CRANFIELD UNIVERSITY

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THE RELATIONSHIP BETWEEN CONSUMER CALIBRATION AND CONSUMER VALUE: A SYSTEMATIC REVIEW

SCHOOL OF MANAGEMENT
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Supervisor: Dr Radu Dimitriu, Professor Simon Knox
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ABSTRACT

Consumers' perceptions of their resources in consumption tasks (that is, their abilities and endowments to perform consumption tasks) are many times not accurate. This misjudgement of resources negatively influences their performance in consuming or using products and services. Further, this carries on to influence consumers' perceived value of products or services. In order to represent this phenomenon, consumer calibration is defined as the agreement between the subjective and objective assessment of consumer resources required in a consumption task. Therefore, it is crucial to discover the role of consumer calibration in the consumption experience. This paper proposes that consumer calibration occurs at two levels: of the task and of the self. Consumer task calibration refers to the extent of error in the task-required resource appraisal, whereas consumer self-calibration is the degree of accuracy in one's self-perception of abilities. This systematic literature review is conducted to explore the relationships between consumer self and task calibration, on the one hand, and consumer value, on the other hand. After screening 2297 studies, based on their relevance and quality, forty texts in three main academic domains of Marketing, Psychology and Information Systems are selected for analysis and synthesis. The results reveal that subjective and objective assessments of consumer resources and task-required resources influence consumer value through their impact on functional performance and emotional consequences. The findings also suggest that, although a relationship between consumer task and self-calibration exists, their relationship with consumer value and their emotional consequences need further scrutiny. Consequently, a model for the effect of consumer calibration on consumer value is developed, based on the relationships established in the literature reviewed and the interpretation of the findings in the studies reviewed.

Keywords:

Self-calibration, Task Calibration, Consumer Resources, Self-efficacy, Subjective Consumer Resources, Task Perception

Dedicated to My Mother and Wife

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1 INTRODUCTION

1.1 BACKGROUND

Consumers' perceptions of their abilities and resources do not often match their actual abilities and resources. These misperceptions of resources lead to poor purchasing decisions, usage experience and consumption dissatisfaction (for example, Lichtenstein, Fischhoff and Phillips, 1982; Alba and Hutchinson, 2000; Burson, 2007; Pillai and Hofacker, 2007; Kidwell, Hardesty and Childers, 2008b). In this systematic review, we aim to understand this phenomenon and its relation to the consumers' experience of product/service consumption.

Consumers appraise the possible means needed to reach a certain goal (Bagozzi and Dholakia, 1999). Bagozzi (1992) defines the self-assessment of consumers' resources as one of the main means-appraisal processes. Indeed, people take action (including product/service consumption) in their daily lives based on their impression of skills, knowledge and abilities. For instance, a student applies for a specific college or university based on self-judgment of her abilities (Dunning, Heath and Suls, 2004) or a consumer chooses a digital camera that is matched with his own knowledge about camera usage (Burson, 2007).

People may suffer costly from the consequences of the misinterpretation of resources. They might lose the opportunity to take advantage of applying their available resources (which they are not aware of) in a task or they might pursue the wrong path (Dunning, Heath and Suls, 2004). For instance, a person may perceive that she is capable of painting a wall but would waste paint as she does not know that she should have prepared the surface before painting. These consequences can also be severe. For example, a doctor may be over-confident of her expertise and expose the patient to a life threatening risk. There are many examples in the consumption context as well, such as a consumer who thinks she can assemble IKEA furniture (whereas she cannot), a consumer who refuses to buy a Smartphone as she underestimates her abilities or an elderly who still speaks to a cashier to withdraw small amounts of money, as she wrongly believes she is not able to use a cash machine.

The agreement between the subjective and objective assessment of a consumer's required resources for successfully performing a consumption task is called *consumer calibration*. For instance, Alba and Hutchinson (2000) show how knowledge calibration, the agreement between subjective and objective assessment of the validity of information, affects consumers' decision-makings quality, including purchasing and usage decisions. In another study, Kidwell *et al.* (2008b) indicate that, in addition to cognitive calibration, emotional calibration [that is, extent of agreement between emotional ability (emotional intelligence) and emotional confidence] influences a consumer's decision-making quality. Consumer calibration reflects the extent of consumers' accuracy in their self-assessment of resources. Consequently, the aim of this systematic review is to understand the role of consumer calibration in the product or service consumption experience.

Furthermore, several researchers prove that there is a strong causal relationship between *consumer (customer) value*, customer satisfaction and post-usage intentions (for example, Clemons and Woodruff, 1992; Patterson and Spreng, 1997; Oh, 1999; Lam *et al.*, 2004). Therefore, it is crucial to investigate how consumer calibration relates to consumer value in order to understand the role of the former in shaping consumers' post-usage intention, satisfaction and even the relationship with a company or brand. For example, a patient who thinks she is capable of using a self-diagnostic tool, when she is not (that is, a miscalibrated consumer) refuses to get more help and advice regarding the tool and may not derive the best value from product usage. She may not be able to perform this self-administered task successfully, as she is not emotionally or cognitively competent and she has not been advised. Consequently, the patient might discourage other people from using the self-diagnostic tool, because of her bad experience.

In the next sections, the systematic review question is defined, the practical implications are discussed, and the report structure is presented at the end.

1.2 REVIEW QUESTION

Considering the influential role of consumer calibration in usage experience and the concept of consumer value as a construct for representing the usage experience and influencing post-usage behaviour, the review question is:

- How are consumer calibration processes and consumer value related?

Consumer calibration and consumer value are defined and described in detail in Chapter 2. The meaning of this question is to explore all relationships between consumer calibration and consumer value sub-dimensions that are investigated in the existing academic literature. These sub-dimensions are also described in Chapter 2. Consequently, a systematic literature review (that is, the current thesis) is conducted to answer this question.

The importance of this question from the consumer's point of view is described. However, it is crucial to know what its implications are for companies and policy makers. The next section discusses the systematic literature review's practical implications.

1.3 PRACTICAL IMPLICATIONS

The outcome of this review provides companies with a better understanding of their consumers' behaviour through exploring consumer calibration processes and their influence on consumer product/service consumption. Following on from this, some benefits for companies of this knowledge advancement are described.

Consumer calibration improves consumers' new product/service adoption (for example, Lam and Lee, 2006; Dwivedi, Lal and Williams, 2009; Goh and Liew, 2009; Hernandez, Jimenez and Martin, 2009). Indeed, in many situations, consumers have the resources required for consuming a new product or service but are unaware of it such as those who do not use self-service check out, online banking or self-diagnostic tools. In the first place, firms have to be aware of such a phenomenon by measuring consumer calibration levels for the consumption of the innovative product/service. This review

provides the tools for firms to measure consumer calibration by understanding its components.

In the next stage, companies can help consumers to be calibrated. This can happen through communicating usage information to consumers. For instance, Barber, Ismail and Taylor (2007) show how wine label fluency improves self-confidence in picking the right wine. Furthermore, Hennig-Thurau (2000) proves that communicating customers' skills engaged in the consumption tasks helps them to have a better experience of a product by utilising more benefits, which in many cases leads to more satisfaction and positive post-purchase intentions. This idea can also be extended to the marketing communication strategies in the adoption phase of a new product. One of the best examples of the way firms help consumers to be calibrated are Apple Shops, where consumers can actually try new products to see if there is a match between their capabilities and the products' required skills. This review explores elements that companies can influence and the types of information they need to communicate in order to improve consumer calibration.

Calibrating consumers, itself, can be a source of new value propositions for companies. For instance, in using self-diagnostic tools, some people have the cognitive ability to use the product but are not emotionally capable of handling it. If a company can provide an emotion-free situation (by proposing a specific product or service) for these consumers and prove to them they do have the necessary ability, the company would stand a lot to gain. This systematic literature review explores areas that firms can investigate in order to find these new value propositions.

Consumer calibration can be a basis for consumer segmentation. Marketers can segment their consumers based on different levels of calibration and propose different value packages to them. These segments can be calibrated with high abilities, miscalibrated with high abilities, calibrated with low abilities or miscalibrated with low abilities (Burson, 2007). Each of these segments may have different value propositions or informational material requirements. Some segments may need a completely new product/service or a different communication strategy.

The objective of this review is to show the relationship between consumer calibration and consumer value. Accordingly, one of the main implications for businesses is how to

improve their consumers' experience by facilitating the way in which they can be calibrated, as discussed above. By thus, boosting consumer value, companies should further benefit in terms of consumer post-purchase intentions, such as word of mouth and repurchase decisions and the consumer-company relationship.

Another consideration of consumer calibration is its relationship with brands. Brands have product related and non-product related associations, that consist of product and service usage information (Keller, 1993), and this information can influence consumer calibration. Accordingly, it is assumed that consumers can be better calibrated for brands communicating product and service usage information effectively. It defines a direction for marketers to build a brand with a purpose for facilitating consumer calibration. However, this hypothesis needs to be empirically investigated.

Finally, the outcome of this review opens an ethical consideration in the company-customer relationship for policy makers. Some firms sell more products or services by miscalibrating their consumers. For instance, in cosmetic advertising, women's self-perceptions are diminished by showing a good-looking model and then a beauty product is proposed, helping to relief them of their poor perception of the self (Apaolaza-Ibanez *et al.*, 2011). Another example is those advertisements that untruthfully show a product or service as easy to use, making consumers over-confident of their resources and persuading them to purchase the product. Here, the question is: is it ethical to miscalibrate consumers?

After describing the review question and its practical importance, the next section specifies the structure of the report, which explains the way in which the review question is answered.

1.4 REPORT STRUCTURE

In order to provide readers with a clear understanding of the logic behind it, the structure of the report is briefly described as follows:

Chapter 1. Introduction - this is the current chapter and identifies the review question and the importance of this systematic literature review. It also describes the potential practical implications of the review.

Chapter 2. Defining - the Field of Enquiry, defines and describes the concepts of consumer calibration and consumer value and their sub-dimensions. It also positions the review among the existing literature domains.

Chapter 3. Methodology - explains the process of the systematic literature review conducted to answer the review question. It includes the way existing studies related to the question are identified, evaluated, analysed and synthesised.

Chapter 4. Descriptive Findings - illustrates the statistical characteristics of the reviewed literature and explains their common trends.

Chapter 5. Conceptual Findings - depicts the core findings from the studies reviewed related to the review question. This chapter mainly focuses on the relationships investigated between consumer calibration and consumer value elements.

Chapter 6. Discussion - consists of an evaluation of the findings in Chapter 4 in terms of the extent of their contribution to answering the review question. Furthermore, the contribution of the review towards the existing literature is identified and literature gaps are discussed.

Chapter 7. Conclusion - provides a summary of the systematic literature review. Additionally, research limitations and recommended further research are discussed and a personal reflection is presented.

2 DEFINING THE FIELD OF ENQUIRY

2.1 INTRODUCTION

This chapter outlines the research areas that are in the scope of this review and respond to the review question. It also defines the concepts of consumer calibration and consumer value and their sub-dimensions and related constructs.

Figure 2-1 illustrates two main fields of study in the interest of this review. Indeed, studies at the intersection of these two areas answer the review question. The review looks at the relationships between consumer calibration processes and consumer value. However, before proceeding to these relationships, a clear understanding of the concepts is required. Consequently, in the next sections, the entire fields of consumer calibration and consumer value are defined and explained.

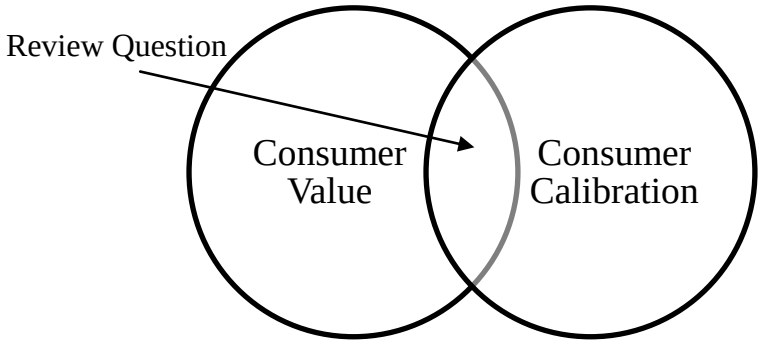

Figure 2-1, Mapping the Field

2.2 CONSUMER CALIBRATION

Calibration is usually described as the agreement between the subjective and objective assessment of a phenomena. In consumer research, consumer's self-assessment of resources has been the focus of several studies. For instance, knowledge calibration is defined as the agreement between what we think we know and what we actually know (Alba and Hutchinson, 2000). Alternatively, emotional calibration refers to the agreement between emotional confidence (that is, perceived emotional ability) and actual emotional ability (that is, the consumer's ability to use emotional information in order to gain a desired outcome) (Kidwell *et al.*, 2008b). Here, objective and subjective

consumer resources are defined in order to provide a basic understanding of consumer calibration.

2.2.1 Objective Consumer Resources

Objective consumer resources are consumers' actual knowledge, skills, abilities and other resources. Arnould, Price and Malshe (2006) divide consumer resources into operand and operant resources, arguing that consumers apply their operand and operant resources for their life projects based on the different roles they play to achieve their life goals. Operand resources are defined as resources over which a consumer has allocative capabilities in order to perform life projects. These resources can be material objects, such as goods and money, or physical spaces, such as a garden or a house. Operant resources are categorised into physical, social and cultural resources. In this classification, physical resources are those related to the mental and physical capabilities of a consumer, such as sensorimotor (that is, pertaining to motor responses caused by sensory stimuli) endowment, energy and emotion. Furthermore, social

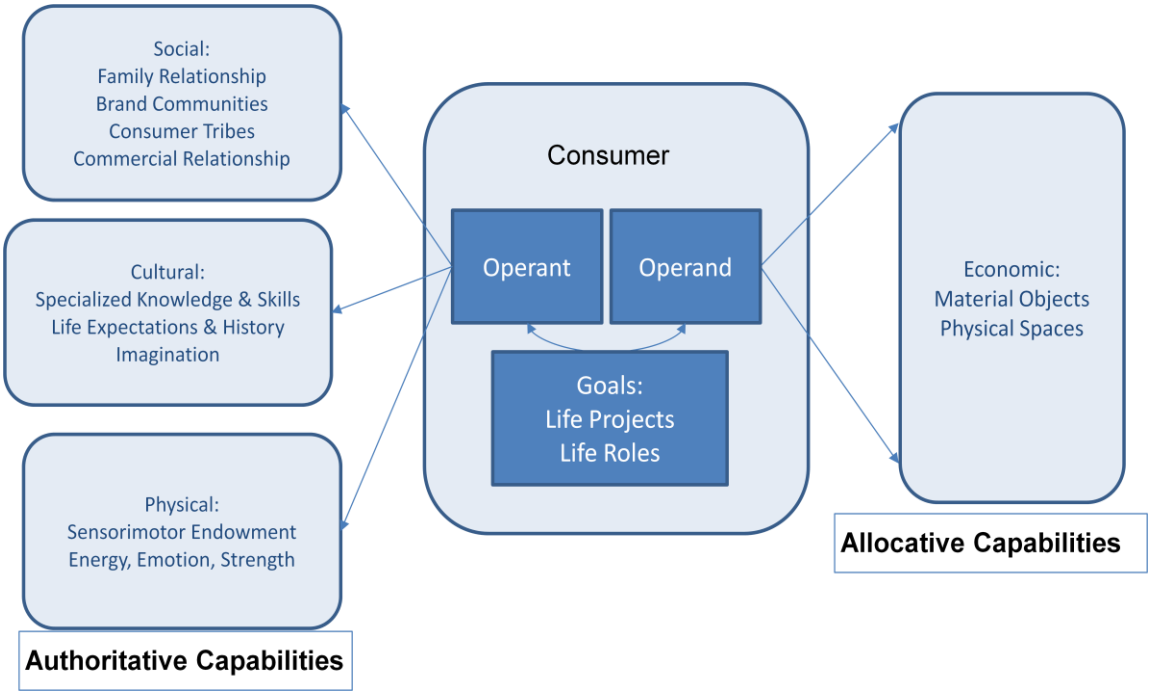

Figure 2-2, Consumer Operand and Operant Resources (adapted from Arnould *et al*., 2006)

resources are social relationship networks around the consumer that can be demographic groups, such as families, ethnic groups and emerging groups, such as brand communities or consumer tribes. Finally, cultural resources are specialised cultural

capital, skills and goals. Therefore, any specialised knowledge and skills are considered as cultural resources (Figure 2-2). The main focus of this review is cultural and physical resources, which are intrinsic and embedded in the individual consumers.

Alba and Hutchinson (1987) focus on the cognitive ability of consumers and try to uncover components of consumer knowledge. They define two main components of consumer knowledge as product familiarity and expertise. Product familiarity refers to the extent to which a consumer has accumulated product experiences and expertise implies "The ability to perform product-related tasks successfully" (Alba and Hutchinson, 1987, p. 411). Product familiarity improves consumer product expertise.

Consumers need different product expertise for performing product/service related tasks. Several researchers try to define and explain these abilities. For instance, Gueutal (1989) define field independence/dependence as "a perceptual skill which describes the ability of individuals to extract information from a complex visual field" (Gueutal, 1989, p. 15). Other examples are the conceptualisation of emotional intelligence in the consumption context (Kidwell, Hardesty and Childers, 2008a) or the investigation of spatial ability (that is, having a mental representation of a device's information structure) in the product usage context (Arning and Ziefle, 2009).

Having had a brief discussion on consumer resources, the next section proceeds to the concept of subjective consumer resources or, in other words, consumer self-assessed resources.

2.2.2 Subjective Consumer Resources

Subjective consumer resources refer to a consumer's self-perception of their abilities. Self-assessment has been in the interest of psychologists and one of the most influential concepts expressing the self-assessment of abilities is *self-efficacy* introduced by Bandura (1977) in his social learning theory.

Self-efficacy is "judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). Perceived self-efficacy influences people's activity choice and performance. Consequently, tasks perceived as exceeding one's performing abilities are avoided and those within one's coping

capabilities are undertaken confidently (Bandura, 1977). Self-efficacy also affects one's efforts in coping with difficulties and obstacles. Those with some uncertainty about their capabilities give up during aversive experiences, while people with a strong sense of their abilities apply greater efforts to cope with challenges (Bandura and Schunk, 1981; Weinberg, Gould and Jackson, 1979). Furthermore, underestimating self-efficacy causes stress and weakens performance by diverting attention from concentrating on the task being perfectly executed to concerns about failing to perform well (Bandura, 1982).

There is a subtle difference between self-efficacy and outcome expectation. While outcome expectation refers to the consequences of a performed action, self-efficacy deals with the performance of that action (Bandura, 1977).

Self-efficacy is formed based on four basic information sources, including performance achievements (enactive), vicarious experiences of observing others' performances (vicarious), verbal persuasion and social influences (exhortative) and physiological states from which people partly appraise their capability, strength, and weakness (emotive). From these four sources, performance achievement has the biggest impact on self-efficacy. However, the effect of each source is influenced by social, situational and temporal events (Bandura, 1977; 1982).

Self-efficacy varies by three dimensions: magnitude, generality and strength (Bandura, 1977). Magnitude refers to the extent of task difficulty. People perceive their abilities as lower in more difficult tasks. Generality is about the effect of efficacy expectation in a task on other similar tasks. For instance, Bong (2001) emphasises the importance of the self-efficacy specificity and the differences and relationships between math problem solving self-efficacy and general educational self-efficacy. Finally, strength shows how strong the self-efficacy belief is. It is difficult to alter strong self-efficacy judgments (Bandura, 1977).

The concept of self-efficacy is investigated in order to explain consumer behaviour. McKee, Simmers and Licata (2006) show that higher service use self-efficacy leads to higher perceived value and positive post-usage intentions. Consequently, they recommend that service managers provide consumers with training, feedback, vicarious experiences, verbal persuasion and a low stress environment. Similarly, van Beuningen

et al. (2009) indicate that, in online investment trading, self-efficacy positively affects perceived financial performances and perceived value, which influence future usage intention.

As already mentioned in Chapter 1, the self-assessment of resources does not match with actual resources. Winne and Jamieson-Noel (2002) suggest that sources of error in self-assessment of achievement are external information sampling bias (for example, focusing on one complement), internal information searching bias (for example, forgetting facts) and inserting invalid information or deleting valid information for reconstructing a scene. Similarly, Kim, Chiu and Zou (2010) explain that the biased self-assessment, in particular positive bias, can have two main explanations. The first source of bias is the outcome of a lack of cognitive ability to assess or a lack of meta-cognitive ability to express the assessment. The second source of bias is the motivation to self-enhance. Indeed, people tend to assess themselves favourably in spite of their actual performance.

As self-efficacy is the estimation of future task performance, it involves both levels of the judgment: task and self. In fact, the assessment of task-required resources is specified as an influencing factor on the self-efficacy by Bandura (1982) and the self-perception of abilities is a part of self-efficacy. These two types of assessment are described in the next sections.

After defining and discussing subjective and objective consumer resources, the next sections define the building blocks of consumer calibration. From Chapter 1, consumer calibration in a consumption task refers to the agreement between the subjective and objective assessment of the consumer resources required in the consumption task. I propose that this definition includes two levels of judgment, including the consumer's assessment of her own resources and her appraisal of task-required resources in particular situational and environmental circumstances. Miscalibration can occur in either of these two levels. Consumers may not be aware of required resources in a task or be biased on their resources. For instance, a consumer may not be aware of the required skills for operating a self-diagnostic tool (that is, task level miscalibration) or she knows exactly what the task requires but does not have the exact understanding of her emotional abilities for using the tool (that is, self level miscalibration). Therefore,

whereas the existing consumer behaviour literature has only looked at the issue of self-calibration, I have broken down the concept of consumer calibration into two sub-processes of *consumer self-calibration* and *consumer task calibration*. In the following sections, these consumer calibration processes are defined and described.

2.3 CONSUMER SELF-CALIBRATION

Knowledge and skills are necessary for any task accomplishment but are not enough. In fact, people do not act efficiently because the self-perception of their knowledge and skills mediates the relationship between available resources (knowledge and skills) and resource utilisation (action) (Bandura, 1982). For example, people regulate their efforts in a task based on their belief in the ability of performing the task. This belief can be in agreement with the actual abilities or not (Bandura, 1977). The agreement between self-perception of resources and actual resources is called *consumer self-calibration* and influences the performance of actions.

The subjective evaluation of one's ability is called self-confidence (Adelman, 1987) and this definition is very close to the self-efficacy concept. While self-confidence is the self-perception of resources, self-efficacy is referred to as the self-perception of performance. As performance is influenced directly by abilities, sometimes these two terms are used interchangeably (for example, Li, Lee and Solmon, 2007).

Consumer self-calibration has been in the interest of a few consumer behaviour studies. These studies normally focus on the calibration of certain consumer resources, such as knowledge or skill calibration, and try to discover its effect on the consumer purchasing decisions.

In a very close work to that on calibration, Burson (2007) introduces skill matching as a process in which a consumer chooses a skill-based product (that is, those products that can be ranked by skill levels, such as sport-related goods and technological products) and aligns it with his skill rank. Firstly, the study reveals that consumers tend to choose skill-based products according to their own skills. Secondly, the findings suggest that consumers relatively underestimate their skills when they are faced with more

challenging tasks. Finally, the research indicates that consumers choose skill-based products based on their own assessment of their product skill level.

This research highlights the importance of consumer's self-assessment in purchasing decision-making. However, it investigates consumer subjective and objective skills assessment in relation to task difficulty, rather than measuring actual and perceived consumer skills. Additionally, it focuses on the cognitive abilities of the consumer and ignores the consumer's emotional abilities. These two issues are addressed in the work by Kidwell *et al.* (2008b), which is explained below.

