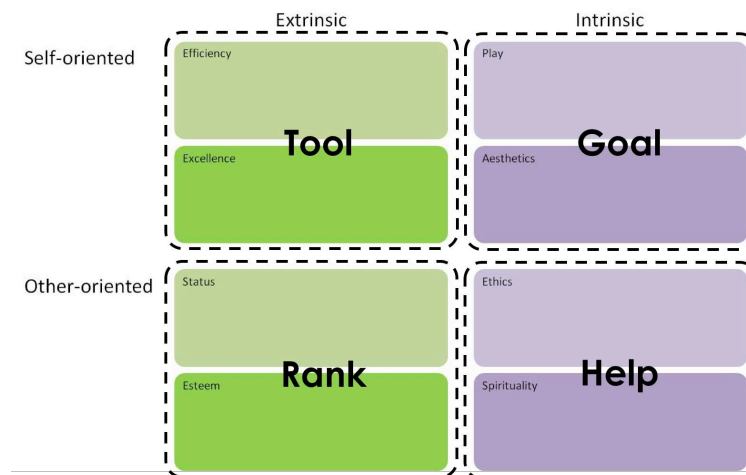


Figure 10 Clustered Holbrook's typology of customer value

Despite Holbrook's typology of customer value including various aspects of value, some researchers argue that there remains ambiguity between active and reactive value in Holbrook's typology of value (Leclerc and Schmitt in Holbrook, 1999, pp. 29-42; Solomon in Holbrook, 1999, pp. 62-84; Richins in Holbrook, 1999, pp. 85-104). In order to dissipate the ambiguity between active and reactive value concept, it is proposed that they are combined as one dimension and named as shown in *figure 10*. Each dimension represents the role of value as **tool**, **goal**, **rank**, and **help**.

In order to fully interrogate the scope of the value typology a questionnaire needed to be developed. SERVQUAL (Zeithaml et al., 1990) was used as a basis for the questionnaire as a number of these questions would probe the customer perspective of how design impacts upon the service provision. Additional questions were added to this edited list of questions in order to more fully address all aspects of the value typology. Thereafter, a questionnaire was designed by considering the four dimensions (design's value as **tool**, **goal**, **rank**, and **help**) and three phases (creating value, satisfaction, and loyalty). By doing so, how customers perceive offerings according to four dimensions along with the level of their attachment can be revealed.

Research methodology

In this study, the service industry is selected for testing the suggested framework by following reasons. First of all, due to the fact that service pertains in every industry (Daniels, 2012), researching service elements in each industry is valuable. Secondly, despite its importance, the service industry is still struggling with the lack of theoretical and practical research. Beyers (2012) argues that the need of the service industry research increases

both macro and micro level, emphasising the critical role of service industry for employment. By comparing other industry sectors, the service industry is recognised as a continuously growing sector. However, Daniels (2012) insists that the growth of service industry is now vulnerable. It is also argued that sustainable growth of service industry is now critically dependent upon efficient management and system (Daniels, 2012). Lastly, the flexibility of the service industry is construed as an essential. Due to the demand fluctuation and the application of new service in order to keep up with the contemporary trend (Sheu et al., 2003), service companies are forced to adopt new practical and theoretical methods. Therefore, the service industry is suitable for testing the framework which tries to explain radically changing environment.

The most critical task for this study is to build a tool with relevant questions to measure and reflect the design value of each stakeholder. Questions will employ a seven-scale likert along with the SERVQUAL measurement (Zeithaml et al., 1990). The key design audit elements and disciplines will be transformed into the seven-scale likert in order to be projected to same scale. The example of plotted result is as shown in *figure 11*. Once questionnaires are designed, quantitative data collection will be performed to validate the equation below.

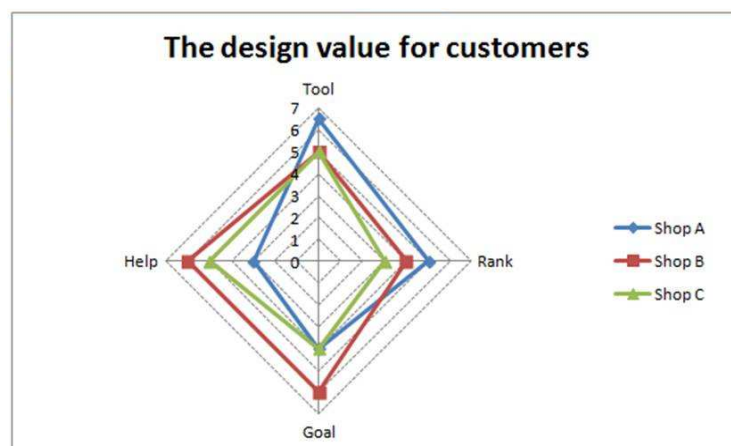


Figure 11. Example of plotted value

$$\text{Upper part of area} = \text{Tool} * (\text{Rank} + \text{Help}) * \frac{1}{2}$$

$$\text{Bottom part of area} = \text{Goal} * (\text{Rank} + \text{Help}) * \frac{1}{2}$$

