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**WMG Service Systems Research Group
Working Paper Series**

Value Definitions and Consumer Consciousness

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Abstract

This paper contributes to the understanding of value within the service science and management literature, a literature that currently defines and measures value in various ways, making assumptions about how value is created and judged. We present this paper in two parts: in the first, we reprise six core themes of value understanding in the management literature, highlighting their implicit philosophical, chronological and consciousness assumptions; in the second, we elaborate on consciousness and discuss the implications of a consciousness assumption on the understanding of value in Service Science and management literature in general.

By applying theories on information processing, we reinterpret two types of value consciousness: a phenomenal and an access consciousness. We propose that different information processing systems are in operation in a phenomenal consciousness of value (active in the raw experience) than in an access consciousness of value (active pre- or post-experience). In so doing, suggesting consumer consciousness of value is different at consumption than at choice, and challenging the consciousness assumption implicit in the extant value literature.

Introduction

In 2006, Chesbrough and Spohrer put forward the 'Grand Challenge' of service science, a 'call to action' to the academic community to address the changing needs of the economy. They advocated creating a discipline based on an interdisciplinary approach to the study, design, and implementation of service systems, a dynamic configuration of resources - people, technology, organizations and shared information - that create value between provider and customer through service (IfM and IBM, 2008). As such, value and its co-creation are central to the study of service science (Maglio et al., 2010). Yet despite its central focus, the term *value* carries meaning in many disciplines resulting in numerous definitions and much debate on how it should be defined and measured (Anderson and Narus, 1998). Perhaps it is not surprising then that Ostrom et al. (2010) found one of the key priorities for progressing service science research to be knowledge for measuring and optimising service value. In essence, calling for an investigation into how firms should approach the creation, delivery and measurement of value between provider and customer through service.

Service Science takes its approach to value from the Service-Dominant Logic (Maglio et al., 2010, Spohrer and Maglio, 2008, Vargo et al., 2008), a reasoning based on thinking in management and economic literatures. As a result we turn to the concept of value in management literature, which generally refers to the judgment of the 'goodness' of something; be it a person, an idea, a product, an activity or anything else physically external to either a person or an entity like a firm.

Understanding value

As stated, value holds many meanings and definitions across disciplines, giving rise to fragmented streams of thought in management literature on what value is, how it is created, 'delivered' and 'consumed'. Various authors have reviewed the literature, identifying these streams and seeking to assimilate their perspectives (see Payne and Holt, 2001, Khalifa, 2004, Lindgreen and Wynstra, 2005, Ng and Smith, 2012). In this paper, we first reprise the six themes of value understanding in literature and their philosophical, chronological and consciousness assumptions highlighted by Ng and Smith (2012); and second, we discuss the implications of the consciousness assumption for value in Service Science and management literature in general.

The six themes of value understanding in the literature are categorised as: utility; monetary worth, perceived satisfaction; net benefit, means-end and phenomenological. Table 1 summarises the assumptions.

Utility is a foundation of economics; through its influence on exchange theory it has had a significant impact on management science. It is understood to be the usefulness or satisfaction from consumption, represented through a person's preference. Although it is not seen as something that can be directly measured, it is considered to be comparable and relative. It

therefore can be determined through revealed preferences, trade-offs and willingness to pay (see for example von Neumann and Morgenstern, 1944, Fishburn, 1970, Anand, 1993)