Kidwell *et al.* (2008b) indicate that, in addition to cognitive calibration, emotional calibration influences consumer decision-making quality. Emotional calibration refers to the extent of agreement between emotional ability (emotional intelligence) and emotional confidence. Consumer emotional ability is the ability to interpret emotional information in a consumption experience and emotional confidence is the subjective assessment of the consumer emotional ability. Based on this definition, the study reveals that emotionally calibrated consumers make higher quality decisions than miscalibrated consumers. Furthermore, it shows that calibrated consumers with higher emotional abilities make better decisions than those calibrated consumers with lower abilities.

These studies look at consumer self-calibration and its influence on consumer purchasing decisions. By contrast, this systematic literature review examines the role of consumer self-calibration in the overall usage process through probing its relationship with consumer value. In the next section, the second level of consumer calibration, consumer task calibration, is explained.

2.4 CONSUMER TASK CALIBRATION

Bandura (1982) argues that although self-efficacy is dependent on the action, it is influenced by some other factors, such as task requirement appraisal. He suggests that misjudgement of the task-required skill and knowledge leads to faulty self-efficacy, even though there might be a strong perception of one's resources. However, in Bandura's self-efficacy theory both self- and task appraisal are reflected in the concept

of self-efficacy. By contrast, I extract these two concepts here in order to show their effects on task performance and, in the consumer world, on consumer value. In particular, although a clear understanding of consumers' self-appraisal of resources has been achieved, few researchers have studied task appraisal. Consequently, this study aims to introduce the concept of task appraisal and its effect on consumer behaviour.

In the educational psychology literature, the term *task perception* is defined as perceived task difficulty (Watt, 2004). In fact, in the classic expectancy/value theory, objective task difficulty and subjective expectancy are defined as synonymous (Atkinson, 1957). By contrast, other researchers distinguished between these two concepts. For instance, Eccles *et al.* (1983) make a distinction between one's domain specific abilities and perceived task difficulty. They show that these two constructs interact with each other and influence one's expectation of success in a school subject. Furthermore, Eccles and Wigfield (1995) show that the two factors represent perceived task difficulty, including perceptions of difficulty (how hard is the task) and perceptions of effort required to do well (how much time and energy is required).

In the human-computer interaction literature, computer task complexity indicates the required resources for performing a computer task. These resources are knowledge, skills, time and effort. In fact, the allowed margin of error is reduced in higher complexity tasks, leading to more stringent requirements for resources. Accordingly, a user's perception of a task complexity is actually his assessment of the resources required for performing the task successfully. In reality, the average of these perceptions is above or below the actual task difficulty (over-estimates or under-estimates) (Chang, 2005). Chang (2005) calls the difference between perception and actual task complexity as *user perception margin*, whereas here I call it miscalibration.

Task knowledge has been investigated in some studies. *Task knowledge* is defined as one's know-how for performing the task. In most of the goal setting studies, where the main focus is on the effect of effort on task performance, task knowledge is controlled and is not measured. However, even in the simplest tasks, it is assumed that one has some knowledge of the task. In fact, there are interrelationships between task knowledge and performance (Locke, 2000). The term *task strategy* is also used instead of task knowledge to define the way a task is performed (Locke *et al.*, 1984). For

instance, learning strategies are defined as methods students use to select, organise and integrate new and existing knowledge (Weinstein and Mayer, 1986). They are divided into the two categories, namely cognitive strategies and self-regulation strategies. Cognitive strategies deal with mental activities and self-regulation strategies with the management of resources (Pintrich and Schrauben, 1992).

In these works, it is assumed that people perform a task according to their task knowledge. Although it is true for routine tasks, for new tasks, such as using a new product, the actual way of performing the task may be different from what was thought before the task, due to the learning that happens during the performance. Therefore, subjective and objective task knowledge are not always matched.

The subjective assessment of the task-required resource has two elements: 1) what resources are required? and 2) how much is required from those resources? The former refers to the task strategy, which is the way a consumer plans to perform the task. Accordingly, the consumer perceives a certain set of resources to be required for performing that strategy. For example, a person may think of a taxi for commuting to work as needing communication with the taxi driver and costing more, while another person may think of the Underground for commuting, which needs more walking and knowledge of the stations' locations. In either of these two cases, the planned way of performing the commuting task (that is, perceived task strategy) may not be accomplished (for example, there might be no close by bus station or the taxi might cost than she thought). The second element of subjective evaluation of the task implies the perceived difficulty of it and the effort required. For instance, a consumer may think that opening a jar of jam is easy and spend less effort than required.

Consequently, subjective and objective task appraisals need to be studied in order to understand consumer task calibration. Subjective task appraisal includes the perception of task difficulty, the effort required and task strategy. On the other hand, objective task appraisal consists of the actual task difficulty, effort required and appropriate task strategy.

Consumer calibration and its building blocks have therefore been defined and explained. In the next section, the concept of consumer value is defined and described.

2.5 CONSUMER VALUE

The term *consumer value* or *customer value* (CV) is used in the marketing literature with different meanings and there is no agreed definition for it (Woodruff, 1997; Graf and Maas, 2008). Generally, the differences in definitions come from the differences that exist between the two approaches of the customer's perspective of CV and the company's perspective of CV (Graf and Maas, 2008).

Woodruff and Flint (2006) present four different approaches for defining CV. First, there is the value-added concept from a company's perspective. This concept suggests that companies create value through their offered products and services. In the second approach, CV is defined as the economic worth of a customer, again, from a company's perspective. The approach tries to segment customers according to their value to the company and argues that customers have a different value for the company. The third definition is the economic worth of a seller's product/service offering, which suggests that customers measure value by their economic reference points. Finally, CV is defined by the concept of value in use. Based on this concept, value is the customer perception of experiencing a product/service in a specific usage situation.

As explained above, there are different definitions of CV. Zeithaml (1988) defined perceived value as "the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (Zeithaml, 1988, p. 14). This definition is in line with Woodruff and Flint's (2006) third category of customer value citation, which focuses on the customer's comparison of benefits and sacrifices.

Focusing on the experiential aspects of consumption, Holbrook (1994, 1996) defines customer value as "an interactive, relativistic preference experience" (Holbrook, 1996, p. 138). The interaction is between an object (for example, product) and a subject (for example, customer) and is relativistic in comparative, personal and situational senses. Indeed, customer value includes a preference for one object over another, based on an individual comparison in a specific situation. These interactive relativistic preferences shape experiences, leading to value creation.

Woodruff (1997) describes CV as "a customer's perceived preference for and evaluation of those product attributes, attribute performances and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations" (Woodruff, 1997, p. 142). This definition is consistent with the concept of value-in-use and the means-end hierarchy of value, which are the focus of this review. In fact, Woodruff and Gardial (1996) adopted the means-end model of categorising product information for the concept of CV (Figure 2-3). It suggests that a consumer starts valuing a product or service by thinking about product/service attributes. The valuation continues with the usage of the product or service and through experiencing the performance and consequences of those attributes. Finally, in the top level of the hierarchy, the consumer evaluates the overall process by investigating how these performances and consequences lead to the desired goals.

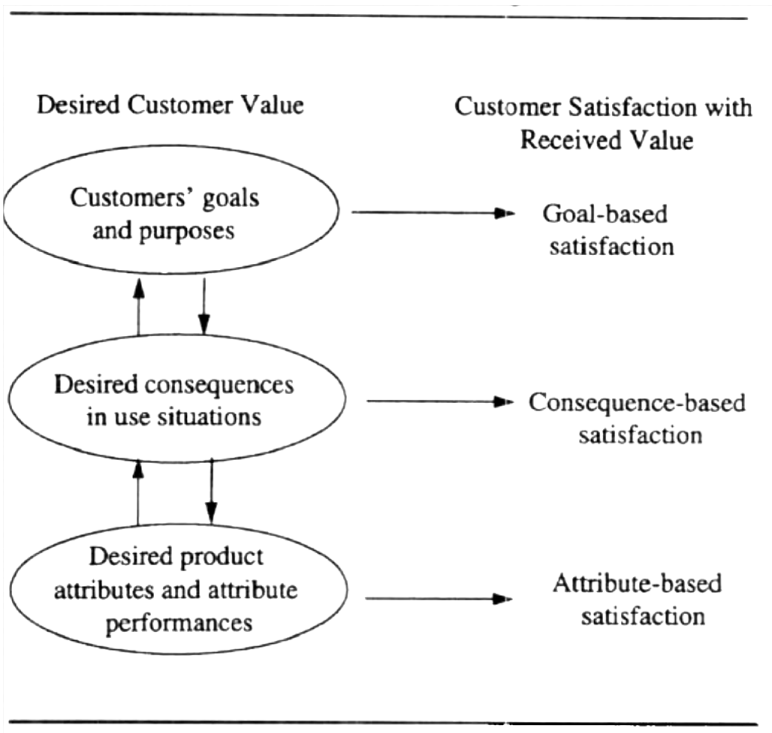

Figure 2-3, Customer Value Hierarchical Model (Woodruff and Gardial, 1996, p. 142)

Researchers have tried to extend the definition of value-in-use by classifying it into different categories. Sheth, Newman and Gross (1991) classify customer value into five types: functional, emotional, social, epistemic and conditional value. However, there are overlaps in these categories. For instance, social and epistemic value have an overlap

with emotional value. Therefore, a more structured approach is needed to classify customer value.

Holbrook (1994) uses three dimensions to present a typology of customer value. These dimensions are intrinsic value versus extrinsic value, others-oriented versus self-oriented and active versus reactive. Consequently, there are eight types of value: efficiency, excellence, play, aesthetics, status, esteem, ethics and spirituality (Figure 2-4). These types of value are described below for a better understanding of customer value. They could easily be used as criteria for classifying customer value in practice as well.

		Extrinsic	Intrinsic
Self-Oriented	Active	EFFICIENCY (O/I, 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)

Figure 2-4, A Typology of Customer Value (Holbrook, 1996, p. 139)

Efficiency occurs when an experience is actively used as a means to a self-orientated end. This is usually measured by comparing the output and input of experience. *Excellence* is the capacity of an experience as a means-to-an-end in functioning well but is not necessarily used for that purpose. *Status* refers to the case when an experience is used as a means to influence others' responses. *Esteem* is similar to status, since the consumer seeks others' approval in a certain experience. *Play* leads to having fun in a

self-orientated experience. *Aesthetics* refers to the reactive, self-orientated appreciation of an experience. *Ethics* occurs in the involvement in an experience and its effect on others. Finally, *spirituality* closely resembles ethics, with a focus on the reactive side of other-orientated experiences which are valued for their own sake (Holbrook, 2006).

Mattsson (1992) introduces value dimensions, being developed from the Hartman (1967) value structure, for analysing consumer value. These dimensions are logical, practical and emotional value. Logical value refers to the consumer evaluation of standards and routines. On the other hand, practical value refers to consumer's assessment of the functionality, excellence and perfection of a phenomenon. Finally, emotional value focuses on consumer's feelings from an experience.

Other scales have also been developed for measuring CV. Sweeney and Soutar (2001) develop a 19 item measure for use in retail purchase situations. The scale is quantitatively tested and validated leading to four dimensions of value including emotional, social, quality/performance and price/value for money.

In conclusion, Woodruff's (1997) definition of CV as value-in-use is consistent with the aim of my review investigating the product or service usage. This definition reflects the means-end nature of value as well as preferential and evaluative characteristics of the CV process.

Having developed the understanding of the definitions of consumer value and consumer calibration in this section, the next section advances the review question stated in Chapter 1.

2.6 REVIEW QUESTION UPDATES

The review question is: How are consumer calibration processes and consumer value related? Consumer calibration is broken down into consumer self-calibration and consumer task calibration. Furthermore, consumer self-calibration is the agreement between the subjective and objective assessment of consumer resources and consumer task calibration is the agreement between the subjective and objective assessment of

task-required resources. Therefore, the review question can be translated into the following sub-questions:

1. Is there a relationship between objective consumer resources and consumer value?
2. Is there a relationship between subjective consumer resources and consumer value?
3. Is there a relationship between consumer self-calibration and consumer value?
4. Is there a relationship between objective task-required resources and consumer value?
5. Is there a relationship between subjective task-required resources and consumer value?
6. Is there a relationship between consumer task calibration and consumer value?

There may also be a relationship between consumer self-calibration and consumer task calibration and their sub-constructs. For example, consumers tend to have lower perception of ability in more difficult tasks (Burson, 2007). Or those with higher knowledge about a consumption task have a more accurate perception of task difficulty (Gueutal, 1989). Consequently, for better understanding of these concepts and developing a comprehensive model for consumer calibration discovering these relationships is crucial. Accordingly, the following questions are added to the review:

7. Is there a relationship between consumer task calibration and consumer self-calibration?
8. Is there a relationship between objective/subjective consumer resources and objective/subjective task-required resources?

3 METHODOLOGY

3.1 INTRODUCTION

A systematic literature review is designed to answer the review question of how consumer calibration relates to consumer value. Here, I describe the method used for comprehensively and purposively identifying, evaluating, analysing and reporting the existing studies in order to respond to the review question. Cook, Mulrow and Haynes (1997, p. 376) state that "a systematic review involves the application of scientific strategies, in ways that limit bias, to the assembly, critical appraisal, and synthesis of all relevant studies that address a specific clinical question", which in this study is a management question.

Adapted from Tranfield, Denyer and Smart's (2003) framework for systematic review, this review has four stages including planning the review, identifying and evaluating studies, analysing and synthesising data and reporting and utilising the findings (Figure 3-1).

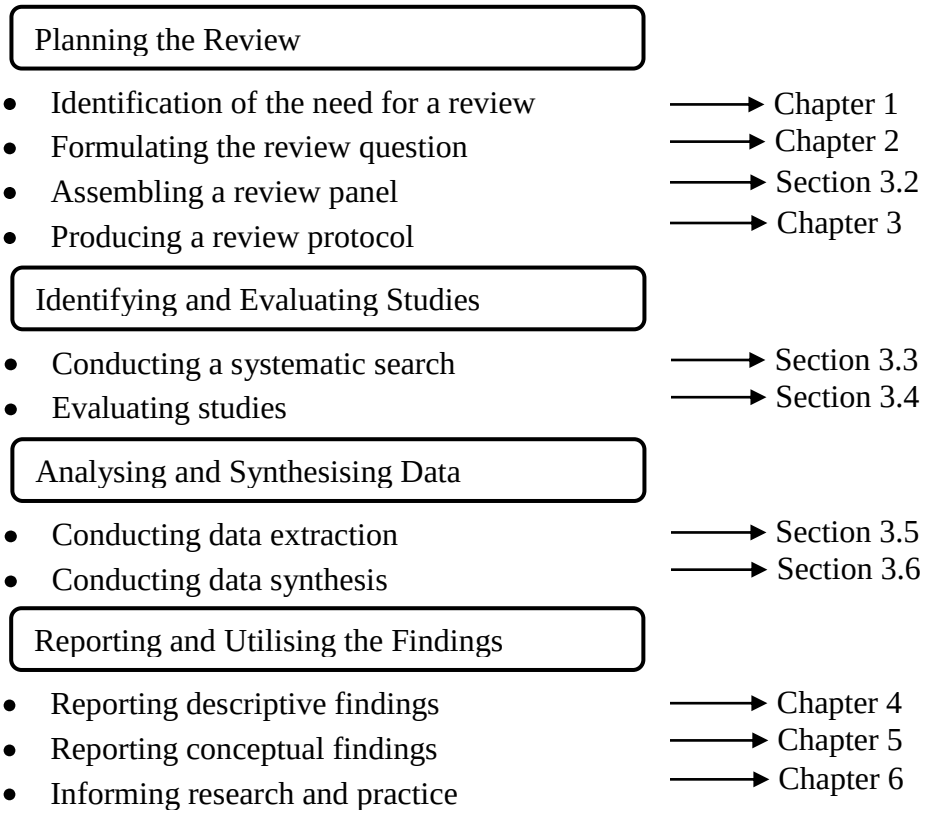

Figure 3-1, The Systematic Review Process

The first stage consists of identifying the need for a review, as discussed in Chapter 1, formulating the review question, as explained in Chapter 2, assembling a review panel, as described in Section 3.2 and producing a review protocol. In fact, this chapter is the summary of the review protocol. The stage of identifying and evaluating studies includes conducting the systematic search described in Section 3.3 and evaluating studies explained in Section 3.4. The third stage, analysing and synthesising data, is comprised of conducting data extraction and synthesis elaborated, respectively, in Sections 3.5 and 3.6. Finally, reporting and utilising the findings are presented in Chapter 4, 5 and 6.

3.2 REVIEW PANEL

The review panel is arranged to support and guide the reviewer during the systematic review. The arrangement of the panel is illustrated in Table 3-1. The panel comprises of both expert academics and practitioners in the field to provide the reviewer with insightful considerations from theory and practice. The panel in particular helps the reviewer to refine the review question, advance the review design and protocol and include/exclude studies.

Table 3-1, Review Panel

Person	Organisation	Involvement
Professor Simon Knox	Cranfield School of Management	Literature advice
Dr Radu Dimitriu	Cranfield School of Management	Literature advice
Dr Colin Pilbeam	Cranfield School of Management	Systematic Review Guide
Dr Stan Maklan	Cranfield School of Management	Literature advice
Chris Lawer	ZinC	Practical Perspective
Dr Emma Macdonald	Cranfield School of Management	Literature advice
Heather Woodfield	Kings Norton Library	Databases and searching

3.3 SYSTEMATIC SEARCH

The systematic search is the process of locating and identifying related studies in a logical and transparent way. Keywords, databases and search strings used in the search are the main consideration of the systematic search process. The logic of decisions on keywords, search strings and database selection is described.

3.3.1 Keywords

The concepts used in the review are defined and explained in Chapter 2. There are different terms that can represent each of these main constructs or reflect a dimension of any of them. Recalling the discussion from Chapter 2, consumer calibration is broke

Table 3-2, Keywords

No.	Research Concept	Keywords	Explanations
1	Objective consumer resources	(consumer* OR customer* OR buyer* OR purchaser* OR user*) W/2 (capabilit* OR abilit* OR resource* OR skill*)	These keywords represent consumer resources that are also referred to as abilities, capabilities or skills.
2	Subjective consumer resources	self-efficacy, self-confidence, self-assess*, self-belie*, self-evaluat*, self-judg*, self-percept*, self-assur*, consumer W/2 confidence,	All keywords represent consumers' subjective assessment of their resources and capabilities.
3	Objective/subjective task evaluation	(task* OR usage OR consumption) W/3 (percept* OR knowledge OR assess* OR evaluat* OR apprais* OR judg* OR difficult* OR strateg*)	Keywords correspond to the consumers' subjective evaluation of a consumption task or actual (objective) task-required resources.
4	Calibration	calibration, subjective W/2 objective	It stands for consumer, self or task calibration, which is the agreement between subjective and objective assessment of resources either available or required.
5	Consumer value	(consumer* OR customer* OR buyer* OR purchaser* OR user* OR product* OR service* OR consumption OR usage OR task*) W/3 (value* OR experience* OR outcome* OR benefit* OR consequence* OR satisfaction* OR fulfilment*)	Consumer value has three parts: object, subject and outcome. These are reflected in the keywords by consumer, customer etc. as subject, product, service, usage etc. as objects, and value, benefit, consequence etc. as outcome.

W/#: Two terms are within # number of words of each other.

down into two processes of self and task calibration. The main components of these concepts are subjective and objective self/task appraisal. The concept of consumer value is also referred to by different keywords. The set of terms that can be representative for each of the mentioned concepts are specified in Table 3-2.

The main terms used for task evaluation are task perception and task knowledge. However, at the early stages of the searching process, other terms are revealed to be used interchangeably for the term task, including usage and consumption. Moreover, the terms assessment, evaluation, appraisal and judgment are applied to show the consumer's perception of a task. Task difficulty is also a term referring to the individuals' perception of task-required effort.

In the early steps of conducting the systematic search, evidence has emerged that there are only a few related studies in the field of consumer research. Therefore, the research is extended to psychology and human-computer interaction fields. In these areas, the term consumer value is not used. Consequently, other terms corresponding to consumer value in these contexts are used, such as consequence, satisfaction and fulfilment.

3.3.2 Search Strings

The next step is to shape search strings. Search strings are built according to the review questions, dealing with the relationship among consumer self-calibration, consumer task

Table 3-3, Search Strings

No.	Review Questions	Review Question No.	Keyword Groups
1	Relationship between consumer self/task calibration and consumer value.	3, 6	Keyword group No. 4 AND Keyword group No. 5
2	Relationship between objective consumer resources and consumer value.	1	Keyword group No. 1 AND Keyword group No. 5
3	Relationship between subjective consumer resources and consumer value.	2	Keyword group No. 2 AND Keyword group No. 5
4	Relationship between objective/subjective task-required resources and consumer value.	4, 5	Keyword group No. 3 AND Keyword group No. 5
5	Relationship between consumer task calibration and consumer self-calibration. Relationship between objective/subjective consumer resources and objective/subjective task-required resources.	7, 8	Keyword group No. 3 AND (Keyword group No. 1 OR Keyword group No. 2)

calibration and consumer value constructs. Accordingly, each search string is a combination of two keyword groups (from Table 3-2). The results are shown in the Table 3-3.

As some of the keyword groups represent more than one concept, three search strings (that is, search strings No. 1, 4 and 5) are associated with more than one review question. For instance, the keyword group No. 4, which includes terms standing for "calibration" is associated with both self-calibration and task calibration. Therefore, search string No.1 is associated with two review questions (that is, review questions No. 3 and 6).

3.3.3 Databases

Databases are selected for the search according to two criteria: relevance and comprehensiveness (Table 3-4). Consequently, EBSCO and PROQUEST are selected to cover marketing and consumer behaviour related literature. PsycINFO is also selected to

Table 3-4, Selected Databases

No.	Data Base	Description	Explanation
1	Business Source Complete (EBSCO)	One of the best business and management journal data bases including all reputable marketing journals	It is the main data base for the systematic review as it has all reputable marketing and consumer behaviour journals.
2	ABI Inform Global PROQUEST	Another strong business and management journal data base including over 4000 titles.	It covers the missing editions of consumer behaviour journals in EBSCO.
3	PsycINFO	A comprehensive Psychology data base including over 2500 titles.	It provides the psychology related materials of the research.
4	SCOPUS (Social Sciences)	It is the most capable journal search engine including all reputable journals from 1996 onwards. It also has a citation feature in order to find all other related articles.	SCOPUS is selected to cover all other consumer behaviour and psychology titles that are not available in the above data bases, in particular 1 and 2 star journals. It also covers the area of human-computer interaction.

provide the review with related psychology research, as there are lots of psychology studies on consumers. Finally, SCOPUS is selected for its comprehensiveness in order to provide the review with those titles that are not available in the aforementioned databases. SCOPUS also covers studies in the field of human-computer interaction.

Different search strings are searched in the articles' abstract in the databases. The numbers of found articles from each database on different search strings are illustrated in Table 3-5.

Table 3-5, Search Results

Search String No.:	**1**	**2**	**3**	**4**	**5**	
EBSCO	52	206	170	172	71	
PROQUEST	37	195	139	183	47	
PsycINFO	37	45	256	276	239	
SCOPUS (Social Science)	71	247	359	447	260	Total Number of Articles: **3509**
Sum	**197**	**693**	**924**	**1078**	**617**	

The results, including 3509 articles, are exported to RefWorks. RefWorks is a web-based bibliography and database manager, which provides the reviewer with the opportunity of building a comprehensive database from all search strings in all selected databases. It helps to avoid duplicate articles and to repeat searches and refine strings and phrases without any rework. After removing duplicate hits in RefWorks, 2280 articles are ready for further evaluation.