$$\text{Sum of total customer design value} = \text{Tool} * (\text{Rank} + \text{Help}) * \frac{1}{2} + \text{Goal} * (\text{Rank} + \text{Help}) * \frac{1}{2}$$

$$= \frac{(\text{Rank} + \text{Help}) * (\text{Tool} + \text{Goal})}{2}$$

Due to the fact that four dimensions of the Holbrook's typology of value are cumulated for the co-created value independently, this research posits that there is no negative correlation between dimensions. Therefore, the design value for customers as the *tool*, *rank*, *goal*, and

help can be expressed and the extent of each café can represent the cumulated sum of generated customer design value from each brand. In order to determine the extent that each of these dimensions (*tool*, *rank*, *goal* and *help*) is “valued” by the customer, the above equation has been devised.

The results of the survey are categorised into two in order to identify any cultural differences of design impact within the targeted countries. By introducing the *glocalization* concept, Robertson argues that the influence of local culture in a business should not be underestimated (Robertson in Featherstone et al., 1995). In other words, it is crucial to investigate any differences between the two different cultural groups used for the study prior to making a generalised claim. Hence, at the current stage of this research, it is critical to parallelise the results and analyse these as two discrete cases.

A simple random survey was performed in this research for confirming two prerequisites; the independence of the value dimensions and the applicability of design for the service-profit chain. A customer survey was undertaken with participants from United Kingdom and South Korea through an internet-based survey. Targeted companies are selected by their size and sales. In order to increase the relevance of customer experience, more recent and frequent experiences were determined to be more relevant for the study. By selecting from top coffee chains (Mintel report 2012 for the UK and Trend monitor report 2011 for South Korea), this study aims to obtain the most relevant and recent data from customers. Employing the alpha level as 0.05, seven-point likert scale, and an acceptable margin of error as 0.03, the sample size (118 responses) is chosen by the calculation of the simple random questions for continuous data (Bartlett et al., 2001, p.46). The questionnaire is distributed to 152 participants and its full response rate is 78.9 per cent. 120 responses were returned and subsequently analysed (36 responses from the United Kingdom and 84 responses from South Korea).

Firstly, the independence of the value dimensions should be clarified. Since the co-created design value is measured by its plotted area, if each dimension (design as a *Tool*, a *Goal*, a *Rank*, and a *Help*) is correlated, the equation of the co-created design value is dependent upon each other and, therefore, becomes invalid.

	Set Input Y as			
	Tool	Goal	Rank	Help
Co-created design value	0.371	0.301	0.346	0.288
Design Satisfaction	0.552	0.420	0.569	0.336
Design Loyalty	0.772	0.705	0.709	0.227

Figure 12 R squared value of multiple regression result for each dimension (Korean coffee shops)

	Set Input Y as			
	Tool	Goal	Rank	Help
Co-created design value	0.381	0.076	0.351	0.182
Design Satisfaction	0.599	0.497	0.320	0.115
Design Loyalty	0.625	0.698	0.692	0.356

Figure 13 R squared value of multiple regression result for each dimension (UK coffee shops)

Figure 12 and 13 show the outcome of the multiple regression results by setting input Y as one of the dimension and input X as other three. The aim of this multiple regression is to investigate if dimensions are correlated and impact upon each other. The low R squared values represent the less possibility of their correlation. Although there are few noticeable results in the design loyalty, the overall result suggests that it can be difficult to explain the correlation between dimensions. Therefore, the aforementioned equation of dimensions can be relevant to calculate the sum of design value for each phase (co-created design value, design satisfaction, and design loyalty).

Secondly, it is necessary to confirm if the design perception of customers also follows the service-profit chain (Heskett et al., 1994). If the co-created design value, design satisfaction, and design loyalty correspond to what the service-profit chain confirms, it could be argued that the design efforts and results contribute to profit and growth. Therefore, it becomes possible to investigate the effectiveness of design in the food and beverage service industry.

It is empirically proven that end-user loyalty, which could lead to repurchase by customers, is derived from overall satisfaction more significantly than customer value (Spiteri and Dion, 2004). It is clearly indicated in their research that overall satisfaction drives customer loyalty, focusing on the degree of impact upon loyalty without judging the order between customer value and satisfaction. This result underpins that co-created value cannot directly affect stakeholder loyalty. Instead, it could be argued that it is necessary to have a mediating phase, *the design satisfaction of stakeholders*.

Therefore, the relationship between phases favours the simple correlation coefficient method. Since this research accepts the service-profit chain (Heskett et al., 1994), the relationship between phases needs to be investigated separately as mentioned previously. From the simple correlation coefficient analysis, the important hypothesis can be confirmed; whether each phase has positive or negative relationship.