In management literature there are two dominant understandings of value: a provider-centric interpretation, which views the value of the customer to the firm; and a customer-centric interpretation, which views value as a preferential judgment as seen by the customer. Within the provider-centric view there is a stream of literature which literally sees customer value as the **economic worth** of the customer to the firm, often over the customer's lifetime of purchase from the firm (see for example Haenlein et al., 2006, Hooper et al., 2001, Lewis, 2006, Reichheld and Sasser Jr, 1990). In the other provider-centric stream, the value of the customer to the firm is less literal but nonetheless something which is determined by the firm. It considers value to be the customer's **perceived satisfaction** of the firm's offering. Perceived satisfaction is measured or assessed based on the disconfirmation model in consumer behaviour, which states that a customer is satisfied, i.e. perceives the offering to be of value, when the product's performance is equal to what was expected at purchase (Oliver, 1997, Rust and Oliver, 2000). An ability to deliver superior value, or in other words exceed expectation, results in advantage for the firm (Liu et al., 2005, Payne and Holt, 2001, Ulaga and Eggert, 2006)

Within the customer-centric view there are two principal models of value judgment; net benefit and means-end. The **net-benefit** models view perceived value as the net difference between the benefits and the sacrifices associated with acquiring and consuming an offering (e.g. Butz and Goodstein, 1996, Naumann, 1995, Gronroos, 1997). On the other hand, the **means-end** model views perceived value as the evaluation of offerings as a means towards a use goal; each offering has a different set of attributes and attribute performances which will be perceived to have different consequences in use (e.g. Flint and Woodruff, 2001, Flint et al., 2002, Woodruff, 1997). So, while in the net-benefit model, value rests in the evaluation of an *outcome* i.e. 'what I get for what I give', in the means-end model, it rests in the evaluation of offerings *attributes* in terms of their suitability for the individual's goals.

The final stream, like the customer-centric view, reflects upon the judgment of value as relative, comparable and subjective but recognises its creation as **phenomenological**, that is to say it is created in the interaction or relationship between the item and the perceiver (e.g. Holbrook, 1994, 2006, Pine and Gilmore, 1998).

Three Implicit Assumptions of Value definitions

We categorise these six streams of understanding, and propose that each should be considered a 'special case' of value, upheld based on some implicit assumptions. We identify three key implicit assumptions and elaborate on them below.

We refer to the first as a **philosophical assumption on where value is created** and it relates to whether value is considered to have been created when an offering is created i.e. it *resides* in the offering to be extracted (or not) in use; or whether value is *created* in the use experience. The former is often linked to a goods-dominant, manufacturing or old enterprise logic (Vargo and Lusch, 2004, 2008, Normann, 2001, Chandler and Vargo, 2011). Under this logic, value is considered to be created by the producer through a series of activities, the output of which is

distributed to the consumer through an exchange in the marketplace. It implies the company embeds value in the offering, be it tangible or intangible, by transforming raw materials and activities into something that customers will exchange money for. The value then is seen as the essence of an offering and is measured through its worth in the exchange transaction. The value, embedded in the offering they have purchased, is then consumed or destroyed in use. This is an atomistic view, whereby the value of an offering exists as a steady 'essence' even if it is open to subjective perception. For example, perceived satisfaction literature proposes that a customer is satisfied when the product's performance is equal to what was expected; if the product's performance exceeds expectations, the customer is very satisfied, if it remains below expectations, the customer will be dissatisfied. Although a judgment of satisfaction is based on subjective expectation, there is an assumption that the offering has an inherent value and therefore a firm can promise satisfaction.

The alternative philosophical assumption is a phenomenological perspective on value creation, viewing value of an offering as created only through its use within a dynamically constructed context. This context is the use environment and it shapes the actions, practices and processes of use. Further, the context effects and is effected by the customer themselves through their agency (i.e. their capacity to achieve their goals) and their resources (i.e. their skills and competencies). Holbrook (1994, 2006) takes a phenomenological view, describing value as (1) interactive, in that it involves a relationship between some subject and some object, and (2) relative, because it is comparative, situational and personal. This notion of value as practices and processes enacted within a dynamically constructed context is dominant in Service Dominant Logic and Service Science. To better articulate the idea that value is co-created in a particular context, the term value-in-context was introduced in the value co-creation and service science literature (Vargo et al., 2008).