3.3.4 Other Sources

References that are not available in the selected databases, such as conference papers and books, are also in the interest of this review. Sources of these studies are identified in Table 3-6. From these resources, 17 articles are selected for further evaluation.

Table 3-6, Other Information Sources

Information type	Sources
Journals not cited in the databases	Review Panel advice, Article references
Conference papers	Association for Consumer Research, Review Panel advice, Article references
Books	Article references, Review Panel advice
Working papers or unpublished papers	Review Panel advice, communication with other researchers

3.4 EVALUATING STUDIES

The extracted articles from the databases and other sources are evaluated in terms of their relevance and quality. Next, two processes of relevance decision and quality appraisal are explained.

3.4.1 Relevance Decision

In this step, abstracts are reviewed and relevant articles are selected for the full review

Table 3-7, Inclusion/Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Theoretical or empirical evidence for the relationship between consumer value and consumer self-calibration constructs	Focusing on only one concept of the research (consumer value, consumer self-calibration or consumer task calibration) and not the relationship between constructs
Theoretical or empirical evidence for the relationship between consumer value and consumer task calibration constructs	Studies focussed on attribution theory
Theoretical or empirical evidence for the relationship between consumer self-calibration and consumer task calibration constructs	Firm level studies
Individual level studies	General psychological studies
Studies on consumers and within the product or service consumption	Sociological studies
Human-computer interaction studies	Group level research
Studies in the educational context	Studies in the competitive sport context
English language	Studies in the human resource management context
All dates	Alcohol consumption research
	Studies on individuals with disabilities
	Non-English language

step. The relevance criteria for abstract screening are summarised in Table 3-7. These criteria are mainly focussed on the scope of the study, context, language and unit of analysis. Related papers, plus texts where it is not clear whether they should be included or excluded, are chosen for full review. Accordingly, 114 texts are selected for the full review.

As indicated in Table 3-7, the theoretical and empirical inclusion criteria focus on answering the review question. Accordingly, those texts studying only one of the related concepts are excluded. Attribution theory studies are also excluded from the review as they probe how people attribute their success/failure (or task outcomes) to their abilities or to the environment, which does not prove any potential relationship. Additionally, the review is interested in the individual level consumption context or, in other words, in consumer behaviour studies. However, as there are few related articles in the consumer behaviour area, the review is extended to the similar consumption contexts, such as human-computer interaction and educational psychology. In these areas, those studies that are included examine individual users or students in the consumption contexts, such as investigating users' behaviour in computer usage (similar to product consumption) or students' behaviour under different training strategies (similar to service consumption). Finally, studies on individuals with special conditions, such as those with disabilities, athletes and habitual drunkards, are excluded, as there is a limitation of extending their findings to the normal consumption context.

The same criteria are used as in the full review stage. However, in this step the relevance decision is made based on the clear evidence in the text for inclusion or exclusion. Consequently, 46 titles are selected for the next stage, quality appraisal.

3.4.2 Quality Appraisal

Each article is assessed based on the four quality criteria of theoretical background, methodology, findings and contribution. The theoretical background criterion shows how the study is positioned among the existing literature and to what extent related theories are discussed and criticised. The methodology criterion reflects the transparency of the research process and logical linkage between the research method and the research question. Furthermore, the findings criterion examines whether the

research objective is met by the findings and whether there is a logical linkage between the method and findings and between findings and contribution. Finally, theoretical and practical contributions are evaluated by the contribution criterion in terms of what the study adds to the existing theory and practice.

Selected texts are graded from 1 to 3 for each criterion according to the detailed description in Table 3-8.

Table 3-8, Quality Appraisal Criteria

Criteria	1 - Weak	2 - Moderate	3 – Strong
Theoretical background	Theoretical background is not clearly described	Theoretical background is stated, but the research is not clearly positioned	Theoretical background is clearly defined and the study is positioned within existing literature
Methodology	Unreliable method, unclear methodology description	The method is transparently described, but there are minor discrepancies	Clearly defined method, Logical and rigorous
Findings	Poor linkage between findings and contributions, vague relationship between findings and the method and data	There is a linkage between contribution, findings and the method with minor discrepancies	Findings are clearly grounded in the data and the method used, contributions are stated on the basis of findings
Contribution	There is no theoretical or practical contribution.	Contribution to an existing theory or practice	Representing a totally new theory or practice

The texts are assessed and scored against the criteria above. The key decision rule is that articles with at least a moderate quality level in all criteria are included. However, texts with one or two weak quality criteria are also included provided they have strong quality level in at least one criterion. The latter rule is set to save those articles which potentially have strong contribution to a specific aspect of the review. Therefore, texts are included for further analysis in the systematic review according to the following rules:

- Texts with the aggregate score of 5 and less are excluded, as they are not strong in any of the four criteria and are weak in three of them.
- Texts with the aggregate score of 8 and more are included, as they either have moderate quality in all four criteria or have strong quality in one criterion and moderate quality in at least one another criterion.
- Texts with the aggregate score of 7 and one criteria score of 3 are included, as they have strong quality in one criterion and moderate quality in another one.
- Texts with the aggregate score of 6 and no criteria score of 3 are excluded, as they are not strong in any quality criteria and are weak in two of them.
- Texts with the aggregate score of 7 and no criteria score of 3 and those with the aggregate score of 6 and one criteria score of 3 are subject to final re-evaluation for inclusion or exclusion by the reviewer, based on their overall relative quality. This rule is set to re-evaluate those texts that may have some potential for contributing to the review.

3.4.3 Final Selection

Finally, 40 texts are selected for further analysis and synthesis. Figure 3-2 illustrates the described process of selecting quality and relevant studies. All selected texts are journal articles. 36 of the studies are selected from the systematic search and four of them are chosen from other resources specified in Section 3.3.4.

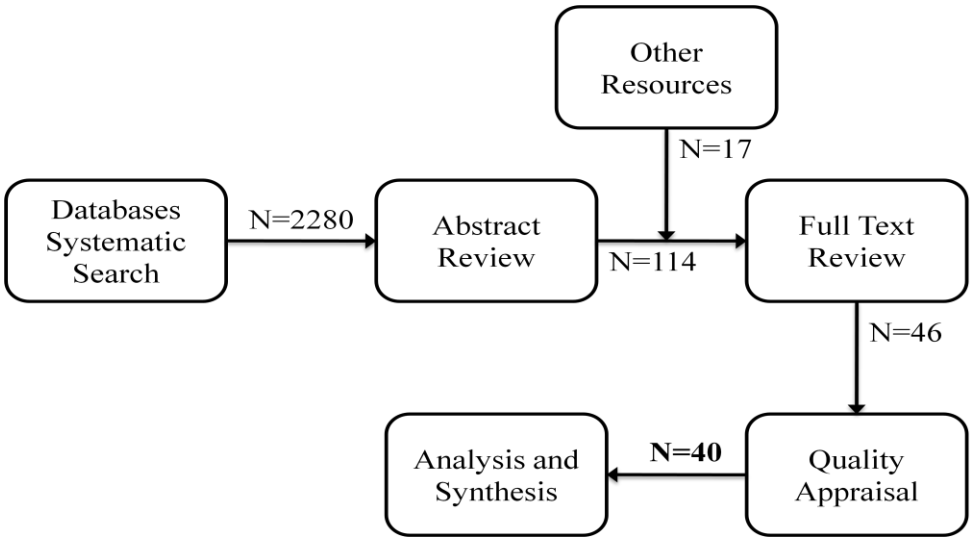

Figure 3-2, Studies Screening Process

3.5 DATA EXTRACTION

The data extraction table (Table 3-9) is used for collecting related data in those categories that are needed for further synthesis. A complete data extraction is conducted for the selected articles and is illustrated in Appendix A.

Table 3-9, Data Extraction Table

Category	Information
Basic	Author
	Year
	Source
	Title
	Volume/Issue
	Page
	Journal rank
	First author country of origin
Theoretical Background	Existing literature on consumer value
	Existing literature on consumer self-calibration
	Existing literature on consumer task calibration
Methodology	Context
	Method
	Data collection instrument
	Analysing method
	Research participants
Findings	Relationship between consumer self-calibration and consumer value
	Relationship between consumer task calibration and consumer value
	Relationship between consumer task and self-calibration
Conclusion	Limitations
	Further research
Reviewer's decision	Relevance decision
	Theoretical background quality score
	Methodology quality score
	Findings quality score
	Contribution quality score
	Quality appraisal decision

3.6 DATA SYNTHESIS

The aim of this review is to discover the relationships between consumer value and consumer calibration dimensions. The main constructs of consumer calibration and consumer value are defined and described in Chapter 2 and the review questions are specified in Section 2.6. Consequently, extracted data are categorised under each review question that asks for a potential relationship. In fact, the review questions represent the analytical framework for the data synthesis. The outcome of the synthesis is a model describing consumer calibration and its role in the consumption experience. These conceptual findings are set out in Chapters 5 and 6. Descriptive syntheses are also conducted in order to provide a better understanding of the studies being conducted in the field, their common trends and academics involved. The findings of the descriptive syntheses are represented in Chapter4.

4 DESCRIPTIVE FINDINGS

4.1 INTRODUCTION

This chapter presents a descriptive analysis of the selected texts. It reflects the overall characteristics of the selected articles. The synthesis includes the three main parts of publication, conceptual and methodological characteristics. Publication characteristics deal with historical, geographical and editorial aspects of texts. Conceptual characteristics describe articles in terms of their relevance to different concepts in the review. Finally, methodological characteristics are common methodological trends observed in the reviewed studies.

4.2 PUBLICATION CHARACTERISTICS

Figure 4-1 depicts the number of published studies per year. It is clear that the review area of interest is growing fast and the average number of published articles has increased from 0.5 per year in 1980-90 to 2.2 per year in 2000-10 and 4.0 per year in 2010-2011.

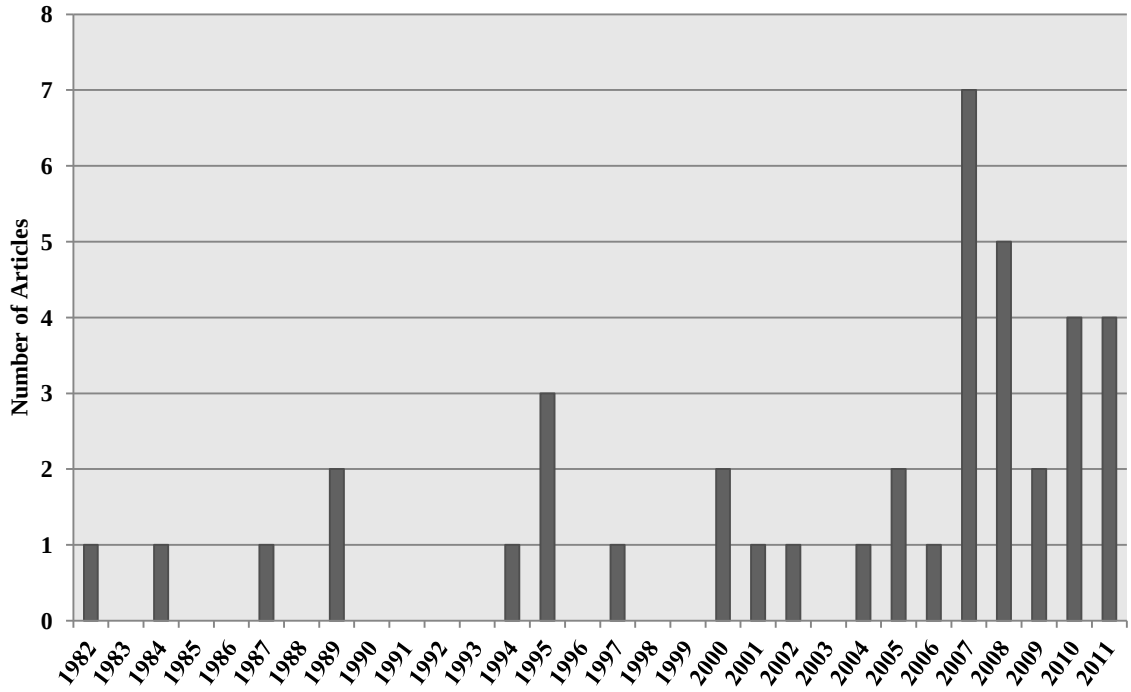

Figure 4-1, Number of Publications per Year

Journals are categorised into different disciplines according to the SCOPUS classification of journals. Accordingly, the spread of studies in different disciplines are shown in Figure 4-2. Forty five percent of articles are published in management and marketing journals. The share of psychology, educational psychology and education is thirty-six percent. The remaining nineteen percent is published in human-computer interaction and information systems journals.

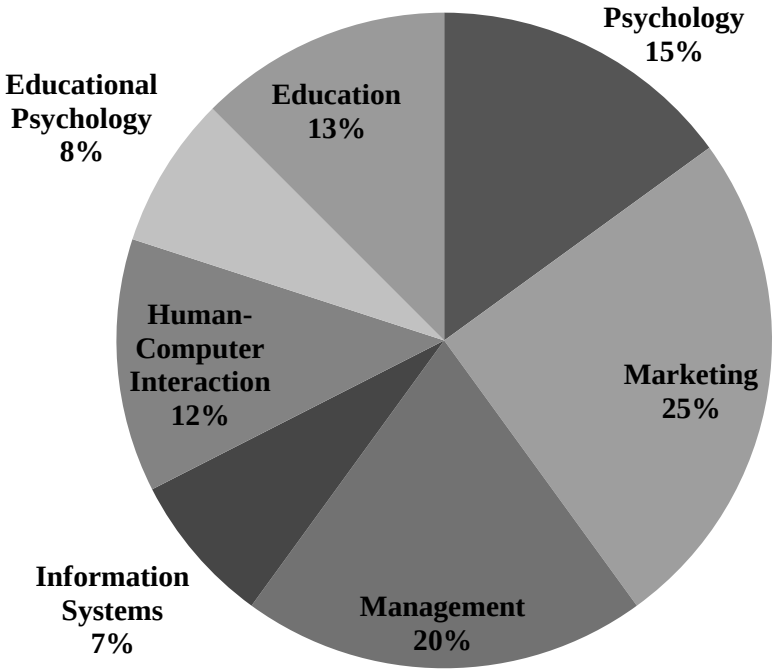

Figure 4-2, The Portion of Published Studies in each Academic Discipline

Table 4-1 shows characteristics of journals in which selected texts are published. Cranfield School of Management's Journal Recommendations for Academic Publication (2011) is used for investigating journal reputation. However, about half of the journals are not listed in this ranking. Therefore, the scientific journal ranking (SCImago Journal Ranking (SJR)) indicator is also applied in order to have a relative understanding of journals reputation. SJR is the indicator of a journal's prestige and is calculated based on the value of weighted citation per document (Gonzalez-Pereiraa, Guerrero-Boteb and Moya-Anegon, 2009).

Table 4-1, Journals' Characteristics

Journal Name	No. of Articles	Cranfield Rank	SJR	Discipline
Journal of Service Research	4	3	0.044	Management
Psychology and Marketing	3	3	0.050	Marketing
Contemporary educational psychology	2	-	0.064	Educational Psychology
International Journal of Human Computer Studies	2	1	0.057	Human-Computer Interaction
Journal of Applied Psychology	2	4	0.100	Psychology
Journal of Consumer Research	2	4	0.096	Marketing
Advances in Consumer Research	1	2	-	Marketing
Behaviour and Information Technology	1	1	0.039	Human-Computer Interaction
Campus-Wide Information Systems	1	-	0.030	Information Systems
Computers in Human Behavior	1	-	0.059	Human-Computer Interaction
Decision Support Systems	1	3	0.065	Information Systems
e-Service Journal	1	-	-	Marketing
European Physical Education Review	1	-	0.038	Education
Financial Practice and Education	1	-	-	Management
Foreign Language Annals	1	-	0.029	Education
Information and Management	1	3	0.068	Information Systems
Information Resources Management Journal	1	2	0.031	Management
Interacting with Computers	1	-	0.044	Human-Computer Interaction
International Journal of Commerce and Management	1	-	-	Management
International Journal of Service Industry Management	1	-	0.037	Management
Journal of Computer Assisted Learning	1	-	0.048	Education
Journal of Consumer Psychology	1	3	0.055	Marketing
Journal of Economic Psychology	1	3	0.091	Psychology
Journal of Educational Computing Research	1	-	0.033	Education
Journal of educational psychology	1	-	0.109	Educational Psychology
Journal of Marketing Management	1	3	-	Marketing
Journal of personality and social psychology	1	4	0.228	Psychology
Medical education	1	-	0.157	Education
Personality and Social Psychology Bulletin	1	-	0.120	Psychology
Psychology of Sport and Exercise	1	-	0.082	Psychology
The International Journal of Tourism Research	1	-	0.031	Marketing

An overall view of Table 4-1 reveals that most of the selected studies are published in highly reputable academic journals. Seventy percent of Cranfield's ranked journals are 3 star (internationally excellent) or 4 star (world leading) ranked. The same pattern is observed in other journals that are not ranked by Cranfield by comparing their SJR indicator.

Figure 4-3 shows the first authors' countries of origin. It is clear that the field is dominated by US academics, publishing 57% of the reviewed papers. The main reason behind this fact is the nature of the review, which focuses on the relationship between consumer calibration and consumer value. The USA is the cradle of scientific paradigms that support the idea of investigating causal relationships. European and Eastern Asian academics are next, publishing 22% and 15% respectively of the reviewed literature.

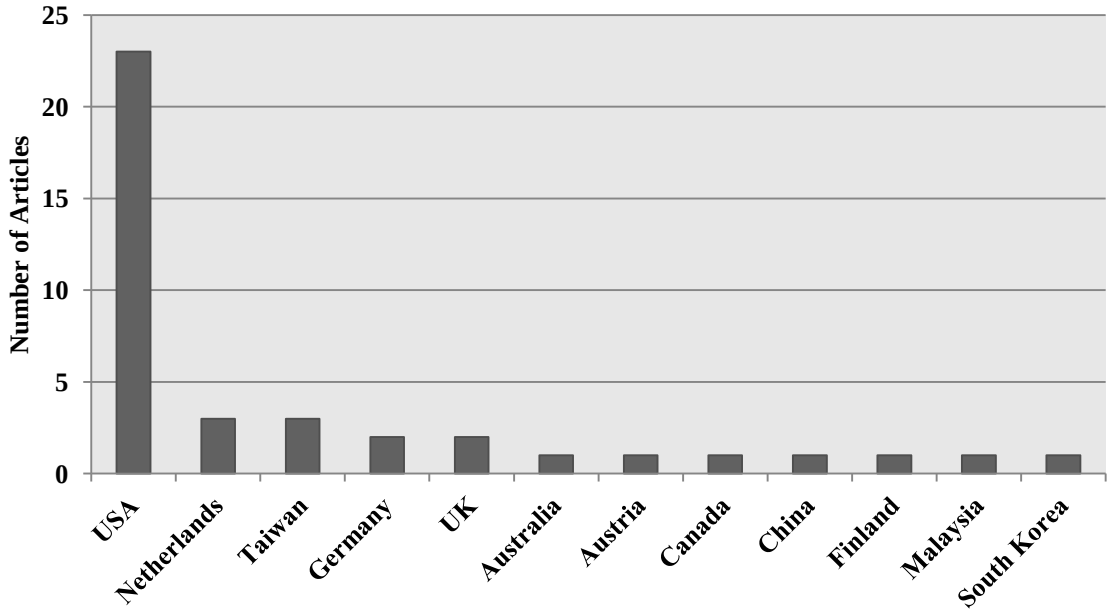

Figure 4-3, First Authors' Countries of Origin

Understanding the geographical distribution of journal publishers also sheds light on the status of reviewed literature in terms of underlying scientific biases. Again, 58% of the journals are published in USA. The UK and Netherlands are next having, respectively, 23% and 19% of the journals. Most of the journals that are printed in the Netherlands are in the area of information systems and human-computer interaction. On the other hand, most of the psychology journals are published in the USA. Overall, 67% of the

articles are published in a journal printed in the USA. It is also interesting that all the relevant articles in UK journals are published after 2000, a fact that reveals the growth of interest in the topic in the UK in recent years.

4.3 CONCEPTUAL CHARACTERISTICS

This section gives an overall view of studies in terms of their coverage of the review questions. Figure 4-4 indicates the number of texts investigating different questioned relationships. Only three studies examine relationships among all the three main concepts of consumer self-calibration, consumer task calibration and consumer value. There are also few works investigating the relationship between consumer task calibration dimensions and other concepts. However, 92% of the reviewed material probes the relationship between consumer self-calibration and consumer value constructs. This highlights the importance of considering both self and task level calibration in further studies.

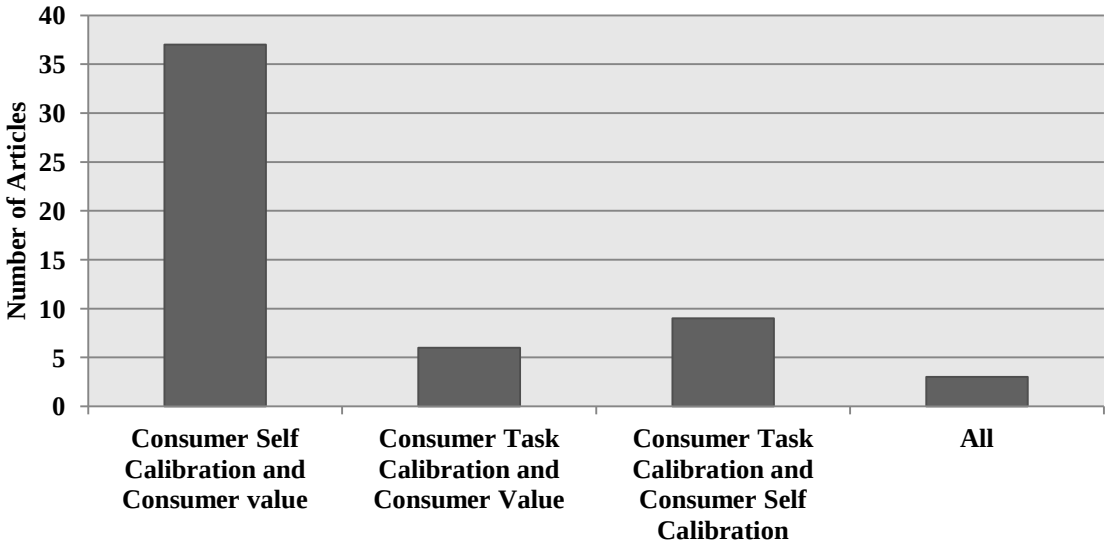

Figure 4-4, Distribution of Articles around Different Questioned Relationships

4.4 METHODOLOGICAL CHARACTERISTICS

It is necessary to be aware of common trends in the research methods used by the reviewed studies. In particular, it is important to know what methods are applied in which context. Except for one text being a meta-analysis, all other selected articles are

empirical studies. With no exceptions, all of them statistically test hypotheses. Figure 4-5 indicates different methods employed for data collection.