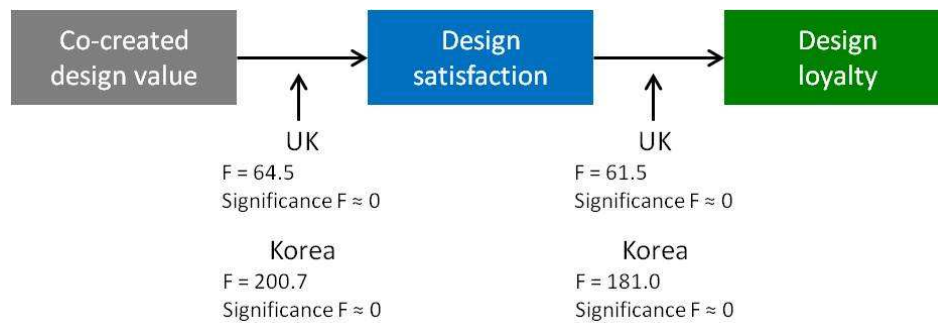


Figure 14 Single regression result of design impact upon each phase

Figure 14 shows the single regression result of the survey. Likewise what Heskett et al. (1994) suggest, the design perception of customers for each phase is significantly related.

Conclusion & Discussion

This study attempts to suggest a theoretical framework and a model which can synthesise the design perception of customer to business models and theories. From the result of this study, it is found that there are intervening roles of design for building higher customer satisfaction and loyalty and how they can be visualised. By understanding prerequisites of the profit and growth for a business in the design perspectives, the effectiveness of design can be more clearly discussed.

For future studies, there are some points of possible improvements for this study. First, it is necessary to define the notion of the profit and growth in order to determine the effectiveness. Secondly, since this study includes only the customer perception, investigating the perspectives from other stakeholders in the value creating network is necessary to more fully understand the framework applied for this study. Lastly, due to the fact that this study focuses upon large café chains in the UK and South Korea, it may be worthwhile expanding the study to include other businesses in the service industry sector, considering further geographical locations and business characters such as other restaurant businesses in multiple countries or financial companies operating internationally.

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Appendix

Survey question

1. Gender
 - a. Male
 - b. Female

2. Age group
 - a. 18 – 25
 - b. 26 – 35
 - c. 36 – 45
 - d. 46 – 55
 - e. 56+

Design as Tool

1. Products and Services from the () Café are good value for money.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
2. The () Café is located in a favourable place and I like the atmosphere of the surrounding area.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
3. The () Café company has modern-looking equipment						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
4. The physical facilities at the () Café company are visually appealing						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
5. Materials associated with the service (such as tables, sofa, and tableware) are visually appealing.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

6. Materials associated with the service (such as tables, sofa, and tableware) match well with the overall atmosphere of the café.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
7. I feel comfortable to staying / hanging around at the café using the tables, chairs, sofas, tableware etc....						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
8. I like the way the () Café decorates the service materials (such as tables, sofa, and tableware)						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
9. I like the logo (or signs) of the () Café						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
10. I like the interior of the () Café						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
11. I like the location of the () Café, because it fits in well with the surroundings						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
12. I am willing to introduce the () Café to friends, because they will also like the physical design of the () Café.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
13. I am willing to visit the () Café again to enjoy the mood of the () Café offerings						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
14. I will keep using the products and services from the () Café, even if the price is increased. Because I like the design of the () Café.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Design as Goal

1. Your main purpose of visiting the () Café is,						
1	to buy products (foods and drinks) – take-away					
2	to buy and enjoy products and services with friends or family					
3	a business purpose (meeting with customers)					
4	to spend time alone (reading books/magazines, studying, enjoying atmosphere)					
2. Considering your purpose in question 1, the design of the () Café helps you achieve this purpose.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
3. I feel comfortable and fulfilled, considering my purpose in question 1 by using the products and services from the () Café.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
4. I am willing to introduce the () Café to friends who have the same purpose of visiting.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
5. I will visit the () Café again, because I trust that the () Café will provide similar or better products and services than competitors.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Design as Rank

1. The () Café is a trendy place with the most recent design consideration.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
2. Other customers in the () Café are similar to me.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
3. I feel a sense of belonging in the () Café.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
4. The () Café's atmosphere reflects my characteristic						

Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
5. I think other visitors also like the design of the () Café.							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
6. I am willing to introduce the () Café to friends who are similar to me							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
7. I will visit the () Café again, because I trust that the () Café will provide similar or greater products and services							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	

Design as Help

1. I can find design considerations for people with physical difficulties in the () Café. (e.g. access ramp, ergonomic design)							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
2. I know that the () Café uses ethically sourced ingredients and products, because of their display or logos in sign. (e.g. Fairtrade®)							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
3. I believe that cafés should operate in a manner that includes a diversity / range of customers and use ethically sourced ingredients and products.							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
4. I can recognise from the design of the () Café that my consumption at the () Café supports others mentioned in questions 1 and 2.							
Strongly Disagree							Strongly Agree
1	2	3	4	5	6	7	
5. I think others also recognise the design of the café (design for those who have physical difficulties and using ethically sourced ingredients) at the () Café easily.							

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
6. I trust the () Café will continue to keep improving or maintaining current design considerations						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7
7. I prefer to consume products and services like the () Café, rather than other shops which have no considerations to their suppliers or consumers.						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7