The principal difference between the atomistic and phenomenological philosophical assumptions is that in the former, value sits in the 'noun' to be subjectively perceived and consumed; in the latter, it sits in the 'verbs' to be enacted and practiced in use. The implication of an atomistic assumption is that it may underestimate the actions, practices and interactions that create the experience of an offering's use in context.

The second implicit assumption of value definition is a **temporal or chronological assumption**. It presumes that value is consistent across purchase, consumption and evaluation. For instance, in utility theory, like perceived satisfaction literature, an exchange is considered successful when the 'utility' received is that which has been stipulated as the terms of the exchange (Houston and Gassenheimer, 1987). Therefore, satisfaction is relative to what was defined at purchase. This implicitly assumes that what represents value in the context of a purchase is the same value in the context of consumption i.e. the offering generates the same utility in both time-space contexts. The limitation of this assumption is that it does not recognize the phenomenological nature of value at consumption and that value could change if the context of consumption changes. This implies that satisfaction in use may not be the same as what was expected at purchase because the customer's context, agency and resources have changed, despite the offering being 'delivered' exactly as promised at purchase.

The final implicit assumption of value definition, related to the chronological assumption, is the assumption of **consciousness**. If we take the position that value is phenomenologically created in experience and in context (i.e. the Service-Dominant Logic approach), instead of it being atomistic and residing in the offering, we also need to consider how, when and where do individuals become conscious of the value created. In other words, if we take value creation as creating something 'good' i.e. of value as emerging from the use and experience of an offering, the consciousness of that goodness during the phenomenological experience may be different from the consciousness of that goodness imagined before, or evaluated after, the use or experience of the offering. One can even argue that within the use/experience phenomenon, the individual is merely 'in practice' of resource integrating, with a lower level consciousness of what is 'good', or what is of 'value', from the resources being integrated within the phenomenon. In other words, even if value is uniquely created within a phenomenon, there could possibly be two levels of consciousness of that value that could exist at different times. We propose two levels of consciousness of value at different times: A phenomenologically conscious value, the raw experience of creating value through interactions in the use experience; and an access consciousness of value, the perception, introspection and memory of the experience before and after use.

The remainder of this paper discusses the implications of the consciousness assumption for literature on value.

Background to Consciousness

P-Conscious and A-Conscious (Block, 1995; 1999)

According to Block (1995), computational approach human mind (including consciousness) can be understood through the notions of "information processing, computation and function in a system" (p.9). 'Cognitive computation' entails a class of synthetic methods highly suited for advancing the science of consciousness (Seth, 2009, p.50). Computation is described as 'mechanistic processes' for explanation of the mechanistic basis of consciousness and its mechanistic roles (or functions) in the human mind for understanding 'the physical basis of mental activities and phenomenal experiences' (Sun, 1999, p.3). In order to analyse consciousness in terms of its underlying mechanisms, we need to first identify its functions it may play in a cognitive system (Cleeremans, 2005, p.9). Block (1995) distinguishes between access consciousness and phenomenal consciousness.

Access (A)-consciousness refers to our ability to report and act on our experience (Cleeremans, 2004, p.9) by focusing on the 'control of speech, reasoning and action' (Block, 1995, p.6). A-conscious content could include 'inner speech and usually a sense of agency, self and a subjective first-person perspective on the world' (Seth, 2009, p.51). For a person to be in an A-conscious state there is a representation for free use in reasoning and for direct rational control of action (Block, 1995, p.5) and 'for high-level processes such as conscious judgment, reasoning, planning and guiding of action' (Cleeremans, 2005, p.10). A-consciousness is: (1) cognitive, in

that it involves "propositional attitude" like thoughts, beliefs and desires; (2) functional, in that it is definable in terms of a computer programme; and (3) intentional, in that a representation or state with representational content expressed by "that" clauses' (Block, 1995, p.10). It is suggested that conscious representations in A-consciousness is characterised by its 'global accessibility', i.e. informationally available to multiple systems. Accessibility is viewed as serving the function of making it possible for an agent to exert flexible, adaptive control over action (Cleeremans, 2005, p.10).