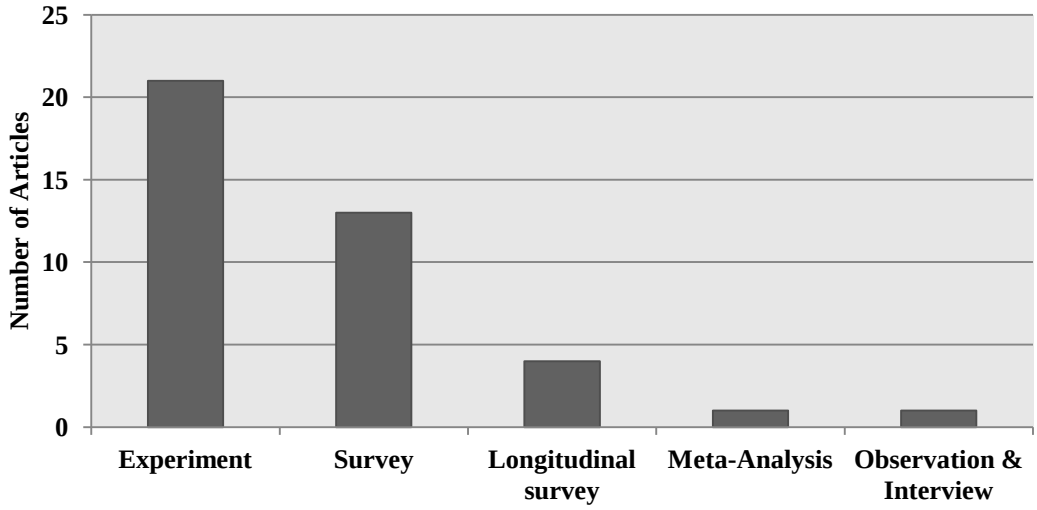

Figure 4-5, Methods Used in the Studies

Thirty eight of the studies use quantitative data for investigation, one study (Adam Mahmood *et al.*, 2000) extracts data from the existing literature and a further article (Oulasvirta, Wahlstrom and Ericsson, 2011) derives statistical data from qualitative information collected through observations and interviews. Experiments are conducted in 52% of the studies, highlighting their significance in the studies concerning relationships. Another noticeable fact is that four texts employed a longitudinal survey. This is due to the fact that the nature of the relationship between self-efficacy and task performance is reciprocal (Bandura, 1977), and therefore, longitudinal data is needed for a better understanding of this phenomenon.

The number of participants in the articles is between 24 and 6172. However, 77% of the studies have fewer than 300 participants.

Figure 4-6 specifies the different contexts in which the studies are run. The service contexts are examined in 60% of the articles (that is, training: 32%, service usage: 22%, service purchasing: 3% and exercising: 3%). The other 40% deal with the product contexts (that is, computer usage: 20%, product usage: 10% and product purchasing: 10%).

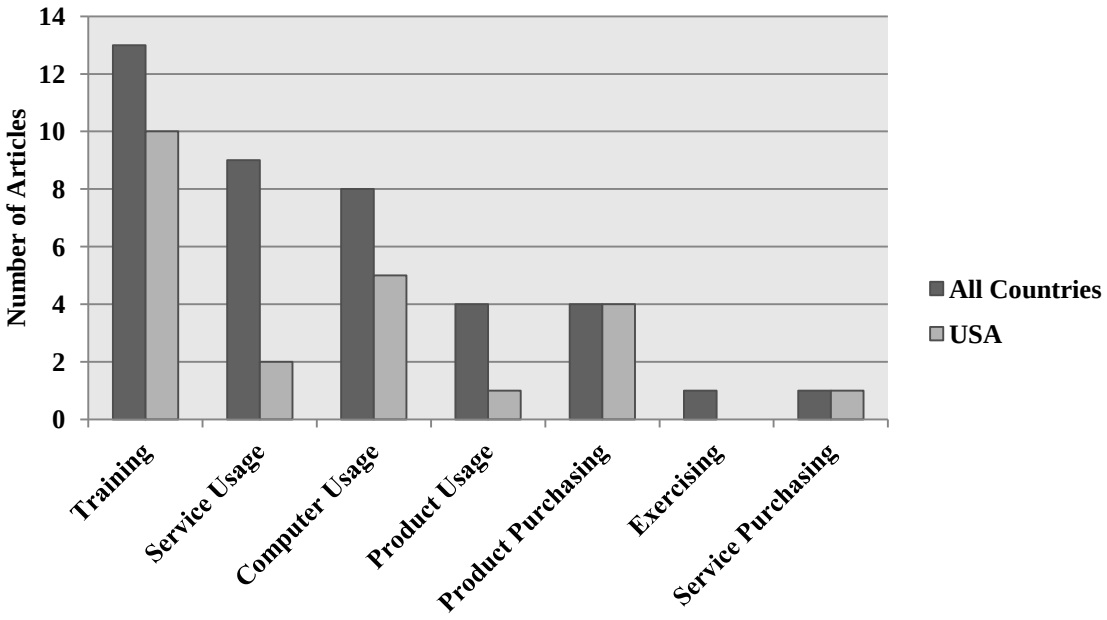

Figure 4-6, Investigated Contexts

Figure 4-6 also illustrates the share of US studies in each context. In the contexts used in the consumer behaviour literature (that is, product/service usage and purchasing), the portion of US articles is lower than in the others. In particular, when product or service usage is compared to the product or service purchasing context, there is a major difference. Indeed, American authors conducted all studies in the purchasing context, either product or service purchasing, while only 23% of the research in the usage context is from the USA. This highlights the focus of American consumer behaviour academics on the consumer purchasing decision-making process (that is, purchasing context).

The examination of different contexts reveals that all nine studies in the service usage context were published after 2006. It emphasises the emergent crucial role of services for business success. The service-dominant logic reflected the importance of the service by implying that the essence of transaction is service and competencies, not product (Vargo and Lusch, 2004; 2006; 2008). Consistent with service dominant logic, in the reviewed articles, a shift from product to service and from purchasing to usage is observed.

4.5 SUMMARY

Publicational, conceptual and methodological characteristics of the reviewed literature are explained and underlying biases in the literature are discussed in this chapter. The main outcome of the descriptive synthesis of reviewed literature is summarised as follows:

- There is a growing interest in the topic, in particular in the consumer behaviour literature
- Studies are mostly published in reputable journals
- US academics dominate the field as the underlying philosophical assumption of the review matches with American academics' paradigms
- There are few studies on the consumer task calibration constructs
- The reviewed articles are mostly empirical and quantitative studies
- There is a shift in research from investigating product purchasing decision making towards examining the service usage process

5 CONCEPTUAL FINDINGS

5.1 INTRODUCTION

The aim of this chapter is to shed light on the content of the reviewed literature in terms of main findings. The articles test relationships between two or more questioned concepts. These relationships have two components: correlation and causation. Correlations can be investigated by statistical analysis. Furthermore, prediction is examined by statistical analysis methods such as regression, hierarchical regression and path analysis. Prediction is the quantification of a dependent variable based on independent variable(s). However, correlation and prediction do not show causation. Causation, on the other hand, occurs when one phenomenon (variable) causes another. It cannot be inferred from correlation or prediction. There are two ways to understand causality, logical reasoning and experimental investigation. In this report when the term "relationship" is used, it refers to correlation or prediction, meaning that the study only investigates the correlation or prediction. If the research experimentally examines causation, the term "influence" is used.

Some of the articles find a relationship between consumer calibration constructs and performance or satisfaction rather than consumer value. These concepts have a close meaning to consumer value. Before representing the conceptual findings, performance and satisfaction need to be explained and their relationship with consumer value needs to be discussed.

5.2 TASK PERFORMANCE, SATISFACTION AND CONSUMER VALUE

As explained in Chapter 2, there is no consensus on the definition of consumer value. The common element in all definitions is the judgmental nature of consumer value. These judgments occur at different levels, such as quality/price judgment or benefit/sacrifices judgment. Consequently, perceived quality, for example, can be a part of consumer value according to Woodruff's (1997) definition or a dependent concept, based on Zeithaml's (1988) definition.

In this review, the main phenomenon of interest as consumer value is valuated experience by consumers. Woodruff's (1997) definition (refer to Chapter 2, Section 2.5) is the closest definition to this phenomenon. It is limited to product, while the contexts studied in the review are service or product. Therefore, if we extend the definition to the consumption task (either product or service consumption), it is the best description for our understanding of consumer value. Accordingly, task performance is at the core of consumer value, as it is the objective consequences of the consumption phenomenon. Indeed, consumer value is the evaluation of task performance or, in other words, perceived task performance. Although there maybe misjudgements in this evaluation for different reasons, as these misinterpretations are not in the scope of this review, task performance can be a good approximation for consumer value. Consistently, Bateson (2002) emphasises the role of consumer performance in service consumption. There are also other mechanisms, describing consumer value, which are mainly based on the consumption tasks emotional consequences that will be discussed in the next sections.

On the other hand, satisfaction is defined in some of the reviewed articles as the comparison between expectations and perceptions. For instance, Matzler, Fuller and Faullant (2007) define satisfaction as "the outcome of a comparison between expectations and perceived performance of a product or service" (Matzler *et al.*, 2007, p. 410). This is the dominant definition of satisfaction in marketing suggested by Oliver (1980). Other studies defined satisfaction as the perception of needs fulfilment. According to this perspective, satisfaction is "the perception of the pleasurable fulfilment of needs and wants after participating in a specific activity" (Lin, Lin and Laffey, 2008, p. 2). This definition also has two parts: perception of fulfilment and needs. It can be argued that expectation and needs in this context have the same meaning. Furthermore, according to our definition, consumer value (perception of fulfilment or performance) is the main part of the satisfaction in both definitions. Therefore, as expectation is not in the interest of the review, satisfaction closely reflects the dynamics of consumer value perceptions.

In conclusion, the concepts of task performance, consumer value and satisfaction are closely related. Therefore, in this review, the relationships between consumer

calibration dimensions and task performance or satisfaction are also investigated in order to generalise the findings to consumer value.

With this background, the next sections set out the main findings of the reviewed papers. In each section, an explored relationship between two constructs is presented.

5.3 CONSUMER SELF-CALIBRATION AND CONSUMER VALUE

Firstly, the relationship between objective and subjective consumer resources (the components of consumer self-calibration) and consumer value is discussed. Next, the relationship between consumer self-calibration and consumer value is investigated.

5.3.1 Objective Consumer Resources and Consumer Value

Ability has a relationship with task performance in general training (Locke *et al.*, 1984), food choice decision making (Kidwell *et al.*, 2008b), software utilisation tasks (Gueutal, 1989) and Smartphone usage (Oulasvirta *et al.*, 2011). In fact, people with higher resources have the ability to utilise other resources (such as services and products) in a better way and have higher task performance. Consequently, objective consumer resources influences task performance. Arning and Ziefle (2009) prove this causation in computer usage context by.

Additionally, consumer resources such as skiing skills (Matzler *et al.*, 2007) and emotional intelligence (Gabbott, Tsarenko and Mok, 2011) have a positive relationship with satisfaction. The relationship between consumer resources and satisfaction is mediated by performance and consumer value. Indeed, consumers with higher resources perform better in consumption tasks and, consequently, perceive higher quality or value from those tasks, leading to greater satisfaction. Consistently, Hennig-Thurau (2000) shows a relationship between consumer resources and perceived quality.

In addition to the effect of objective consumer resources on consumer value through improved task performance, consumer value is influenced by the ability to evaluate product or service usage. De Bont and Schoormans (1995) state that product expertise comes with a detailed cognitive structure about the product and this helps consumers to

evaluate a new product in detail. It enables them to compare different new concepts with each other and with existing concepts in the market. Additionally, consumers with product expertise have the ability to distinguish between relevant and irrelevant product information, enhancing their capacity to analyse product attribute. Accordingly, De Bont and Schoormans (1995) empirically prove that consumers with higher product expertise have more stable, consistent valuations, with more articulations, than those with lower product expertise.

In another study, Cordell (1997) discovers that subjects with lower expertise are willing to pay more than those with higher expertise are for the same product. However, high expertise consumers are prepared to pay a premium price for higher quality brands. It reveals that consumers with higher product knowledge do not perceive a higher value, but perceive more accurate value. Indeed, consumers' expertise moderates the relationship between the product's attributes and consumer value. This moderate effect is empirically supported (Puligadda *et al.*, 2010)

5.3.2 Subjective Consumer Resources and Consumer Value

Self-efficacy has a relationship with the task performance in mathematics training (Norwich, 1987), finance training (Paulsen and Gentry, 1995), final examination (Bong, 2001) and software training (Gist, Schwoerer and Rosen, 1989). This relationship is proved for both self-efficacy strength and magnitude in general training (Locke *et al.*, 1984) and golf playing (Beattie *et al.*, 2011). Self-confidence also has a relationship with the task performance in physical training (Li *et al.*, 2007) and computer usage (Arning and Ziefle, 2009). Indeed, those with a higher self-efficacy regulate their efforts and resources better than those with lower self-efficacy. Consequently, self-efficacy influences the task performance. This causation is empirically tested for web search tasks (Kuo *et al.*, 2004). Another explanation for this causal relationship is that self-efficacy influences expectation and expectation influences performance. Lankton and Wilson (2007) test this causal chain in the e-health service context. Therefore, two mechanisms (that is, expectation and capacity to regulate resources) mediate the relationship between self-efficacy and task performance.

However, as mentioned in Chapter 4, Section 4.4, self-efficacy and performance have a reciprocal relationship (Bandura, 1977). It means that better performance in a task increases people's confidence in their capabilities, leading to a higher self-efficacy. Furthermore, as explained above, a higher self-efficacy leads to a higher performance. By contrast, Beattie *et al.* (2011) show that, although better performance increases subsequent self-efficacy, self-efficacy has no relationship with subsequent performance. They argue that what is proved above is the effect of previous performance and not that of self-efficacy. However, Beattie *et al.* (2011) analyse the within-person level of self-efficacy that investigates the effect of an increase in people's self-efficacy, not self-efficacy per se.

Researchers also showed the relationship between different levels of self-efficacy in terms of generality and performance. Norwich (1987) indicates that, controlling the effect of specific self-efficacy, general self-efficacy has no effect on the task performance in mathematics training. In another study, it is revealed that summed computer self-efficacy (which is a combination of different computer specific tasks) has a stronger relationship with performance than general and specific self-efficacy in computer usage (Downey and McMurtrey, 2007). These findings highlight the importance of resource specificity. It means that, in order to investigate the role of consumers in a consumption task, those consumer resources engaged in the consumption tasks need to be studied, and not all consumer resources.

As discussed in Section 5.3, higher performance leads to higher perceived quality and value, leading to higher satisfaction. Consistently, findings show that self-efficacy has a relationship with satisfaction in portal usage (Bin Masrek, 2007), online training (Lin *et al.*, 2008; Artino, 2008) and software utilisation tasks (Henry and Stone, 1994). Zhao, Mattila and Tao (2008) indicate the causality of this relationship in self check-out tasks. Similarly, self-confidence has a relationship with anticipated satisfaction in different situations in car repair decision-making (Granzin and Schjelderup, 1982) and with satisfaction in computer usage (Adam Mahmood *et al.*, 2000) and online training tasks (Lin *et al.*, 2008).

Self-efficacy has a relationship with perceived task performance in online stock investments (van Beuningen *et al.*, 2009), with perceived quality in service usage (Bin

Masrek, 2007) and online training (Artino, 2008) and with enjoyment in second language training (Brantmeier, 2005). These findings show that consumers with higher self-efficacy perceive higher product or service consumption benefits mainly because they perform better in those tasks. This can lead to a better perception of value, in line with Zeithaml's (1988) definition (that is, perceived economic worth of a product or service). Indeed, the relationship between self-efficacy and economic worth of a service is empirically established (McKee *et al.*, 2006; van Beuningen *et al.*, 2009). Furthermore, Lin (2010) proves the interaction between self-efficacy and experiential consumer value in service usage. In fact, Lin (2010) shows that consumers with high or low self-efficacy perceive consumer value differently. However, it is not clear in this research that how self-efficacy and experiential consumer value (that is, value-in-use) interact with each other.

Interestingly, it is discovered that within-person level self-efficacy has a relationship with consumer perceived value of a service (economic worth of the service) (van Beuningen, de Ruyter and Wetzels, 2011). As there is no relationship between within-person level self-efficacy and task performance (Beattie *et al.*, 2011), this finding explores the existence of another mechanism(s) describing this phenomenon. This may be due to the motivational effect of self-efficacy (Bandura, 1977). Indeed, consumers who have an increase in their self-efficacy are highly motivated to perform the consumption task, and thus the consumption task becomes more important and is valued higher by consumers despite consumers' actual performance in the task. Artino, La Rochelle and Durning (2010) investigate other emotional consequences of self-efficacy. They discover that self-efficacy has a positive relationship with enjoyment and negative relationships with anxiety and boredom. Furthermore, Artino *et al.* (2010) show that these consequences impact task performance.

Self-efficacy also moderates the relationship between product or service attributes types and varieties on the one hand, and perceived value on the other hand. Consumers with lower self-efficacy are interested in those attributes that help them to consume the product or service more easily, such as the quality of information in a web-page. On the other hand, consumers with higher self-efficacy value the outcome of the service or product usage, such as reliability and emotional benefit (Yi and Gong, 2008).

Consistently, Puligadda *et al.* (2010) show that subjective knowledge moderates the relationship between the product's idiosyncratic-preference attributes variety (that is, the variety of those attributes that are dependent on the consumer preference, such as the exterior colour of cell phones) and satisfaction. It means that consumers with high self-efficacy are more satisfied with high number of attributes than those with low self-efficacy.

Although, in the above research, the positive effect of self-assessment of resources on performance and consumer value is established, Kim *et al.* (2010) discover that enhancing self-assessment has a negative relationship with performance in mathematics training. Indeed, inflated self-assessment causes people to allocate lower resources than required in a task, leading to a lower performance. This research shows the importance of the agreement between subjective and objective assessment of resources (consumer self-calibration) and the role of misperception in consumption tasks. Accordingly, the next section presents findings on the relationship between consumer self-calibration and consumer value.

5.3.3 Consumer Self-Calibration and Consumer Value

There is a relationship between subjective and objective consumer resources, the components of consumer self-calibration, observed in software utilisation tasks (Gueutal, 1989) and computer usage (Arning and Ziefle, 2009). People with higher abilities have a higher perception of their capabilities. However, the point in the interest of this review is that this perception is most times not accurate (Alba and Hutchinson, 2000).

The calibration of achievement (the agreement between subjective and objective assessment of achievement) has a negative relationship with performance in general training tasks (Winne and Jamieson-Noel, 2002) and general university training (Kim *et al.*, 2010). It means that calibrated people perform better that those who are miscalibrated. The same pattern is established for the relation between emotional calibration and decision-making quality (Figure 5-1) (Kidwell *et al.*, 2008b). This is mainly the outcome of better utilisation of resources and expectations by better

understanding of their own abilities. I hypothesise that this trend leads to a better perception of value. However, this hypothesis is not empirically tested.

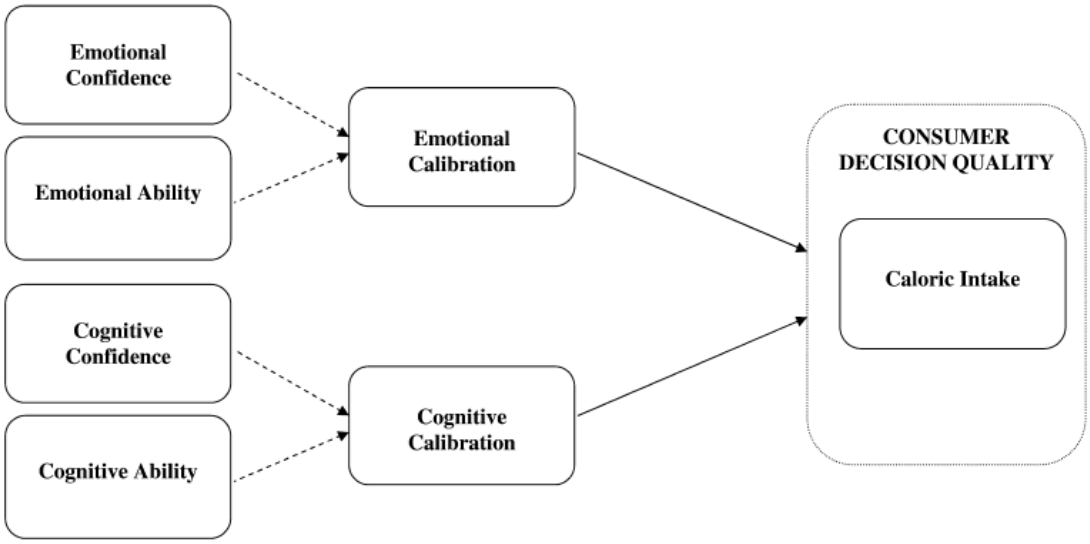

Figure 5-1, The Effect of Emotional and Cognitive Calibration on Consumer Decision Quality (Kidwell et al., 2008b, p. 612)

As describer in Section 5.3.1 and 5.3.2, in addition to the task performance, the ability to value a product or service as well as the motivational and emotional consequences of self-perception play a role in consumer value. Puligadda *et al.* (2010) show the moderatory effect of knowledge calibration in the relationship between product attributes' variety and satisfaction. However, the different effects of self-calibration on consumer value (that is, through functional performance or emotional consequences) are not investigated in this research. Consequently, the relationship between self-calibration and consumer value needs further scrutiny.

5.4 CONSUMER TASK CALIBRATION AND CONSUMER VALUE

Perceived task difficulty has a negative relationship with task performance in physical training (Li *et al.*, 2007). It clarifies that people have better performances in tasks that they perceive as being easier. This relationship is explained by the emotional consequences of the perception of task difficulty. In fact, perceived task complexity (or difficulty) has a positive relationship with anxiety in computer usage (Chang, 2005).

Furthermore, the ease of use has a relationship with satisfaction in computer usage (Adam Mahmood *et al.*, 2000). It shows the functional benefits of easy tasks over difficult ones. In fact, users spend lower effort and resources on easier tasks. However, it should also be noted that tasks requiring lower resources are perceived as insufficiently challenging (Jing, Huhmann and Hyman, 2007). Therefore, the nature of the relationship between objective task-required resources and consumer value cannot be conclusively determined.

Furthermore, task strategy use has a relationship with performance in general training (Locke *et al.*, 1984) and finance training (Paulsen and Gentry, 1995). It is clear that some strategies are more efficient than others are.

The calibration of task strategy use (that is, the agreement between subjective and objective assessment of used strategy) has a negative relationship (greater measurs on calibration means higher miscalibration) with task performance in general training (Winne and Jamieson-Noel, 2002). This shows the importance of the match between subjective and objective task assessment. The same pattern is hypothesised for the relationship between the calibration of task difficulty, or overall task calibration, and performance and consumer value. However, as both objective and subjective task appraisal have emotional consequences, their relationships with consumer value need further examination.

5.5 CONSUMER TASK CALIBRATION AND CONSUMER SELF-CALIBRATION

Perceived task difficulty has a negative relationship with ability in software utilisation (Gueutal, 1989). It means those with lower ability, in particular those with little knowledge about a task, perceive the task as more difficult.

Furthermore, ability has a relationship with strategy use in Smartphone usage (Oulasvirta *et al.*, 2011) and self-efficacy has a relationship with task strategy use in finance training tasks (Paulsen and Gentry, 1995). This reveals the role of objective and subjective consumer resources on the way a task is performed.

A *task* has two main components, strategy and difficulty. The above findings indicate that a person with a certain level of ability has a perception of the task strategy. Indeed, he selects a strategy that he thinks is a match with his perceived abilities. Each strategy has a level of task difficulty. Accordingly, he has a perception of task difficulty influenced by his self-confidence. This causal relationship is supported in a computer usage context (Chang, 2005).

On the other hand, task difficulty influences self-confidence (Burson, 2007). The underlying mechanism for this causation is that peoples' perception of task difficulty is higher in more difficult tasks and this higher perceived task difficulty has a negative relationship with self-confidence (Li *et al.*, 2007). Indeed, when the perceived required resources are higher, it is more probable that the perceived available resources would not be sufficient.

Therefore, there is a reciprocal relationship between subjective consumer resources and subjective task appraisal, which is influenced by objective consumer resources and objective task appraisal. Perceived task difficulty influences self-confidence by increasing resource demand and self-confidence influences the perception of task difficulty through task strategy selection.

Interestingly, the calibration of task strategy (the agreement between subjective and objective assessment of used strategy) has no relationship with the calibration of achievement (the agreement between subjective and objective assessment of achievement) in general training tasks (Winne and Jamieson-Noel, 2002). This finding identifies that misjudgements of outcome and task strategy are two independent variables with no common underlying mechanism. It proves our emphasis on breaking down consumer calibration in self and task level calibration. However, further investigations are needed to extend these findings from achievement calibration to self-calibration and from task strategy calibration to task calibration.

Jing *et al.* (2007) introduce the concept of "match" in order to investigate subjective self and task assessment. Match is the agreement between self-efficacy and perceived task complexity. They indicate that match has an inverse relationship with the extent of planned information search in brand choice context. In this way, they highlighted the

Table 5-1, The Summary of the Investigated Relationships

		Subjective Consumer Resources	Objective Consumer Resources	Consumer Self-Calibration	Objective Task Assessment	Subjective Task Assessment	Consumer Task Calibration
Consumer Value	**Functional Performance**	Norwich, 1987; Paulsen and Gentry, 1995; Bong, 2001; Gist et al., 1989; Locke et al., 1984; Beattie et al., 2011; Kuo et al., 2004; Lankton and Wilson, 2007; Kim et al., 2010; Li et al., 2007; Arning and Ziefle, 2009; Downey and McMurtrey, 2007	Locke et al., 1984; Kidwell et al., 2008b; Gueutal, 1989; Oulasvirta et al., 2011; Arning and Ziefle, 2009	Winne and Jamieson-Noel, 2002; Kim et al., 2010; Kidwell et al., 2008b	Locke et al., 1984; Paulsen and Gentry, 1995	Li et al., 2007	Winne and Jamieson-Noel, 2002
	Emotional Consequence	Brantmeier, 2005; Artino et al., 2010		**Future Research**		Chang, 2005; Jing et al., 2007	**Future Research**
	Value-in-use	Lin, 2010	de Bont and Schoormans, 1995				
	Economic worth of a product/service	McKee et al., 2006; van Beuningen et al., 2009; van Beuningen, de Ruyter and Wetzels, 2011	Cordell, 1997				
	Perceived Quality	van Beuningen et al., 2009; Bin Masrek, 2007; Artino, 2008; Yi and Gong, 2008	Hennig-Thurau, 2000				
	Satisfaction	Bin Masrek, 2007; Lin et al., 2008; Artino, 2008; Henry and Stone, 1994; Zhaoet al.,2008; Granzin and Schjelderup, 1982; Adam Mahmood et al., 2000	Matzler et al., 2007; Gabbott et al., 2011; Puligadda, Grewa et al., 2010		Adam Mahmood et al., 2000		
	Subjective Consumer Resources	NA	Gueutal, 1989; Arning and Ziefle, 2009	NA	Burson, 2007; Paulsen and Gentry, 1995	Li et al., 2007; Chang, 2005; Jing, Huhmann and Hyman, 2007	
	Objective Consumer Resources	NA	NA	NA	Oulasvirta, Wahlstrom and Ericsson, 2011	Gueutal, 1989	
	Consumer Self-Calibration	NA	NA	NA			Winne and Jamieson-Noel, 2002

importance of judgment accuracy. However, calibration distinguishes task and self level misjudgement and provides insightful understanding of the resource assessment process.

5.6 SUMMARY

Articles studying relationships between consumer calibration and its sub-components, on the one hand, and consumer value, on the other hand, are summarised in Table 5-1. It is clear that the relationships between consumer self- and task calibration and consumer value need further investigation. However, these relationships are hypothesised in this research through the interpretations of the findings.

Conceptual findings are presented in this chapter. These findings are discussed in the next chapter, with a focus on the extent to which they answered review questions and on required further research.

6 DISCUSSION

6.1 INTRODUCTION

In this chapter, the findings presented in Chapter 5 are discussed and a model describing the relationship between consumer calibration and consumer value is developed. The structure of the chapter is similar to Chapter 5, which is according to the questioned relationships between the three main review concepts of consumer value, consumer self-calibration and consumer task calibration.

6.2 CONSUMER SELF-CALIBRATION AND CONSUMER VALUE

The findings described in Chapter 5, Section 5.3, on the relationship between consumer self-calibration constructs and consumer value, are summarised in Figure 6-1.

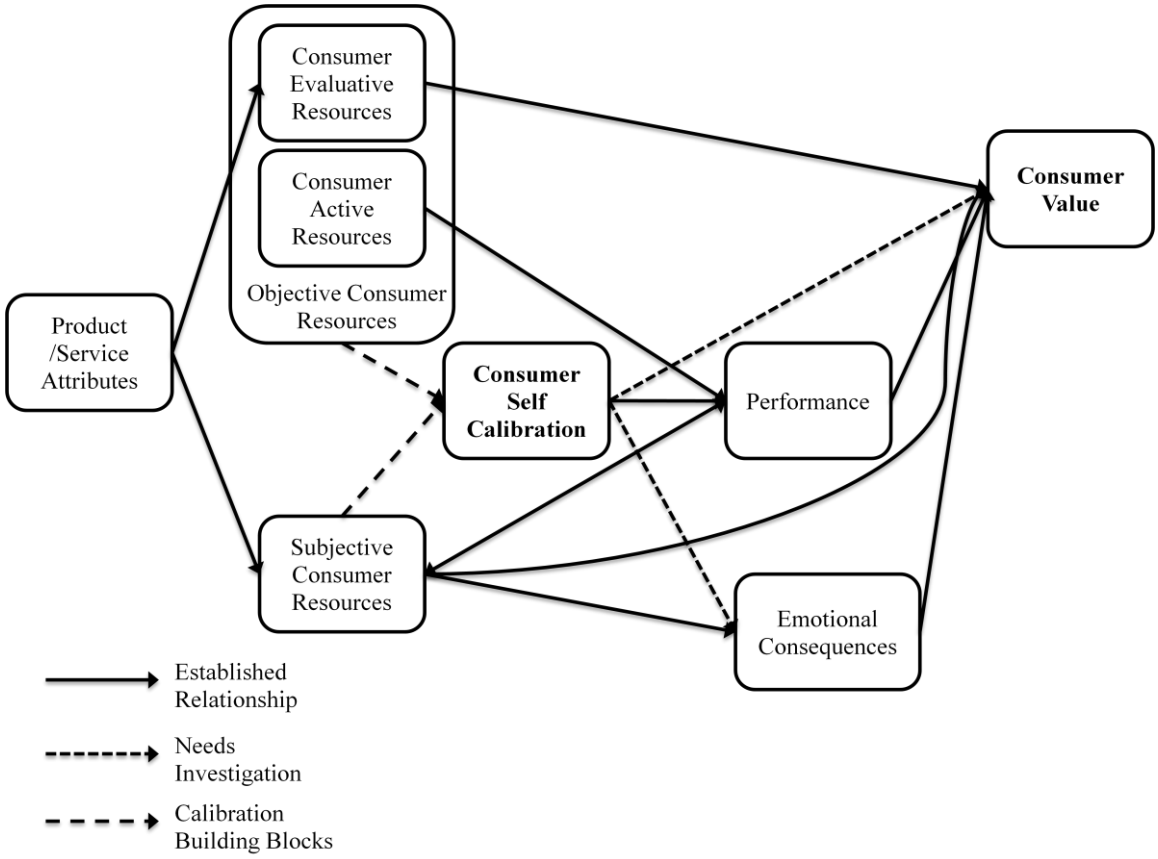

Figure 6-1, The Effect of Consumer Self-Calibration on Consumer Value

These findings answer the three following review questions:

1. Is there a relationship between objective consumer resources and consumer value?
2. Is there a relationship between subjective consumer resources and consumer value?
3. Is there a relationship between consumer self-calibration and consumer value?

A meaningful causal relationship between subjective or objective consumer resources and consumer value is inferred from the literature reviewed. This relationship is either direct or mediated by performance or emotional consequences. It is also discovered that objective and subjective consumer resources moderate the relationship between product/service attribute's types or variety and consumer value.

One of the important findings in this review is the exploration of two different types of consumer resources, namely, active and evaluative resources. Active resources are those that are used in performing consumption tasks, such as the ability to save a telephone number in a Smartphone or the ability to use a digital camera. Evaluative resources are applied for evaluating product or service attributes and the attributes' consequences. For instance, one may be able to use a stereo perfectly, but have no clue what its strengths and weaknesses are over other same category products. Another consumer may be able to completely evaluate the advantages and disadvantages of the Apple MacBook, but has less skill when working with its operating system. In a similar categorisation, Alba and Hutchinson (1987) classify consumer knowledge as familiarity and expertise. Familiarity refers to the number of product experiences and expertise is the ability to perform consumption related tasks. However, they do not distinguish between evaluative and active resources, rather they are interested in the source of knowledge and the way it is gained.

Therefore, it is suggested that the effect of consumer resources on consumer value needs to be studied in the two categories of active and evaluative consumer resources. Further research is also required in order to understand these two types of consumer resources.

A relationship between consumer self-calibration and task performance is also discovered. The main explanation for this effect is a better regulation of resources and an efficient use of them. Emotional consequences of self-calibration, such as lower anxiety, may also play a role in performing better in a consumption task. However, the direct influence of consumer calibration on consumer value has not been examined. Additionally, the emotional consequences of self-calibration have not previously been identified.

As mentioned before, the relationship between consumer self-calibration and consumer value has not been investigated in the literature. Moreover, this relationship cannot be inferred from the established relationships between consumer self-calibration components (that is, subjective and objective consumer resources) and consumer value. Indeed, self-calibration reflects the amount of error or bias in self-assessment, which is not consumer resources or self-confidence. In other words, although consumer self-calibration is the agreement between the subjective and objective judgment of resources, its behaviour is dependent of its building blocks. Hence, there is a need for further studies to determine the relationship between consumer self-calibration and consumer value.

Findings on the relationship between consumer self-calibration and performance, in the work of Kim *et al.* (2010), reveal that the established relationship between subjective consumer resources (self-efficacy or self-confidence) and task performance is not always valid. Indeed, increasing self-confidence improves consumption task performance, as long as it is not greater than the consumers' actual abilities.

In conclusion, the first and second questions are answered by the literature reviewed. Nevertheless, the third review question needs further scrutiny.

6.3 CONSUMER TASK CALIBRATION AND CONSUMER VALUE

Figure 6-2 depicts findings on the relationship between consumer task calibration dimensions and consumer value. These are explored so as to answer the following review questions:

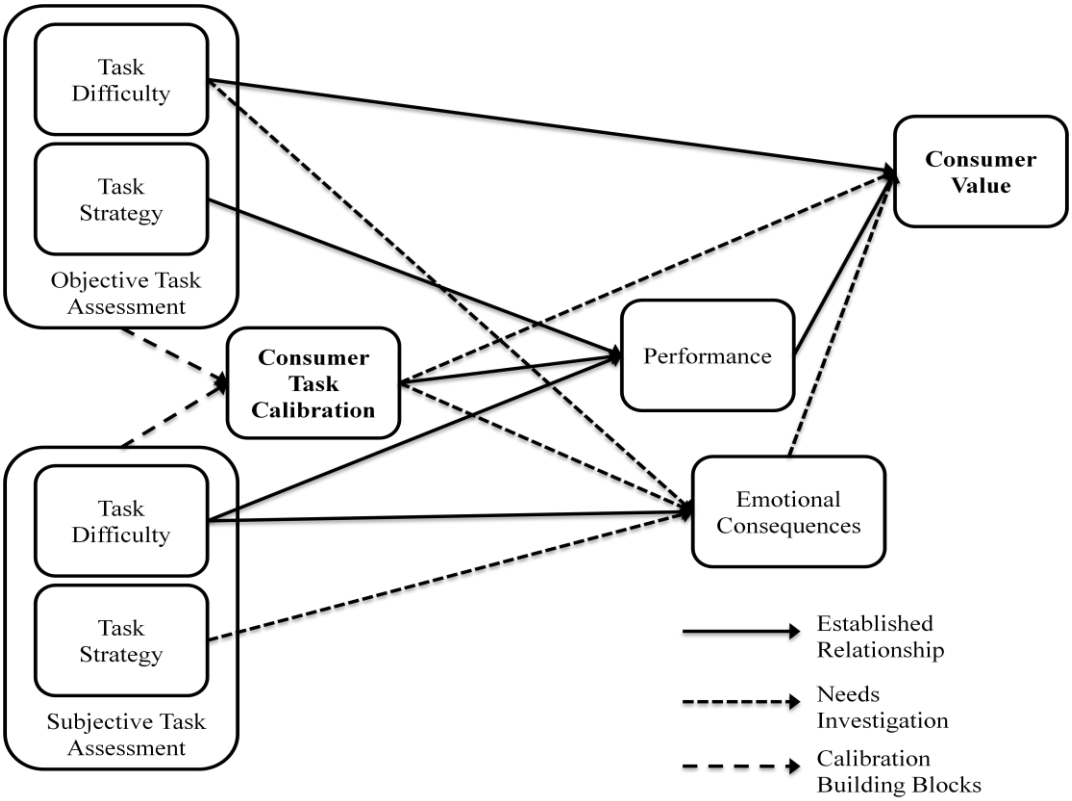

Figure 6-2, The Effect of Consumer Task Calibration on Consumer Value

4. Is there a relationship between objective task-required resources and consumer value?
5. Is there a relationship between subjective task-required resources and consumer value?
6. Is there a relationship between consumer task calibration and consumer value?

It is clear that none of the above questions is answered completely. This highlights the need for further research on consumption tasks. Review questions No. 4 and 5 are partially answered, but the sixth question needs further examination.

Although there is a relationship between task difficulty and performance, its influence on emotional consequences is not investigated. Task difficulty has positive and negative emotional effects. For instance, it may increase or decrease consumer motivation, depending on the learning goals. Consumers seeking learning objectives from a task are motivated in more challenging tasks and those interested in the task outcomes prefer easier tasks. However, these propositions need to be empirically investigated.

The same pattern is hypothesised for the perception of task strategy. Different consumers may have dissimilar emotional reflections on their perceived task strategies, in spite of the relative task difficulty and anticipated performances. For example, one may be calm and relaxed about going to the bank to withdraw some money rather than a cash machine, whereas this can be different for another consumer.

An efficient use of resources and selection of an appropriate task strategy are outcomes of task calibration leading to better task performance. Nonetheless, the emotional consequences of task calibration are 'fuzzy'. On the one hand, over-assessing a task might provide the consumer with a higher motivation leading to the subsequent positive consumption task outcomes. On the other hand, over-assessing a task may cause anxiety, leading to a lower performance and lower subsequent negative perception of consumption experience. Therefore, the relationship between consumer task calibration and consumer value needs additional studies considering the effect of both functional performance and emotional consequences.

6.4 CONSUMER TASK CALIBRATION AND CONSUMER SELF-CALIBRATION

This section discusses the extent to which findings answer the following questions:

7. Is there a relationship between consumer task calibration and consumer self-calibration?
8. Is there a relationship between objective/subjective consumer resources and objective/subjective task-required resources?

Figure 6-3 summarises the relationships explored between consumer self and task calibration components. The review questions above are answered by the literature reviewed. Although there is no relationship between consumer self and task calibration, there are causations among their sub-elements.

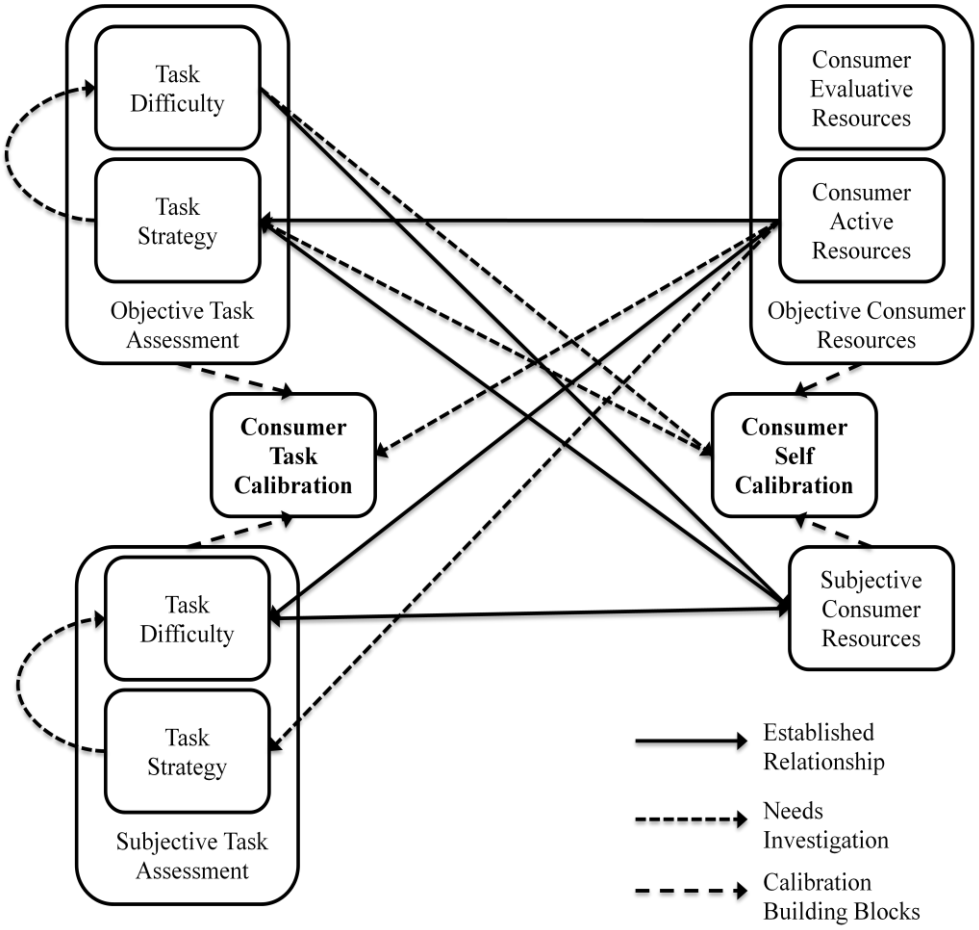

Figure 6-3, The Effect of Consumer Self-Calibration on Consumer Task Calibration

One of the main findings in this area is the difference between task difficulty and task strategy. Indeed, people first think about the way to perform a task and then assess that strategy's required resources (or task difficulty). This provides us with a better understanding of task calibration having two levels, strategy and difficulty.

As indicated, Oulasvirta *et al.* (2011) and Paulsen and Gentry (1995) establish a relationship between the self-assessment of resources and task strategy. It can be inferred that people with higher ability have better perception of task strategy, leading to a better strategy being used. Accordingly, a relationship between subjective consumer resources and subjective task strategy is also hypothesised, requiring further tests.

Furthermore, task calibration is directly affected by the level of consumer knowledge about the task. In fact, a lack of knowledge about a task is a source of task misjudgement or miscalibration. Task difficulty is also a source of bias in self-

assessment. People tend to under-evaluate their abilities in more difficult tasks (Burson, 2007). Moreover, miscalibration influences the selection of task strategy. Strategies are chosen in accordance to their match with abilities. Consequently, the misjudgement of resources has an influence on the task strategy. However, these relationships need to be empirically investigated (Figure 6-3).

6.5 THE MODEL OF THE RELATIONSHIP BETWEEN CONSUMER CALIBRATION AND CONSUMER VALUE

This systematic review indicates that consumer resources, task strategy and difficulty, perceptions and calibration influence value through changes in functional performance, emotional consequences and valuation process. Consequently, the relationship between consumer calibration and consumer value is established or hypothesised in this chapter, through these mechanisms.

Additionally, the effect of the subjective assessment of task or resources on consumer value, performance or emotions is because of the actual task or resources or the level of misjudgement. For instance, there are two reasons behind the relationship between self-confidence and performance. Firstly, higher ability implies a higher self-confidence, leading to a better performance. Secondly, matching self-confidence with actual ability (calibration) causes better regulation of the resources, resulting in a better performance. Consequently, in building a model for the relationship between consumer calibration and consumer value, the effect of subjective evaluation of task and self is considered through objective resources and calibration.

Figure 6-4 shows the model of the relationship between consumer calibration and consumer value. This model is the summary of the findings in Chapter 5 and the discussions and interpretations in the present chapter. Therefore, the model has developed based on established and hypothesised relationships. This model advances the understanding of consumer resources and perceptions in consumption. Furthermore, it highlights the importance of consumption tasks and consumer perception of tasks in consumer value creation.

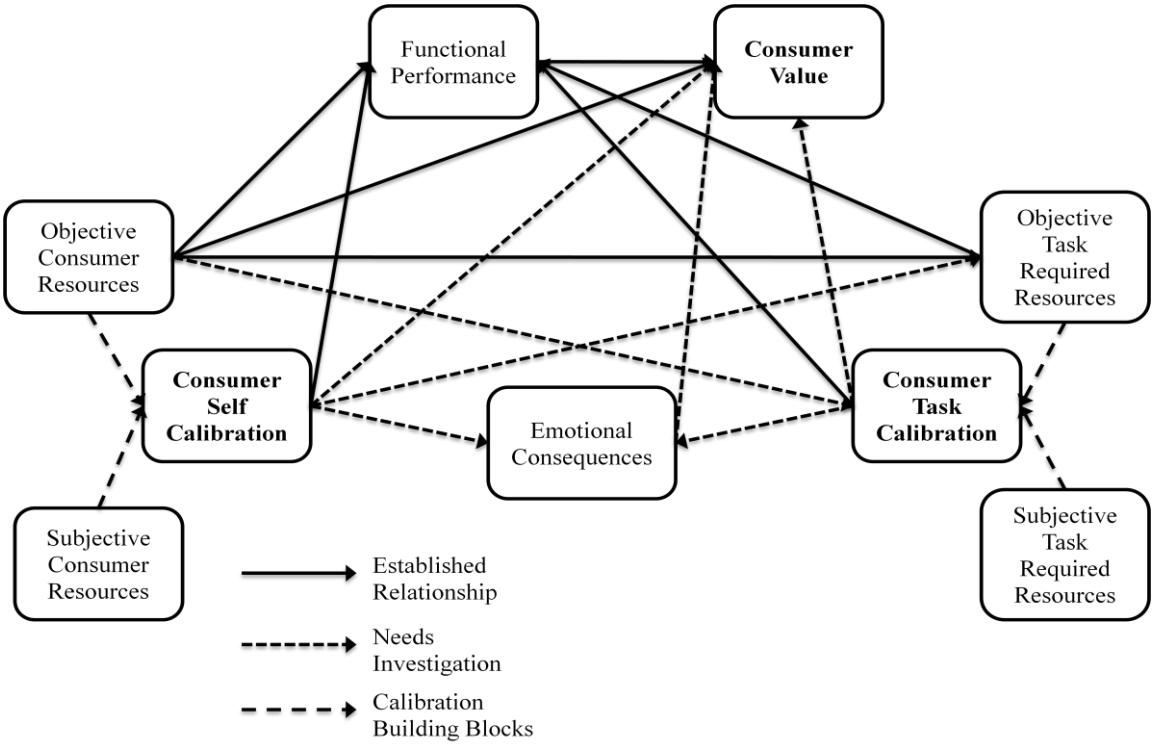

Figure 6-4, The Model of the Relationship between Consumer Calibration and Consumer Value

The model collects the related efforts in different academic disciplines in one place. Indeed, the aim of this review is to advance knowledge about consumer calibration by putting the scattered available research on consumer calibration and its components together. Furthermore, in the model, further empirical studies required on consumer calibration are clearly specified in a systematic way, as described in previous sections.