Phenomenal (P) –consciousness refers to the 'qualitative nature of the subjective experience' (Cleeremans, 2005, p.11) and entails experiential *properties* such as 'sensations, feelings and perceptions, but also... thoughts, wants and emotions' (Block, 1995, p.2).

'What it is like to smell a particular scent, to feel a particular pain, to remember the emotions associated with a particular event, to be a bat chasing insects at nightfall' (Cleeremans, 2005, p.11). These properties 'are distinct from any cognitive, intentional and functional properties'. However, this is not to say that P-conscious content has no intentional aspect, just that it may be represented in a primitive non-intentional way (Block, 1995, p.3). P-consciousness is conscious experience (Cleeremans, 2005). In terms of the functions of P-consciousness, some argue that they are purely epiphenomenal and hence play no causal role in information processing' (e.g. O'Regan and Noe, 2001; Dennett, 1991; 2001) (Cleeremans, 2005, p.11). 'More generally, the function of conscious experience is to associate emotional valence to the consequence of one's actions' (Cleeremans, 2005, p.11).

Block (1995) suggests that 'the content of an experience can be both P-conscious and A-conscious (p.8). P-conscious content could consist of 'phenomenal aspects such as perceptual experiences (e.g. redness), bodily sensations (e.g. itchiness), emotional reactions (e.g. regret) and moods (e.g. boredom)' (Seth, 2009, p.51). The P-conscious entails mainly '*the phenomenal feel*': 'the phenomenal character of an experience as of red consists in the experience representing something as red. These representational contents are usually supposed to be 'non-conceptual', as distinct from the content of thoughts. ...' (Block, 1999, p.41). 'If P-content is non-conceptual, it may be said that P contents are not the right sort of thing to play a role in inference and guiding action' (Block, 1995, p.10). The non-conceptual representational content can be conceptualized and transferred by the concept users when they think with such content (Block, 1999, p. 41). Thus, in this situation, a P-conscious state is also A-conscious state (Block, 1995, p.10). A-conscious content is characterized by the '*representational properties*' (Block, 1995, p.8).

The relative dominance of the A-consciousness or P-consciousness depends on if the system is in charge of rational control of action and speech. When this system is not in charge, we can suggest that the A-consciousness is missing. In this situation, the P-consciousness will affect the actions and another system exerts influence on individual actions (experiential system).

Consciousness and value models

We can now elaborate phenomenological value from our understanding of consciousness. P-consciousness entails primarily the experiential *properties*. In contrast, A-consciousness focuses entail *states* including thoughts, beliefs and desires. Ng and Smith (2012) has proposed that experiential value within phenomenal experiences centres on experiential properties, which are associated with P-consciousness. Thus, experiential value could be termed as a P-Consciousness of Value (P-C-V) and we argue that P-C-V is associated with P-consciousness *only*. In contrast, the perceived value, utility, satisfaction of the offering in mainstream management value literature could be associated thoughts, attitude and beliefs, which could be linked to either A-consciousness or P-consciousness. Thus, the cognitive value could be termed as A-Consciousness of Value (A-C-V). A-C-V could be associated with both A-consciousness and P-consciousness.

From the process model for consciousness, the functions of mind /consciousness is to 'integrate inputs from *domain specific modules and to make this information available to executive systems. ..to make its contents available to conscious awareness*' (Cleeremans, 2005, p.16). In this system, the function of A-consciousness is to deal with the '...informational relations among modules' (Block, 1995, p.9). The A-conscious module refers to the executive module in the executive system. In contrast, P-conscious does not play a causal role in information processing. According to Block (1995), one component of the conception of mind/consciousness is information processing in the executive system. In this system, A-consciousness may play the functions for dealing with the informational relations among modules. When A-consciousness (executive module) is associated with A-C-V, the content of A-C-V would function for dealing with the relations among the modules in the executive system. When P-Consciousness is associated with A-C-V, A-C-V would not have the function as an executive module in the executive system. A-C-V would not be in operation for consumers making the logical reasoning. An alternative system would play the role in actions, which relies on unconsciousness, the experiential system.