The main question of the review, the relationship between consumer calibration and consumer value, is not completely answered. Although possible relationships are deduced from the reviewed literature, they need to be empirically tested. Investigating these hypothesised relationships should provide both academia and practice with a better understanding of consumer calibration and its role in consumer value.

7 CONCLUSION

7.1 SUMMARY

The accuracy of consumers' perception about the resources required of them in a task plays a crucial role in their perceived experiences. The concept of consumer calibration is defined as the agreement between the subjective and objective assessment of consumer resources required in a task. Consequently, this systematic literature review has been conducted to discover the relationship between consumer calibration and consumer value.

The dimensions of consumer calibration and consumer value are defined and explained. Consumer calibration is broken down into the two processes of consumer self and task calibration. Consumer self-calibration refers to the accuracy of self-assessment of abilities and consumer task calibration is the agreement between the subjective and objective evaluation of task-required resources. Subsequently, the review question is altered by investigating the relationships between the three concepts of consumer self-calibration, consumer task calibration and consumer value.

The systematic literature review is performed, screening 2297 texts for their relevance and quality. Forty articles are finally selected for further analysis and data are extracted and synthesised according to the review questions. Findings are classified for the questioned relationships among the concepts.

Besides the growing number of studies on the subject, descriptive analysis of the reviewed literature depicts the domination of US academics and paradigm, consistent with the review question, aiming for the investigation of causal relationships. The lack of research on the area of the consumption tasks and its relationship with consumer value is also discovered. Furthermore, a shift from studying the product purchasing decision context to examining the service usage context is observed.

Conceptual findings reveal the effect of consumer self and task calibration on functional performance. They also explore the influence of consumer resources and task-required

resources (task complexity and strategy) on consumer value, through functional performances and emotional consequences.

Two types of consumer resources, including active and evaluative resources, are discovered to influence consumer value. Active resources have an influence on the task performance, as they represent a consumer's ability to perform a consumption task. On the other hand, evaluative resources influence the way a consumer evaluates product or service consumption. Therefore, evaluative resources have a direct effect on consumer value.

Task-required resources are also of two main types: strategy and difficulty. Strategy is the way of performing a task and difficulty refers to the extent of required resources for the task. Accordingly, different task strategies are different in terms of task difficulty. These two factors influence the performance and the consumer's perception of them has emotional consequences, affecting consumer value.

Finally, a model is developed according to the findings from the literature and the related discussion. The model describes consumer calibration and its role in shaping consumer value. However, the model needs to be empirically tested as it includes hypothesised relationships, in addition to the relationships established in the literature.

7.2 LIMITATIONS

Although this systematic review is conducted in a transparent, unbiased and structured way, there have been limitations in the review process.

The first limitation is the spread of literature reviewed in the three different academic fields of marketing, psychology and information systems. Each of these areas has its own language. Hence, in order to put them together in one place, the reviewer made some effort to unify the different jargon. This comes, therefore, with the reviewer's bias on the field of his expertise, which is marketing. As the review contributes to the field of marketing, the tendency toward this field is beneficial. However, a cautious understanding of language is needed if the review is used, compared or interpreted in

other fields of study, in particular the most related ones, such as human-machine interaction and educational psychology.

The second limitation is the wide range of definitions and understandings of the concept of consumer value in marketing. In the review, the reviewer has tried to highlight the differences and commonalities among different concepts, such as performance, quality, satisfaction and consumer value. However, as there is no dominant definition for consumer value in the field, there may be misinterpretations of the language used by people from different schools of marketing.

The third limitation lies in parts of the systematic literature review, which are dependent on reviewer's decision-making, such as relevance screening, quality appraisal and data extraction. The extent of this bias is limited by the help of relevance criteria, quality criteria and data extraction tables. There are still some unconscious mental processes, which may influence these review steps. Nevertheless, most of these unconscious biases benefit the systematic review, as the reviewer is aware of the aim, context, limitations and other requirements of the review. Other biases, such as tendency toward a specific method or a theory, are also limited by the systematic review process.

7.3 FURTHER RESEARCH

The main outcome of this review is the model described in Chapter 6, Section 6.5. Future research is required to empirically test the model. These future studies may focus on one or more parts of the model. Further research is suggested to be conducted on the effect of different types of consumer self-calibration on consumer value. This needs to break down self-calibration further into evaluative and active resources and to discover how consumer calibration influences consumer value at different levels of evaluative and active resource calibration.

Additional research could look at the factors of task-required resources, including task strategy and task difficulty. It is crucial to know how consumers behave when facing different task strategies with varied difficulties. It may result in considering two levels of consumer task calibration, that is, task strategy calibration and task difficulty calibration.

Additionally, the emotional consequences of consumer calibration are ‘fuzzy’. Further research is proposed to investigate the positive and negative emotional consequences of consumer calibration at both task and self levels. Similarly, the effect of consumer self and task calibration on consumer value is required to be examined empirically.

Besides the aforementioned areas for developing the model, other studies are also required to advance this area of knowledge. The examination of the role of brand in consumer calibration is one of them. “Brand associations are the other informational nodes linked to the brand node in memory and contain the meaning of the brand for consumers” (Keller, 1993, p. 3). Consumers associate usage information with a brand as well. Indeed, they are more confident about consuming a product or service from certain brands. Therefore, further studies are suggested to examine the hypothesis that a brand has a role in consumer calibration and the calibration is influenced by specific brand associations.

Finally, one of the main areas requiring further research is ethical considerations of consumer calibration. As explained in this review, consumer miscalibration leads to purchasing decisions and product/service adoption. The fact that companies are allowed to miscalibrate consumers in order to sell more products/services needs serious ethical consideration. For instance, is it ethical for a company to imply that using its product is very easy, whereas it actually is not? A further example is companies trying to make consumers under-confident in order to sell their product. In fact, they improperly imply that consumers are less able to perform a task and need to get the company’s help (product or service). Therefore, the ethical implications of consumer calibration for companies need further scrutiny.

7.4 PERSONAL LEARNING

My main learning is from the outcome of the research, which is the developed model. It shows to me that the relationship between consumer calibration and consumer value is a complex combination of relationships among their sub-elements. Furthermore, it helps me refine and develop my PhD research question and next research steps.

In addition to the understanding of the subject, facing different approaches and languages for defining and describing a concept in academia teaches me to focus on the meaning, rather than the words. I have tried to follow this learning outcome during the systematic review and read, write and analyse meanings, not words.

Another learning outcome is the finding of the iterative nature of systematic review. Optimum decisions are made only after several iterations of the systematic review processes. For instance, the decision on including psychology literature is made after discovering the fact that few related studies are conducted in marketing. Another example is the selection of the search keywords, which was modified several times, as new terms were found to be used in the literature.

Furthermore, I discovered that the systematic review is a qualitative research. Accordingly, I started making sense of the literature by classifying them around review questions. Indeed, I broke down the review question into the detailed and more specific questions, which are used as a framework for analysing and synthesising the literature.

In this systematic literature review, I also realised how much the interaction with other people can contribute to the improvement of my work. The advice from review panel members has helped me refine my review, both in terms of the method used and the conceptual insights. The interaction with experts needs to be continued in my PhD, in particular in some critical decision-making steps, such as the selection of research methods, contexts and concepts.

Finally, I believe the systematic literature review is an appropriate method for finding an answer to a specific question by relying on the existing literature. It helps me develop a basic model that I need for further stages of my PhD research. In particular, when the research question is finalised and the researcher perceives little change to it, a systematic review would definitely be more appropriate than an ad hoc review. However, in the early stages of the research, where the research question is not fully defined and research concepts are not clear, an ad hoc literature review might be appropriate.

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Appendix A DATA EXTRACTION TABLES

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
1	Granzin, K.L.; Schjelderup, K.H.	Situation as an Influence on Anticipated Satisfaction	-	Advances in Consumer Research	1982	9	1	234	238	USA
2	Locke, E.A.; Frederick, E.; Lee, C.; Bobko, P.	Effect of self-efficacy, goals, and task strategies on task performance	0.100	Journal of Applied Psychology	1984	69	2	241	251	USA
3	Norwich, B.	Self-Efficacy and Mathematics Achievement: A Study of Their Relation	0.109	Journal of educational psychology	1987	79	4	384	387	UK
4	Gist, M.E.; Schwoerer, C.; Rosen, B.	Effects Of Alternative Training Methods On Self-Efficacy An	0.100	Journal of Applied Psychology	1989	74	6	884	891	USA
5	Gueutal, H.G.	Utilizing High Technology: Computer-Aided-Design and User Performance	0.068	Information and Management	1989	17	1	13	21	USA
6	Henry, J.; Stone, R.	A Structural Equation Model Of End-User Satisfaction With A Computer-Based Medical Information System	0.031	Information Resources Management Journal	1994	7	3	21	33	USA
7	Eccles, J.S.; Wigfield, A.	In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs	0.120	Personality and Social Psychology Bulletin	1995	21	3	215	225	USA

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
8	Paulsen, M.B.; Gentry, J.A.	Motivation, learning strategies, and academic performance: A study of the college finance classroom	-	Financial Practice and Education	1995	5	1	78	89	USA
9	de Bont, C.J.P.M.; Schoorma ns, J.P.L.	The effects of product expertise on consumer evaluations of new-product concepts	0.091	Journal of Economic Psychology	1995	16	4	599	615	Netherlands
10	Cordell, V.V.	Consumer Knowledge Measures as Predictors in Product Evaluation	0.050	Psychology and Marketing	1997	14	3	241	260	USA
11	Adam Mahmood , M.; Burn, J.M.; Gemoets, L.A.; Jacquez, C.	Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature	0.057	International Journal of Human Computer Studies	2000	52	4	751	771	USA
12	Hennig-Thurau, T.	Relationship Quality and Customer Retention through Strategic Communication of Customer Skills	-	Journal of Marketing Management	2000	16	1-3	55	79	Germany
13	Bong, M.	Role of self-efficacy and task-value in predicting college students' course performance and future enrollment intentions	0.064	Contemporary educational psychology	2001	26	4	553	570	USA

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
14	Winne, P.H.; Jamieson-Noel, D.	Exploring students' calibration of self reports about study tactics and achievement	0.064	Contemporary educational psychology	2002	27	4	551	572	Canada
15	Kuo, F.Y.; Chu, T.H.; Hsu, M.H.; Hsieh, H.S.	An investigation of effort-accuracy trade-off and the impact of self-efficacy on Web searching behaviors	0.065	Decision Support Systems	2004	37	3	331	342	Taiwan
16	Brantmeier, C.	Nonlinguistic variables in advanced second language reading: Learners' self-assessment and enjoyment	0.029	Foreign Language Annals	2005	38	4	494	504	USA
17	Chang, S.E.	Computer anxiety and perception of task complexity in learning programming-related skills	0.059	Computers in Human Behavior	2005	21	5	713	728	USA
18	McKee, D.; Simmers, C.S.; Licata, J.	Customer Self-Efficacy and Response to Service	0.044	Journal of Service Research	2006	8	3	207	220	USA
19	Bin Masrek, M.N.	Measuring campus portal effectiveness and the contributing factors	0.030	Campus-Wide Information Systems	2007	24	5	342	354	Malaysia
20	Burson, K.A.	Consumer-product skill matching: The effects of difficulty on relative self-assessment and choice	0.096	Journal of Consumer Research	2007	34	1	104	110	USA

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
21	Downey, J.P.; McMurtrey, M.	Introducing task-based general computer self-efficacy: An empirical comparison of three general self-efficacy instruments	0.044	Interacting with Computers	2007	19	3	382	396	USA
22	Jing, H.; Huhmann, B.A.; Hyman, M.R.	The relationship between task complexity and information search: The role of self-efficacy	0.050	Psychology and Marketing	2007	24	3	253	270	USA
23	Lankton, Nancy K.; Wilson, E.V.	Factors Influencing Expectations of e-Health Services within a Direct-Effects Model of User Satisfaction	-	e-Service Journal	2007	5	2	85	111	
24	Li, W.; Lee, A.; Solmon, M.	The role of perceptions of task difficulty in relation to self-perceptions of ability, intrinsic value, attainment value, and performance	0.038	European Physical Education Review	2007	13	3	301	318	USA
25	Matzler, K.; Fuller, J.; Faullant, R.	Customer satisfaction and loyalty to Alpine ski resorts: the moderating effect of lifestyle, spending and customers' skiing skills	0.031	The International Journal of Tourism Research	2007	9	6	409	421	Austria
26	Artino, A.R.	Motivational beliefs and perceptions of instructional quality: Predicting satisfaction with online training	0.048	Journal of Computer Assisted Learning	2008	24	3	260	270	USA

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
27	Lin, Y.M.; Lin, G.Y.; Laffey, J.M.	Building a social and motivational framework for understanding satisfaction in online learning	0.033	Journal of Educational Computing Research	2008	38	1	1	27	Taiwan
28	Yi, Y.; Gong, T.	The electronic service quality model: The moderating effect of customer self-efficacy	0.050	Psychology and Marketing	2008	25	7	587	601	South Korea
29	Zhao, X.; Mattila, A.S.; Tao, L.S.E.	The role of post-training self-efficacy in customers' use of self service technologies	0.037	International Journal of Service Industry Management	2008	19	4	492	505	China
30	Kidwell, B.; Hardesty, D.M.; Childers, T.L.	Emotional Calibration Effects on Consumer Choice	0.096	Journal of Consumer Research	2008	35	4	611	621	USA
31	Arning, K.; Ziefle, M.	Effects of age, cognitive, and personal factors on PDA menu navigation performance	0.039	Behaviour and Information Technology	2009	28	3	251	268	Germany
32	van Beuningen, J.; de Ruyter, K.; Wetzels, M.; Streukens, S.	Customer Self-Efficacy in Technology-Based Self-Service: Assessing Between- and Within-Person Differences	0.044	Journal of Service Research	2009	11	4	407	428	Netherlands
33	Artino, A.R.; La Rochelle, J.S.; Durning, S.J.	Second-year medical students' motivational beliefs, emotions, and achievement	0.157	Medical education	2010	44	12	1203	1212	USA

	BASIC INFORMATION									
No.	Authors	Title	SJR	Journal Name	Pub Year	Vol.	No.	Start Page	Last Page	First Author Country
34	Kim, Y.H.; Chiu, C.Y.; Zou, Z.	Know thyself: misperceptions of actual performance undermine achievement motivation, future performance, and subjective well-being.	0.228	Journal of personality and social psychology	2010	99	3	395	409	USA
35	Puligadda, S.; Grewal, R.; Rangaswamy, A.; Kardes, F.R.	The role of idiosyncratic attribute evaluation in mass customization	0.055	Journal of Consumer Psychology	2010	20	3	369	380	USA
36	Lin, W.B.	Establishment of an experience value model	-	International Journal of Commerce and Management	2010	20	2	151	166	Taiwan
37	Beattie, S.; Lief, D.; Adamoulas, M.; Oliver, E.	Investigating the possible negative effects of self-efficacy upon golf putting performance	0.082	Psychology of Sport and Exercise	2011	12	4	434	441	UK
38	Gabbott, M.; Tsarenko, Y.; Mok, W.	Emotional Intelligence as a Moderator of Coping Strategies and Service Outcomes in Circumstances of Service Failure	0.044	Journal of Service Research	2011	14	2	234	248	Australia
39	van Beuningen, J.; de Ruyter, K.; Wetzels, M.	The Power of Self-Efficacy Change During Service Provision: Making Your Customers Feel Better About Themselves Pays Off	0.044	Journal of Service Research	2011	14	1	108	125	Netherlands
40	Oulasvirta, A.; Wahlstrom, M.; Ericsson K. A.	What does it mean to be good at using a mobile device? An investigation of three levels of experience and skill	0.057	International Journal of human-computer Studies	2011	69	3	155	169	Finland

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
1	Car repair decision	Service Purchasing	Longitudinal survey	**Self-confidence** was measured by a six-point scale representing knowledge about what to do to get the car repaired. **Anticipated satisfaction** was measured by the omnibus, fourpoint item "Having made your choice of a service facility, how satisfied would you reasonably expect to be with the service you were going to receive?"	ANOVA	180 Adult Male, living in a Large city
2	Training	Training	Experiment	Two self-efficacy measures were developed based on Bandura's conceptualization of the dimensions of self-efficacy: (a) magnitude. the total number of Yes's (b) strength, the total certainty for Performance Levels 8, 10, and 12 uses. *Strategies used were measured in a postexperimental questionnaire. Subjects indicated how desirable (5-point scale: I = highly undesirable to 5 = highly desirable) it was for them to emphasize quality, quantity. and variety of items in their lists of uses and to indicate the extent to which they used and found various brainstorming strategies helpful in performing the task (5-point scale: I = did not think of it/use it to 5 = found it very helpful). *The performance measure (scored by a graduate assistant who did not know the purpose of the study) was the total number of uses given, deleting responses that were not uses (e.g., "break it" for a brick) or that were exact reoetitions (regardless of spelling) within the same trial.	Path Analysis, Regression	209 Undergraduates
3	Mathematics Training	Training	Experiment	Children's self-efficacy was assessed in a way similar to that in previous studies (Bandura & Schunk, 1981). None of the self-efficacy studies have reported reliability and validity measures. However, in another part of this study not reported in this article, test-retest and interrater reliability for self-efficacy assessment were found to have a correlation ranging form .70 to .80. I assessed, self-efficacy strength by asking children how certain they were about answering correctly a mathematics question of a particular kind, using an 11-point certainty rating scale. *A direct measure of self-judgment of mathematics ability, based on a similar inventory for academic self-image, was constructed prior to this study (Barker-Lunn, 1970). Seven statcments of the form "Fm useless at math"1 and "I'm very good at math" were used.	Hierarchical Regression	38 boys, 34 girls, six primary school
4	Software Training	Training	Experiment	A measure was designed to assess the level of computer self-efficacy prior to training. The measure consisted of five items; each item assessed efficacy on some aspect of computer operation over six levels of difficulty. The computer self-efficacy measure was found to have an internal consistency reliability (coefficient alpha) of .98. *Items used to assess software self-efficacy were related to the content of the specific financial software package in which the participants were trained. Again, internal consistency reliability was found to be high, with a coefficient alpha of .92. *An objective performance test was administered at the completion of training to assess trainees' ability to use the software. Sample items included: 1. Enter "Unit Price" in address A4. 2. Write the label "SUM" in address A19. 3. Copy the formula used for F7 (dollar gain) for all entries in column H. The performance test was timed (15 min). At the conclusion of the test, participants printed copies of their work. This output was collected and objectively scored.	ANOVA	108 Managers and administrators, 38% male
5	CAD Usage	Computer Usage	Experiment	The Wonderlic Personnel Test is a commonly used test of general cognitive skill or ability. The version used in this study was Form I, 1981 Revision. *The Group Embedded Figures Test (GEFT) [16] is a paper and pencil test used to assess the degree of field independence/ dependence among subjects. The test requires subjects to identify target outlines embedded in complex geometric patterns. *The Computer Graphics Performance Test is a recently developed CAD task. It assesses the subject’s ability to perform a critical component of engineering jobs and may be viewed as a work-sample test. *Perceived task difficulty and confidence in the correctness of the solution chosen were measured following each stimulus screen. Subjects rated how difficult ‘they felt the design problem had been and how confident they were in their solution. The difficulty scale ranged from “not at all difficult” to “extremely difficult.” Likewise, the confidence scale ranged from “not at all confident” to “extremely confident.” *The last criterion variable, latency, was automatically measured by the system.	Regression Analysis	58 male, 30 female, university students, 60 technical and 28 non-technical

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
6	Computer Based Medical IS	Computer Usage	Survey	The ease of CBMIS use was formed by three questionnaire items. Its reliability measure was 0.86. The two measures of computer self-efficacy and outcome expectancy were measured by five and six questionnaire items, respectively. Computer self-efficacy had a Cronbach Alpha of 0.86, while for outcome expectancy this value was 0.92. The construct measuring hospital staff system satisfaction regarding the CBMIS was formed by ten questionnaire items based on Torkzadeh and Doll's (1991) user satisfaction measure and had a reliability measure of 0.96.	Structural Equations Modeling	524 System Users in Hospital
7	Mathematics Training	Training	Survey	The Self- and Task-Perception Questionnaire contained items assessing many different constructs related to adolescents' beliefs, attitudes, and values about particular achievement domains as well as items assessing more general characteristics such as gender-role orientation and locus of control. The psychometric properties of the items and scales are quite good and have been reported elsewhere (see Eccles, Adler, & Meece, 1984; Eccles [Parsons] et aI., 1983; Parsons, 1980).	Correlation	742 grade 5-12, year1, 366 female, 575 grade 6-12, year2 (88% of year1)
8	Finance Training	Training	Survey	Participating students were asked to complete the Motivated Strategies tor Learning Questionnaire (MSLQ) (Pintrich et al. (1991 and 1993)), which wa.s administered during the second half of the semester. The MSLQ has 31 items designed to measure motivational beliefs, 14 iicnis designed to measure cognitive learning strategies, and 31 items designed to measure self-regulation learning: strategies. Students reported their attitudes and behaviors about specific academic tasks, using a Likert scale (0 - not at all true of me, 6 = very true of me). The Cronbach alphas were robust, ranging from 0.64 to 0.93. demonstrating substantial reliability tor all scales used in the study. The Self-Efficacy (SE) scale (alpha = 0.93) has eight items to measure students' evaluations of their competence and chances of successful performance in terms of task-related skills and ability (e.g., "Considering the difficulty of this course, the teacher, and my skills. I think I will do well in this class"). A factor analysis of the 14 cognitive strategy items yielded two distinct scales: a Rehearsal Strategy scale and an Elaboration-Organization Strategy scale. A factor analysis of the 31 self-regulation strategy items yielded three distinct scales: a Metacognition Strategy scale; a Time, Study, and Effort Regulation scale; and a Peer Leaining and Help Seeking scale. The measure of academic performance used in the study was the final grade in the course (GR).	Correlation, Path Analysis	535 Finance Students, 48.1% female
9	New Coffee Maker	Product Usage	Experiment	Our operationalisation of expertise was a modification of the measure used by Brucks (1986). We included the following questions on coffee makers in our measure of expertise: • product attributes: the number of attributes recalled (Q1) • general and specific attribute evaluation: the number of attributes mentioned that discriminate between an expensive and a cheap product (Q2) • brand facts: the amount of brands recalled (Q3), In a reliability test, standardized Cronbach's Alpha was found to be 0.75. *In conjoint analysis the evaluations are reflected in importances. A high (small) importance with respect to one particular attribute indicates that this attribute is relatively (un)important to that consumer. Sticking to the middle of the evaluation scale for most profiles used in the conjoint-analysis task, leads to small importances for all attributes. The degree of articulation, then, is determined by adding (at the individual level) the importances of the six attributes; higher scores indicate higher degrees of articulation. *In a conjoint-analysis task, this will be found when a consumer positively evaluates all attribute profiles which include a particular attribute-level in the beginning (e.g. low price) and turns to positive evaluations in the case of a different attribute-level (e.g. high price) later on. Internal consistency is determined by taking the goodness-of-fit measure of the conjoint analysis estimation procedure. This measure indicates the extent to which variations in the evaluations are explained by variations in the attributes. The goodness-of-fit is expressed by the adjusted R 2 which ranges from 0 (no internal consistency) to 1 (maximum internal consistency). *In this study a subsample of the original sample was reinterviewed, eight months after the evaluation task (test), to perform the same evaluation task (retest).To determine the stability, correlations between the evaluations in the test and the retest (raw data) will be calculated. Correlations close to 1 indicate that the stability is high.	Regression	97 consumers

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
10	Camera Purchasing	Product Purchasing	Experiment	the first measure was a self-report of expertise in which subjects judged their camera knowledge relative to the average consumer. This subjective measure was taken on a 7-point scale. The second measure captured subjects' familiarity with cameras operationalized as the sum of five dichotomous items, representing different types of exposure to photography (Gardial, 1986). The final measure tested objective expertise with eight multiple choice questions concerning camera specifications and performance characteristics. This instrument is from Gardial and Biehal (1991), who had factor-reduced Sujan's (1985) questionnaire on 35-mm cameras to achieve tmidimensionality. The instrument has high internal consistency with a KR-20 test value of 0.87.	ANCOVAS	290 Undergrads,
11	Computer Usage	Computer Usage	Meta Analysis	Literature Review	Meta-analysis	45 Empirical Studies
12	Video Recorder and Reflex Camera	Product Usage	Survey	Customer skills levels were measured using 38 (video recorders) and 41 (reflex cameras) items respectively, thereby covering all components and phases of the skills construct. *Product-related perception of quality was measured using two (video recorders) and three (reflex cameras) items.	Structural Equations Modelling	293 Consumer, Germany
13	Overal Training	Training	Longitudinal Survey	Eleven items on self-efficacy for self-regulated learning reported in Zimmerman et al. (1992) were used. Compared with other self-efficacy measures that concern one's perceived capability to perform in a specific content domain, self-efficacy for self-regulated learning taps students' confidence in utilizing a variety of selfregulatory strategies without the constraint of particular subject matters. Sample items read ''I can finish course assignments by deadlines,'' ''I can study when there are other interesting things to do,'' ''I can concentrate during lectures,'' and ''I can arrange a place where I can study without distractions.'' Response categories ranged from 1 to 5 with the following verbal descriptors: 1 (not at all true), 3 (somewhat true), and 5 (very true). Seven items were adapted from both Roeser, Midgley, and Urdan (1996) and Pintrich and De Groot (1990). One item was dropped from the T2 survey by mistake. The items tapped students' perceptions of their capability for successful college learning and academic achievement in general. Sample items read ''I'm confident I can master the courses I'm taking this semester,'' ''I believe I can do an excellent job on the problems and tasks assigned for the courses I'm taking this semester,'' and ''I can do a good job on almost all the coursework if I don't give up.'' Self-efficacy for academic achievement items were modified to refer to the specific course in which the data were being collected. Sample items read ''I'm confident I can master the contents covered in 'instructional methods and technology,' '' ''I believe I can do an excellent job on the problems and tasks assigned in 'instructional methods and technology,' '' and ''I can do a good job comprehending almost all the materials required in 'instructional methods and technology' if I don't give up.'' Five items asked about students' confidence in mastering representative contents of the course. A sample item reads ''I'm confident that I can successfully solve problems on the definitions of IT.'' Problems were presented to students for a brief period on a screen through an overhead projector. Students were asked to rate their confidence for solving given types of problems on a scale ranging from 0 to 100. The following verbal descriptors were provided: 0 (not confident at all), 40 (maybe), 70 (pretty confident), and 100 (real confident). Students' midterm and final test scores comprised achievement measures. There were 30 questions for the midterm and 34 questions for the final exam.	Path Analysis	168 female students,

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
14	Training	Training	Experiment	Achievement for information presented in the chapter was measured by six items that ranged over all six levels of Bloom s taxonomy (Bloom,Enge lhart, Fur st,Hill, & Krathwohl, 1956; see Table 1). Items were adapted from the study by Mayer et al. (1996). Students responses were scored using a rubric, ba sed on propositions in the chapter that were essential to presenting a full and accurate answer to the test item. The first question was worth 0–10 points; the other five questions were worth 0–5 points each. After a space in which to write their answer for each question, student s were given this instruction: ‘‘This question was worth 5 (or 10) points. Based on your answer what would you give yourself?’’ *A multi-section questionnaire, designed collaboratively with Chu (2000) for an experiment investigating other features of studying,gen erated a variety of information about students perceptions of and practices during studying that is representative of the general literature on study skills (Hadwin & Winne, 1996). Data from 15 items used here are drawn from the first two sections of this instrument where students reported on 26 features of self-regulating learning and their use of study tactics. *PrepMate (a software) recorded in a log the actual events that trace how students studied.	Correlation	69 Undergraduate s, 51 female
15	Web Search	Computer Usage	Experiment	First, the assessment of self-efficacy should be domain-specific. Next, perceived self-efficacy should be measured against levels of task demand that represent gradations of challenges. Participants were asked to judge their ability to meet the challenges or to surmount the various impediments. Third, the item should be phrased in terms of ‘‘can do’’ rather than ‘‘will do’’ because ‘‘can’’ was a judgment of capability and ‘‘will’’ was a statement of intention. For tasks the individuals judged they could do, they rated ‘‘how sure’’ they are of their perceived efficacy on solving cognitive problems in a 100-point scale, ranging in 10-unit intervals from 0 (‘‘cannot do’’); through intermediate degrees of assurance, 50 (‘‘moderately certain can do’’); to complete assurance, 100 (‘‘certain can do’’). *The performance was measured by weighted multiplication of the expended time and the price found by the subject. A subject with a low level of effort and a high level of accuracy was regarded as a better performer. This conformed to the criteria set by both the effort–accuracy trade-off model and the Social Cognitive Theory. Since Trials 1 and 2 did not particularly emphasize either effort or accuracy, the performance on these trials was measured as 1 standardized (time*price). However, the reward formula of the third trial was altered to be 1 standardized (time1/4 *price) because accuracy was emphasized at the price of effort.	Regression	80 (58 male and 22 female), 30 computer relevant background
16	Second Language Training	Training	Experiment	The present study utilizes the pausal unit protocol to analyze the text and recalls. A pausal unit is a unit or entity that during normally paced oral reading has a pause on each end of it (Bernhardt, 1991). To obtain a more complete representation of comprehension in the present study, both written recall and multiple-choice tasks were utilized. *Topic familiarity was assessed via questions with five possible choices ranging from 1 (“I was really familiar with this topic”) to 5 (“I was not familiar with this topic at all”). Readers’ enjoyment was assessed with the following question: “Generally speaking, do you enjoy reading in Spanish?” with possible answers ranging from 1 (‘‘I really enjoy reading in Spanish”) to 5 (‘‘I really do not enjoy reading in Spanish at all”). A second questionnaire was created for self-assessment ratings including the same rubric. The question read: “How do you rate yourself as a reader of Spanish?” with five possible choices from 1 (“I think that I am an excellent reader of Spanish”) to 5 (“I do not think that I am a good reader of Spanish at all”).	Correlation, ANOVA	88 students, 59 female
17	Computer Project	Computer Usage	Experiment	The instruments used for data collection were Computer Attitude Scale (Loyd & Gressard, 1984) for measuring computer anxiety, computer liking, and computer confidence, and a newly constructed Computer Learner Profile to measure subjects’ computer experience and perception of task complexity.	Regression	307 Students, computer course, 115 introductory level
18	Health Care Plan	Service Usage	Survey	Service use self-efficacy consisted of five items developed for this study. The items assessed how the respondents view their knowledge and comfort level in using the services of the group health care plan. *Perceived service value consisted of five items adapted from Petroshius and Monroe (1987) that assessed whether the respondents perceived that they got their money's worth.	Structural Equations Modelling	444 Staff using health care plan

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
19	University Portal	Computer Usage	Survey	Nine items adapted from Roca et al. (2005) were used to measure web self-efficacy. Four items adapted from Schillewaert et al. (2000) were used to measure personal innovativeness. Six items adapted from Hartwick and Barki (1994) were used tomeasure attitudes towards the portal. Eighteen items adapted from Ahn et al. (2004) were used to measure service quality, system quality and information quality. Three items adapted from Wixom and Todd (2005) and Roca et al. (2005) were used to measure satisfaction.	Correlation	405 Students
20	1. Putting Golf Ball, 2. Digital Camera	Product Purchasing	Experiment	1. Half of the participants putted from a distance of 3 feet (easy condition) while the other half of participants putted from 10 feet (hard condition). Next, all participants examined six levels of golf balls described on two dimensions—in terms of price (ranging from $9.95 to $34.95 per dozen) and intended skill level (ranging from "1st timer" to "professional"). *Participants indicated which of the 12-packs of golf balls they would purchase for their own use. Then, on the next page, they estimated their relative golfing ability compared with other golf ball consumers. 2. Each participant took an eight-item, multiplechoice quiz about photography. In the easy condition, the quiz asked easy questions about photography and participants needed only to identify which of two possible answers was correct (e.g., "'Red eye' is more likely if: a) the flash is used or b) the flash is not used"). In the hard condition, the questions were more difficult and participants were required to choose from among three options (e.g., "What are the two basic types of digital images? a) vector and roster, b) vector and rester, or c) vector and raster")	MANOVA	1: 40 male, 15 female, 2: 46 students
21	Computer Usage	Computer Usage	Survey	Computer competence was measured using an instrument adapted by Munro et al. (1997). It includes an individual sub-domain measure for competence in word processing, spreadsheets, graphics programs, databases, email programs and web page development, based on number of domain packages used and thoroughness of current knowledge of the domain (on a scale of 0 = ''No Knowledge'', 1 = ''Very Limited Knowledge'' to 7 = 'Complete Knowledge''). In addition to the six sub-domain ability levels, respondents reported expertise in two other domains, ''other'' software (e.g., programming languages and three others) and hardware (e.g., PCs, mainframes, network hardware, and two others). The overall measure of computer ability was calculated by averaging ability levels in all domains. *SGCSE was calculated by averaging a respondent's scores on six application-specific CSE instruments, one for each of the six application domains. each application-specific measure of CSE included both magnitude (''Yes'' or ''No'') and strength or confidence (1–10). *GCSE (CH) was measured using the 10 item GCSE instrument of Compeau and Higgins (1995a). *Adapted from an instrument by Hill et al. (1987), this two-item scale asks respondents to rate their confidence in their ''computer ability'' and their ability to ''learn computer applications''.	Structural Equation Modelling	373 (267 male, 45 female), random universities
22	Brand choice for purchasing	Product Purchasing	Experiment	Subjects completed a single-item measure of perceived task complexity immediately following their exposure to an experimental stimulus, which consisted of a list of brands and attributes but not information on how each brand scores on each attribute. Subjects responded from Strongly agree to Strongly disagree on the 5-point, Likert-type item "Making this purchase decision would be a complex task." *For self-efficacy eight 5-point Likert scale items from Chowdhury (1993) were adapted to a personal computer purchase context. A common factor analysis with six remaining items produced a single-factor solution and the abridged scale was sufficiently reliable (Cronbach's 0.80; Nunnally & Bernstein, 1994)	Regression	287 Undergrad, Business major
23	e-Health Service	Service Usage	Longitudinal Survey	The scales for self-efficacy was drawn from Webster and Martocchio (1992), and were modified to refer to the MyHealth Web site. *We created new items for the expectations and performance constructs that assess the ability of MyHealth to provide timely responses, improve communication, offer better access to services, and provide relevant information. Our focus on expectations relating to these factors is based on studies that suggest they are especially important to customers in e-business and e-service contexts (DeLone and McLean, 2004; McKinney et al., 2002).	Structural Equations Modelling	111 service users, 73% female

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
24	Physical Training	Training	Experiment	One item was designed to assess the level of object manipulation ability: 'Using the 7-point scale please circle the one number that shows your level of object manipulation ability.' The responses ranged from 'very poor' (1) to 'very good' (7). *Participants' initial self-perceptions of ability and self-perceptions of ability were assessed by using the four-item subscale of the IMI prior to the first practice session and after the final practice session. For example, 'I think I am pretty good at the Lunastix task'. The seven-point likert scale responses ranged from 'very strongly disagree' (1) to 'very strongly agree' (7). *One item was designed to assess the difficulty level of the Lunastix skill: 'Please indicate the difficulty level of this Lunastix skill by circling the number that corresponds to your perceptions.' The seven-point likert scale responses ranged from 'very easy' (1) to 'very difficult' (7). *Participants completed a final skill test. Each participant was allowed three trials to perform the task. The total number of hits that participants executed from each trial was recorded by the research assistants on a score sheet.	Correlation, Hierarchical Regression	79 8th Grade, 36 male,
25	Skiing	Service Usage	Survey	Customers of the participating ski resorts were asked about their satisfaction with various aspects of the ski resort. *Furthermore, overall satisfaction was assessed with two items (overall satisfaction and enjoyment of the stay). All satisfaction items have been measured on a five-point scale from 1 (very satisfied) to 5 (very unsatisfied). Loyalty, too, was measured with two items (repurchase intention and word-of-mouth) on a five-point scale from 1 (yes, absolutely) to 5 (no, definitely not).	Structural Equations Modelling - Cluster Analysis	6172 Skiers,
26	Online Training	Training	Survey	The second subscale was composed of seven items designed to assess students' confidence in their ability to learn the material presented in the online course; that is, their self-efficacy for learning with selfpaced, online courseware. Subscale items were developed using self-efficacy as the guiding framework (see Bandura 1997). *A seven-item instructional quality subscale was developed to assess students' beliefs that the online course utilized effective instructional methods and design features. *An eight-item satisfaction subscale was developed to assess students' overall satisfaction with the self-paced, online course.	Correlation, Hierarchical regression	646 Military students, 514 male
27	Online Training	Training	Survey	To standardize the examination of students' perception of the social experience in an online learning environment, Laffey et al. (2006) developed a 20-item social ability instrument initially based upon Picciano's (2002) measure of social presence and the literature in computer supported cooperative work (CSCW). The current study expanded the original instrument by modifying and adding new items to examine how instructors and peers might differentially influence distance learners' social ability. Further new items were added to include the possibility that privacy and written communication concerns might be important aspects of social ability. Thus, the scale for measuring social ability in this study was modified and expanded from Laffey et al.'s instrument to a 42-item social ability instrument. *The scales measuring students' intrinsic goal orientation, task value, and selfefficacy, were taken from the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, Smith, Garcia, and McKeachie (1993). The original reliability coefficients were .93, .74, and .90, respectively. Students were asked to rate the level of trueness of eight statements that measured "selfefficacy," four statements that measured "intrinsic goal orientation," and six statements that measured "task value." The answer was rated on a 7-point Likert scale where 1 indicated "not true at all" and 7 indicated "very true." Using separate Principle Component Analysis (PCA) with Varimax rotation to assess unidimensionality, Eigenvalues were 2.32 for "intrinsic goal orientation," 4.73 for "task value," and 5.42 for "self-efficacy." The minimum item loadings were .83, .78, and .71 for intrinsic goal orientation, task value, and self-efficacy respectively. *A four-item Likert scale measuring student online learning satisfaction was developed by Lin (2005), and its original composite reliability was .88. All items were measured in a 7-point Likert scale where 1 indicated "strongly disagree" and 7 indicated "strongly agree." PCA with Varimax rotation identified one factor, with an Eigenvalue of 3.04 and a minimum item loading of .76.	Structural Equations Modeling	110 students, 64.5% female

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
28	Online Service	Service Usage	Survey	Electronic service quality questions were from Fassnacht and Koese (2006). Environment quality was measured by six items that assessed two elements: graphic quality and clarity of layout. These items depicted how well the elements of the user interface were represented visually and the degree to which the design structure of the user interface helped users to find their way. Delivery quality was measured by twelve items that captured four dimensions: attractiveness of selection, information quality, ease of use, and technical quality. These items included questions on the range of offerings, appeal to customers, information accuracy, functionality of the user interface, and the integrity of data processing. Outcome quality was measured by six items that assessed three dimensions: reliability, functional benefit, and emotional benefit. These items assessed the extent to which the provider kept its service promise, the extent to which the service fulfilled its purpose, and the degree to which using the service aroused positive feelings. Overall service quality was measured by a two-item scale. Items included: "The quality of this XYZ services is generally excellent" and "Overall, I consider this XYZ services to be superior." Customer satisfaction was adapted from Oliver (1997) and measured by two items. These were "I was satisfied with the service this XYZ provided," and "My choice to use this XYZ was a wise one." *Self-efficacy was measured using the three-item scale developed by Pavlou and Fygenson (2006), which was based on the work of Bandura (1986). These were "I feel confident getting information about this product (or service) from this website," "I feel confident purchasing this product (or service) from this website," and "I feel confident navigating this website without getting lost in cyberspace."	Partial least square analysis	162 business students, 64% male
29	Self-Check out Machine	Service Usage	Experiment	Post-training self-efficacy was measured in terms of subjects' expectations about their ability to successfully operate the SST (Bandura, 1982). An eight item, seven-point Likert type scale adapted from Jones (1986) was used to capture this construct. The internal reliability for the post-training self-efficacy was 0.88. *Customer satisfaction evaluates customers' affective and cognitive reactions to SSTs encounters. A three-item, seven-point Likert type scale adapted from previous satisfaction studies (Wirtz and Le, 2003) was used to capture overall satisfaction with the self-service encounter. The internal reliability for the satisfaction scale was 0.91.	Structural Equations Modelling	131 Students
30	Food Choice	Product Purchasing	Experiment	Emotional ability was assessed using the Consumer Emotional Intelligence Scale (CEIS; Kidwell et al. 2008), which has been adapted to the domain of consumer behavior from the more general MSCEIT (Mayer et al. 2003). *Emotional confidence was measured by subjective probability ratings (Kahneman and Lovallo 1993; Sniezek, Paese, and Switzer 1990). Respondents were instructed to express the degree of confidence in their answers on a percentage scale, with a range of 0%–100%, referred to as single-item judgments because they assessed confidence for each ability item (Treadwell and Nelson 1996). Similar measures were used to assess cognitive confidence. *A series of 40 true/false items was administered, comparing the nutritional content of two portions of food items. For example, participants were asked which has more calories—a 1/2 cup of spaghetti sauce or 2 tablespoons of butter. Cognitive ability scores were calculated by summing the correct items from the battery of 40 items. Reliability for this objective nutrition index was .90 and was assessed using the Proportional Reduction in Loss (PRL) index developed by Rust and Cooil (1994) and employed by Hardesty, Bearden, and Carlson (2007). *Consumer decision quality was the dependent variable in both of our studies and was assessed as the total calories of foods chosen.	Regression, Hierarchical Regression	231 Undergraduates

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
31	Computer Usage	Computer Usage	Experiment	As dependent measures task effectiveness and efficiency were analysed according to the standard for usability (EN ISO 9241-11, 1998). For task effectiveness, the percentage of successfully solved tasks was summed up. As efficiency measures, (1) the time needed to process the tasks, (2) the number of detour steps, and (3) the number of nodes revisited were collected. *To measure spatial ability, participants completed a spatial visualisation test taken from the Kit of Factor-Referenced Cognitive Tests (Paperfolding test; Ekstrom et al. 1976). *To assess verbal memory abilities, a verbal memory test was conducted (Bay and Ziefle 2003). *The subjects were given the short version of the test containing eight items (e.g. 'Usually, I cope with technical problems successfully') which had to be rated on a five-point scale, ranging from 1 ¼ totally disagree to 5 ¼ totally agree. According to Beier's own results the reliability of the STC short version is high (Cronbach's a ¼ 0.89). In the present study the reliability of the STC-Scale was even higher (Cronbach's a ¼ 0.91). *In order to support participants in the visualisation of the systems' structure, participants were offered drawings of five sample principles and asked to choose the most adequate structure principle (Figure 5). The models were developed in an earlier study, in which older and younger users were asked to draw the information structure of different technical devices (Bay and Ziefle 2003, Ziefle and Bay 2004). According to their proposals, the models used in this study were developed.	Multiple Regression, ANOVA	32 (16 young(18~27), 16 old (50~69), 50% male, healthy with normal visual acuity
32	Online Stock Investment	Service Usage	Experiment	To measure self-efficacy, a scale adapted from Webster and Martocchio (1992) is used. This scale relates to working with computer software and takes the difficulty of estimating one's confidence when learning complex and abstract features into account. We measure participants' perceived financial performance using a measure from Singh (1993) and ask how respondents rate themselves on the stock trading task. Perceived value is adapted from Harris and Goode (2004)	Regression	271 Young, Novice, Mean age of 22, business students
33	Medical Training	Training	Longitudinal survey	Students' motivational beliefs were measured using two subscales (task value and self-efficacy) adapted from Artino and McCoach. *Students' achievement emotions were measured using a shortened version of the class-related emotions section of the Achievement Emotions Questionnaire (AEQ). *for achievement: took three in-house examinations, one at the end of each trimester. students also completed the Introduction to Clinical Diagnosis shelf examination at the end of the course.	Correlation, Structural Equation Modeling	174 medical student, 86 male
34	1. Mathematics Training, 2. Overall University Training	Training	Experiment	1. the participants were asked to rate their performance on the previous task on a 7-point Likert scale (1 really bad, 7 very good). *The dependent measure was the number of correct solutions (out of 45) that the participants could find. 2. After completing the task, the participants estimated how well they performed on the test compared with other undergraduates in their university. They indicated their answer on a percentile scale that ranged from 0 (I'm at the very bottom) to 50 (I'm better than half and worse than half of other students) and 100 (I'm on the top). In addition, they indicated how many questions they thought they had answered correctly. Finally, they were asked to report their current GPA.	Regression	1. 223 Undergraduates, 95 female, 2. 213 Undergraduates, 139 female
35	1. cell phones, 2. jeans and cars, 3. sports shoes	Product Usage	Experiment	we measured satisfaction by asking participants to respond to three items ("The set of available options gives me sufficient variety," "With the available options, there were enough products that I could consider buying," and "The range of options offered is appropriate for me,") anchored by 1="completely disagree" and 7="completely agree." Weadded a fourth item to this scale ("I was satisfied with the options offered for each attribute.") *Knowledge measures are developed in the research.	Regression	1. 118 Undergraduates, 2. 134 students, 3. 165 students
36	Science Musuem	Service Usage	Survey	As suggested by Holbrook (1994) and Mathwick et al. (2001), it is intended to measure the perceived premium services, efficient financial investment, and potential behavioral and psychological rewards of resources containing aesthetics and playfulness. *Self-efficacy is a belief of individuals for their behavioral capability of achieving specific objectives (Bandura, 1986).	Fuzzy Neural Network Analysis	179 Hi-tech employees

No.	Specific Context	General Context	Method	Data Collection Instrument	Analysing Method	Participants
37	Playing Golf	Excercising	Experiment	In order to accurately assess self-efficacy beliefs a unidimensional self-efficacy scale was developed (Myers & Feltz, 2007). Our measure assumes a unidimensional structure as it was based on hierarchical beliefs (i.e., it is the same question repeated at different levels of task difficulty and collapsed into one score) which may be less problematic than items that are based upon various skill/performance components (i.e., multidimensional structures; seeMyers&Feltz, 2007 for a fuller discussion). Further, following the recommendations of Bandura (2006)wemeasured task self-efficacy magnitude and strength. Magnitude beliefs were recorded byasking participants to responded with a yes or no response regarding 10 different performance levels (e.g., "I have the skills and resources to successfully putt 1e2 balls"; "I have the skills and resources to successfully putt 3e4 balls"; in similar intervals to "I have the skills and resources to successfully putt 19e20 balls"). Therefore, a selfefficacy magnitude score of 0e10 could be recorded for each participant. Self-efficacy strength was recorded by asking the participants to rate the degree of confidence in their ability to perform at each of the 10 levels they had indicated were achievable (on a scale of 0e100%). Self-efficacy strength was subsequently derived by summing the strength scores across self-efficacy magnitude levels that were answered yes (see Lee & Bobko, 1994). Thus, a self-efficacy strength score of 0e1000 could be recorded for each participant. Self-efficacy magnitude and strength were used in all subsequent analyses. Alpha coefficients for self-efficacy magnitude and strength measures were .967 and .972 respectively. *was recorded by the number of successful putts in each trial. The alpha coefficient for the performance variable was .925.	Correlation, hierarchical linear modelling, regression	1. 52 (37 man) 2. 56 (21 man)
38	Service Failure	Service Usage	Survey	Prior to testing our hypotheses, we used confirmatory factor analysis (CFA; Amos, 17.0) to assess the reliability, convergent validity, and discriminant validity of our measures. the composite reliabilities of the constructs ranged between .90 and .93. *EI was measured with the Customer Emotional Intelligence Scale (CEIS) that was adapted from the more general (MSCEIT) scale (see Mayer et al. 2003) for application in a consumption context (Mok, Tsarenko, and Gabbott 2008). *Customer satisfaction and behavioral intentions were measured using a composite measure comprising customer satisfaction and behavioral intentions (3-item scale) following (Bickart and Schwarz 2001).	hierarchical moderated regression	283 (53% female)
39	Online Stock Investment	Service Usage	Experiment	Perceived value. Two items relating to the overall value of the service and the ability of the service to fulfill customers' needs and wants relative to the costs were included and adapted from Harris and Goode (2004) and Mathwick, Malhotra, and Rigdon (2001). Self-efficacy. Self-efficacy was measured as the perceived ability to invest in stocks using the particular service and was adapted from Webster and Martocchio (1992). Each measure following an information source referred specifically to that source. However, because the source order is counterbalanced, self-efficacy relating to Source 1, 2, or 3 refers to respectively the first, second, and third source respondents viewed. Thus, self-efficacy related to Source 1, 2, or 3 is not associated with a specific type of source. The four self-efficacy measures are used to form the self-efficacy updating patterns in the analysis.	Multigroup Growth Model, ANOVA	257 (61% male)
40	Smartphone Usage	Product Usage	Observation, Retrospective Interview	Video recorded performances, Thinking loudly, interviews	ANOVA	10 novice, 10 causal, 4 proffessional

No.	Relationship between consumer self- calibration and consumer value
1	greater self-confidence relates to greater anticipated satisfaction in the two situations (0.17 & 0.22) within the motorist's home area. The feeling that he knows what to do about the malfunction appears to presage a happy ending to the situation. (p. 236)
2	Ability (0.47), self-efficacy strength (0.54), selfefficacy magnitude (0.50) were employed as predictors of performance.
3	Once the effects of math self-concept are taken into account, self-efTicacy makes no independent contribution to the prediction of the first math performance level. For the prediction of math performance on the second trial, both math self-concept and prior math performance were significantly predictive when entered into the analysis first, resulting in coefficients of .41 and .19, respectively ($p < .05$) (p. 385). In summary, self-efficacy made no independent contribution to predicting task performance level for both math performance trials, In predicting performance on the first math trial, in which there was low task familiarity, math self-concept was the best predictor. On the second trial, in which there was greater task familiarity, prior task performance was the best predictor (p. 386).
4	Trainees with high levels of pretraining computer self-efficacy will perform better than trainees with low computer efficacy on an objective test of software mastery (p. 885). Participants who scored high on the pretest measure of computer self-efficacy obtained an average performance score of 19.71, whereas the scores for moderate and low self-efficacy participants were 18.83 and 16.08, respectively. The ANOVA revealed a main effect for pretest computer self-efficacy, $F(2, 103) = 6.74$, $p < .01$ (p. 887).
5	performance on the CGFT would be positively related to field independence, general cognitive ability, degree of computer experience, and attitudes toward computers. A significant multiple R (R, = 0.46, p <0.001) was found for this analysis. Field independence was the largest single contributor to the regression equation (beta = 0.420, $p < 0.001$) (p. 18).
6	The statistical results of the study indicate that the end-user's sense of computer self-efficacy and outcome expectancy have direct, meaningful, positive impacts on end-user satisfaction with the CBMIS. Using the standardized path coefficients, the sum of the direct and indirect impacts of these variables on end-user satisfaction with the CBMIS indicate that computer self-efficacy has the largest single impact (0.49)
8	Performance was directly related to self-efficacy (r=0.61). Path: Academic performance was predicted by the primary mediating motivational variable, self-efficacy (b = 0.48) (p. 85).
9	1: consumers with much product expertise supply more articulated evaluations than consumers with little product expertise (p. 603). 2: consumers with much product expertise supply more internally consistent evaluations than consumers with little product expertise, 3: consumers with much product expertise generate more stable evaluations than consumers with little product expertise (p. 604).
10	expertise, whether objective or subjective ($F = 6.42$, $p < .01$ and $F = 3.84$, $p < .05$), appears to play an important role in willingness to pay, the effect being that subjects with lower expertise are prepared to pay more for the same product than those with higher expertise (p. 252). *knowledge does moderate the effect of brand on product evaluation (with objective expertise ($F = 5.46$, $p < .05$, df= 273) and self-report expertise ($F = 4.25$, $p < .05$, df= 273). The interaction of brand with familiarity is marginally significant ($F = 2.87$, $p < .10$, df= 273)). In all three measures, higher-knowledge individuals were willing to pay a greater premium for the quality brand over the imknown brand than were lower-knowledge individuals (p. 253). *Subjects with higher objective expertise value extrinsic cues more in keeping with their diagnostic utility than do subjects with lower expertise (p. 254).

No.	Relationship between consumer self- calibration and consumer value
11	There will be a positive relationship between (self-reported) computer skills and user satisfaction (p. 754). Nine studies measured the effect of user skills on end-user satisfaction. The combined normal standard deviate of these studies is Z=5.396. The combined effect size is r=0.443, a medium effect size according to Cohen (1977). The level of significance for the individual study Z data is p<0.0001. The Z scores were not found to be heterogeneous to a significant degree, X2=0.323, p<0.27 (p.760).
12	the more an existing level of customer skills, the higher the assessment of product quality by the customer (p. 66). For both product (video recorder 0.23 and reflex camera 0.36).
13	Course-specific self-efficacy failed to exhibit a significant relation with midterm scores. The T2 self-efficacy factor assessed after midterm was able to predict students' performance on the final exam (b 5 .21) (p.564).
14	student's estimates of total achievement, based on the sum of estimates for individual items, were mildly overconfident, an average bias of 2.33 points or 7% of the scale s 35-point length higher than the actual mean score. For the knowledge-comprehension item, students were slightly underconfident by half a point on the 10-point scale for this item or a bias of -5%. Otherwise,they were consistently overconfident about achievement on the other six ''higher cognitive'' items. Calibration of achievement has a negative correaltion with total test score (-0.48) (p. 562).
15	the regression coefficients between self-efficacy and performance for Trial 2 is 0.248 (p = 0.026) and for Trial 3 is 0.372 (p = 0.001). This indicates that self-efficacy influences the present performance positively (p. 339).
16	Results of the Pearson's correlation coefficient revealed a positive relationship between self-perceived reading abilities and reading enjoyment. A one-way ANOVA yielded a significant effect for self-reported ability on the recall task and a significant effect for enjoyment on the recall task (p. 498).
18	Self-efficacy is related positively to percieved service value. (standard path coefficient of 0.77)
19	H3. Web self-efficacy is significantly related with service quality. (0.289) H4. Web self-efficacy is significantly related with system quality. (0.217) H5. Web self-efficacy is significantly related with user satisfaction (0.246) (p. 348).
21	General computer self-efficacy will have a positive relationship with overall computer competence, with the following ordering: SGCSE, GCSE (CH), Global (p. 387). For overall computing competence, SGCSE was significantly better than both the global instrument (t = 4.60, p < .001) and the GCSE (CH) instrument (t = 3.52, p < .001). There was no significant difference between the global and GCSE (CH) instruments (p. 390).
22	MATCH is the absolute value of the difference between the mean score on the 5-point self-efficacy scale items and the 5-point perceived task complexity measure. Lower values on MATCH represent greater proximity between the subjects' self-efficacy (which represents subjects' available resources) and perceived task complexity (which represents the resources subjects believe are required to successfully complete the task), with zero as the minimum. in the complete data set an inverse relationship exists between MATCH and planned extent of information search (adj. R2= .033, F=10.816, p < .001) (p. 262).
23	Self-efficacy will positively influence expectations of an e-health service (0.19) (p.89). Expectations will positively influence perceived performance of an e-health service (0.50) (p. 92).
24	Self-perception of ability was positively related to performance, r(67) = 0.37, p < .002 (p. 309). *one additional regression analysis with self-perceptions of ability as an independent variable and performance as a dependent variable was conducted. The result indicated that self-perceptions of ability significantly predicted performance, F(1, 70) = 10.93, p < .002. The model accounted for 14 percent of the total variance in performance (p. 311).
25	People with high-skiing skills attach more importance to overall wellbeing (culinary offers, wellness offers and cultural events) in the ski resorts than do people who are beginners or advanced skiers. Furthermore, the satisfaction–loyalty relationship in the high-skills group is stronger than in the group with low- and medium-skilled skiers (p. 416).

No.	Relationship between consumer self- calibration and consumer value
26	Self-efficacy correlates with instruction quality (0.47) and satisfaction (0.47). Overall, these results indicate that when considered individually, the predictor variables of task value, self-efficacy and perceived instruction quality explained from 22% to 42% of the variance in students' satisfaction with the self-paced, online course; large effect sizes, in accordance with Cohen's (1988) guidelines. *after controlling for demographic and experiential variables, a linear combination of task value, self-efficacy and instructional quality significantly predicted students' satisfaction with the course, $F_{7,611} = 103.77$, $P < 0.001$. Moreover, task value ($b = 0.31$, $P < 0.001$), self-efficacy ($b = 0.19$, $P < 0.001$) and instructional quality ($b = 0.40$, $P < 0.001$) were all significant positive predictors of students' satisfaction. The final regression model with seven predictors (four control variables and three components of academic self-regulation) explained approximately 54% of the variance in students' satisfaction; a large effect size, in accordance with Cohen's (1988) guidelines (p. 265).
27	Students' perceived social ability significantly influenced their satisfaction, with the standard path coefficient of .30. self-efficacy had significant direct impact on their learning satisfaction, with the standard path coefficients of .23 (p. 15).
28	H1a: The effect of outcome ESQ on overall ESQ is stronger than the effect of environment ESQ on overall ESQ for high self-efficacy customers. H1b:The effect of outcome ESQ on overall ESQ is stronger than the effect of delivery ESQ on overall ESQ for high self-efficacy customers. H2a: There is no difference between the effect of outcome ESQ on overall ESQ and the effect of environment ESQ on overall ESQ for low self-efficacy customers. H2b: There is no difference between the effect of outcome ESQ on overall ESQ and the effect of delivery ESQ on overall ESQ for low self-efficacy customers. H2c: There is no difference between the effect of delivery ESQ on overall ESQ and the effect of environment ESQ on overall ESQ for low self-efficacy customers (p. 591). H3:The relationship between customer satisfaction and repurchase intention is stronger for customers with high self-efficacy than for customers with low self-efficacy (p. 592).
29	The customers' post-training self-efficacy will have a positive effect on customer satisfaction ($b = 0.825$, $p < 0.01$) (p. 495).
30	Regression results revealed that emotional miscalibration was positively related to total calories ($b = .23$, $p < .01$; all betas reported are standardized unless otherwise noted), suggesting that individuals who are more calibrated (i.e., less miscalibrated) selected fewer calories. Emotional miscalibration explained 5.4% of the variation in total calories. *Cognitive ability explained an initial 18.4% of the variance in total calories. A second regression was conducted that included both cognitive ability and emotional miscalibration. Emotional miscalibration contributed an additional 4.4% explanatory power beyond cognitive ability ($F(2, 228) = 13.12$, $p < .01$) (p. 615). *Results revealed that the high confidence–high ability ($b = .15$, $p < .05$) condition significantly predicted total calories. The low confidence–high ability ($b = .11$, $p = .08$) condition was marginally related to total calories (p. 616).
31	spatial ability and – to a slightly lesser extent – verbal memory were strongly related to performance outcomes, showing significant correlations up to $r = 0.8$. The association between technical self-confidence and performance measures was less pronounced in comparison to cognitive abilities, though reaching significant correlation coefficients of $r = 0.3$ to $r = 0.6$ (p. 260). *Multiple regression analyses confirmed this finding: spatial abilities were a stronger predictor of performance ($b = 0.5$, $p < 0.01$) than chronological age ($b = -0.4$, $p < 0.05$). This suggests that performance differences are predominately caused by differences in spatial ability and not by age per se (p. 261).
32	Self-efficacy positively affects perceived value. Self-efficacy positively affects customer perceived financial performance (p. 412). Self-efficacy increases customer perceived financial performance ($a = .46$, $p < .05$) and perceived value ($a = .76$, $p < .05$) (p. 417).
33	Self-efficacy correlates positively with enjoyment (0.26), and negatively with anxiety (-0.36) and boredom (-0.23). *enjoyment was positively related to NBME shelf examination score ($r = 0.20$), anxiety was negatively related to both achievement outcomes, and boredom was negatively related to course examination grade ($r = 0.26$). *SEM: self-efficacy beliefs were negatively related to anxiety only ($b = $) 0.47); self-efficacy beliefs also had no direct association with the achievement outcomes. In terms of achievement emotions, results partially confirmed expectations. Both anxiety and boredom were negatively related to course examination grade ($b = $) 0.36 and) 0.27, respectively), whereas enjoyment was positively related to NBME shelf examination score ($b = 0.31$) (p. 1209).

No.	Relationship between consumer self- calibration and consumer value
34	Participants in the control condition performed better on the anagram task (M = 21.60, SD = 4.44) than did participants in the high feedback condition (M = 9.31, SD = 5.12), F(1, 177) = 8.05, p < .01, p2 .04. However, participants who received low performance feedback (M = 20.71, SD = 4.58) did not differ from those who received high performance feedback, F(1, 90) = 1.65, ns, or no feedback, F(1, 167) = 1.18, ns. More important, the predicted interaction of performance on the math test and performance feedback on the anagram test performance was significant, F(2, 217) = 6.88, p = .001, Yp = .06 (p. 400). *2. participants who understated or overstated their relative performance had a lower GPA than did those who perceived their high or low relative performance accurately. Among participants with high actual performance (one standard deviation above the mean), self-reported performance was positively related to GPA (B = 0.005), t(207) = 2.76, p < .01. That is, among high performers, those who understated their performance more had a lower GPA. Among participants with low performance (one standard deviation below the mean), self-reported performance was negatively related to GPA (B = 0.003), t(207) = 2.12, p < .05; among low performers, those who overstated their performance more had a lower GPA (p. 404).
35	Variety in IPA options increases satisfaction with the MCP to a greater extent among novice consumers than among expert consumers. we find a statistically significant interaction between objective knowledge and the number of options of IPAs (F=11.51, p<0.001) (p. 6). Furthermore, the interaction between number of options and objective knowledge also approaches significance (t=−1.69, p<0.10) (p. 9). *Variety in IPA options increases satisfaction with the MCP to a greater extent among consumers with high subjective knowledge than among those with low subjective knowledge. for jeans, we find a statistically significant interaction between subjective knowledge and the number of options of IPAs (F=5.80, p<0.02) p. 8). we find a significant interaction between the number of options of IPAs and subjective knowledge (t=2.69, p<0.01). *Knowledge calibration influences the relationship between variety in IPA options and satisfaction with the MCP, such that a) Variety in IPA options increases satisfaction with the MCP to a greater extent among consumers with high subjective and low objective knowledge than among those with low subjective and high objective knowledge. b) Variety in variable attribute options does not differentially influence satisfaction with MCP among consumers with high subjective and high objective knowledge versus consumers with low subjective and low objective knowledge (p. 4).
36	There is a significantly different effect of customers' self-efficacies on experience value (p. 162).
37	The interclass correlation coefficient for self-efficacy magnitude, strength and performance was .781, .802 and .599 suggesting that 78~80% of self-efficacy and 60% of performance variancewas at the between-person level (depending on how self-efficacy was measured). Results supported the first hypothesis in that there was a significant and strong positive correlation between average selfefficacy magnitude (r =.807) and strength (r =.773) with average performance. Further, self-efficacy (magnitude and strength) were significantly related to subsequent performance across each of the eight trials with correlations ranging from r =.393 to .730. Thus supporting self-efficacy's positive relationship with performance at the between-person level. after controlling for trial and previous performance self-efficacy magnitude (g= .278, p=.066) had a slight negative (but nonsignificant) relationship with subsequent performance. This explained 2.39% of the within-person variance (above that of trial and previous performance) (p. 437).
38	There is a positive association between customer EI and customer satisfaction. the positive relationship between customer EI and service encounter outcome (b = .19, p < .001) (p. 236).
39	Regardless of their self-efficacy level, self-efficacy change has a positive effect on perceived value for consumers who increase their self-efficacy but not for consumers who maintain or decrease their self-efficacy (p. 109). the self-efficacy change or slope significantly increases perceived value for the increasing (B = 1.56, p < .05) but not for the maintaining or decreasing segment (p. 114). *Perceived firm expertise increases perceived value for consumers who maintain their self-efficacy but not for consumers who increase or decrease their selfefficacy (p. 110). perceived firm expertise increases service value for the maintaining segment (B = .35, p < .01) but not for the increasing or decreasing segment (p. 114).
40	The novices were the least successful in accomplishing the tasks, while the experts were the most successful. A one-way ANOVA showed significant differences between the groups, F(2,23)=3.8, p=.039. Post-hoc tests with Tukey's HSD showed a significant difference only between the two extremes; in other words, between the novices (M=5.40,95% CI 4.71–6.09) and the experts (M=6.75,95% CI 5.95–7.00), p=.035 (p. 161).

No.	Relationship between task calibration and consumer value
2	strategy training (0.39), and strategies used (0.37) were employed as predictors of performance.
8	Performance was related to one cognitive strategy, elaboration-organization (r = 0.21), and to two self-regulatory strategies, nietacognitive (r = 0.12) and time, study, and effort (r = 0.33) (p. 84). Path: Academic performance was predicted by the primary mediating I earning-strategy variable, time, study, and effort regulation (b = 0.09); plus rehearsal strategies (b = -0,09) (p. 85).
11	There will be a positive relationship between ease of use and end-user satisfaction. Four studies measured the effect of ease of use on end-user satisfaction (p. 754). The combined normal standard deviate of these studies is Z=5.034. The combined effect size is r=0.404, a medium effect size according to Cohen (1977). The level of significance for the individual study Z data is p <0.0001. The Z scores were not found to be heterogeneous to a significant degree, X2=0.441, p<0.92 (p. 758).
14	Using the scale length of seven paragraphs as a metric, they reported having planned a method for studying on average 29% more than traces indicated and reported that they had reviewed figures 26% more than traces indicated. In contrast, others reported having set objectives for studying 32% less than traces indicated (p. 564). Calibration of self-reports correlated with two trace scores for study tactics: creating notes and reviewing objectives,both rs = .30 (p = .02). Other correlations between calibration of self-reports and trace scores were not statistically different from zero,all p> .07 (p. 565).
22	MATCH is the absolute value of the difference between the mean score on the 5-point self-efficacy scale items and the 5-point perceived task complexity measure. Lower values on MATCH represent greater proximity between the subjects' self-efficacy (which represents subjects' available resources) and perceived task complexity (which represents the resources subjects believe are required to successfully complete the task), with zero as the minimum. in the complete data set an inverse relationship exists between MATCH and planned extent of information search (adj. R2= .033, F=10.816, p < .001) (p. 262).
24	The correlation analysis indicated perception of task difficulty was negatively associated with performance, r(67) = –0.36, p < .003 (p. 309). *Regressing performance on perceived task difficulty indicated that perceptions of task difficulty negatively predicted performance, F(1, 65) = 13.42, p < .001. The model accounted for 17 percent of the total variance in performance (p. 311).

No.	Relationship between consumer self- calibration and task calibration
5	Perceived task difficult will be negatively related to field independence, degree of computer experience, general cognitive ability, and attitudes toward computers (p. 16).The multiple R was 0.38 ($p < 0.01$). Significant betas were found for field independence(beta = -0.227, $p < 0.05$)a nd attitudes toward computers (beta = -0.312, $p < 0.01$) (p. 18). *user confidence would be positively related to attitudes toward computers, degree of computer experience, general cognitive ability, and field independence. The multiple correlation coefficient for this analysis was R, = 0.638 (p -C 0.001). Examination of the beta weights shows field independence (beta = 0.247, $p < 0.01$) (p. 19).
7	The task difficulty perception factors related negatively to the ability perceptions, with this negative relationship strong (p. 221).
8	students reporting higher task value and self-efficacy were more likely to use deeper elaboration-organization strategies (r = 0.42 and r = 0.21). They were also more likely to use two self-regulatory strategies: metacognitive (r = 0.32 iuid r = 0.25) and time, study, and effort (r = 0.33 and r = 0.37). However, the students with higher perceptions of task value and self-efficaey were less likely to use surface rehearsal strategies (r = 0.10 and r = -0.02) (p. 84).
14	Calibration of achievement did not correlate with calibration of selfreports (p. 565).
17	computer confidence influence user perception of task complexity (p. 716).
20	1. Participants' estimates of relative golf skill were significantly different by condition ($F(1, 52) = 12.07$, $p = .001$), showing that the difficulty manipulation worked. Those putting 10 feet thought they were in the 15th percentile, and those putting three feet thought they were in the 35th percentile. Finally, the MANOVA supported the prediction that shifts in selfassessments result in shifts in product choice. In the harder condition, participants chose a set of golf balls ranked nearly second from the bottom, but participants in the easier condition chose a set ranked nearly third from the bottom. This difference was significant ($F(1, 52)= 4.28$, $p = .044$). There was no effect of condition on mood ($F= .01$) (p. 106). 2. Participants' estimates of photographic skill compared with other consumers were significantly different by condition (Mhard= 38th percentile vs. Measy = 58th percentile, $F(1, 43)= 7.09$, $p = .011$), showing that the difficulty manipulation worked. The primary goal of this analysis was to confirm that when consumers' own percentile estimates shifted due to task difficulty, matching would cause their product choices to shift as well. The MANOVA supported this prediction. In the harder condition, participants chose a camera in the 48th percentile, but participants in the easier condition chose a camera in the 62nd percentile. This difference was significant ($F(1, 43)= 4.52$, $p = .039$) (p. 108).
24	The correlation analysis indicated perception of task difficulty was negatively associated with self-perceptions of ability, $r(72) = –0.62$, $p < .0001$. *Perception of task difficulty was negatively related to initial beliefs about ability in object manipulation, $r(72) = –0.32$, $p < .005$, prior experience in object manipulation, $r(72) = –0.24$, $p < .045$, and initial self-perceptions of ability in Lunastix, $r(71) = –0.26$, $p < .026$ (p. 309). *Regressing self-perceptions of ability on perceived task difficulty showed that perceived task difficulty significantly predicted self-perceptions of ability, $F(1, 70) = 62.36$, $p < .001$. The model accounted for 47 percent of the total variance in self-perceptions of ability (p. 311).
31	Interestingly, high spatial ability was significantly interrelated with technology related self-confidence (Kendall's tau b = 0.43, $p < 0.01$). Computer expertise showed a strong association with technical self-confidence (Kendall's tau b = 0.51, $p < .01$) (p. 258).
40	More than half of the novices' actions were non-useful, whereas the casual users and the experts had proportionately less non-usefulactions.