In summary, we can suggest that P-C-V would be associated with P-consciousness and A-C-V would be associated with A-consciousness and/or P-consciousness. The P-C-V would play the role in consumer actions only if the P-consciousness is in operation (relying more on unconsciousness). When the A-C-V would affect consumer actions would depend on which consciousness it would be associated with. When the A-C-V is associated with the A-consciousness, the A-C-V would play the role of dealing with the modules in the executive system for actions and judgments. When the A-C-V is associated with the P-consciousness, the A-C-V could only affect consumer actions when the A-consciousness is missing. Therefore, in order to understand the operation of P-C-V or A-C-V, we need to gain more insights into the situations when the P-Conscious and A-conscious would be in operation.

Information processing systems and P/A- Consciousness

According to the process approach to the conception of consciousness, one aspect is referred to as information processing (Block. 1995). The executive system described in the notion of

consciousness (Block, 1995; Cheeremans, 2005) consists of the executive modules and other domain specific modules (such as P-consciousness modules). The executive system processes the information in a logical, rational manner and A-conscious content plays the role of dealing with the informational relations between modules. We argue that this executive system is associated with the rational system of information processing. In contrast, the executive system would not function when the A-conscious content is missing. Human actions would rely on their unconsciousness and the experiential system would be in operation. (See Table 2 for a summary of the characteristics of the two information processing systems).

Low level of Experiential system, P-conscious , and P-C-V

Leventhal (1994) suggests that 'affective reactions can arise from two routes: an 'innate-route' accompanied by sensory-motor processes that generate primitive or partially formed affective reactions, and a memory route that involves schematic and conceptual processing' (Shiv and Fedorikhin, 1999). According to the theories, we propose that the experiential system could operate at both low and high levels. At the lower level, the operation of the experiential system could be automatic, affective and preconscious (unconscious). Epstein (1994) described the system at the lower level operation as:

The experiential system is assumed to be intimately associated with the experience of affect, including vibes, which refer to the feeling of which people are often unaware. When a person responds to an emotionally significant event, the sequence of reactions is assumed to be as follows: the experiential system automatically search its memory bank for related events, including their emotional accomplishments. The recalled feelings influence the course of further processing and reactions... in humans, are conscious and unconscious thoughts as well as actions. If the activated feelings are pleasant, they motivate actions and thoughts anticipate to reproduce the feelings...' (p.716).

'CEST assumes there is a ubiquitous influence of automatic thinking outside of awareness on conscious thinking and behavior. In most situations, the automatic processing of the experiential system is dominant over the rational system because it is less effortful and more efficient, and accordingly, the default option. Moreover, because it is generally associated with affect, it is apt to be experienced as more compelling than is dispassionate logical thinking. Finally, because the influence is usually outside of awareness, the rational system fails to control it because the person does not know there is anything to control' (p.716).

We would argue that the experiential system at the low level operation could be associated with P-consciousness. We suggest that when the experiential processing system is in operation, P-consciousness is more dominant. The content of P-consciousness is either the experience or affect outside of consciousness. It can be further suggested that when the experiential system is in operation, the P-C-V will be more dominant in terms of consumer information processing for making judgment or decisions for their actions.

Proposition one: When the low-level experiential system is in operation, P-C-V is dominant in consumer decision-making and action.

High level of experiential system, P-consciousness and A-C-V

At the high level, the experiential system could generalize and abstract to derive the prototype and schemata (Epstein, 1994). Thus, the experiential system could be a conceptual, conscious system including the rational thoughts but with cognitive shortcuts. At this level, heuristic processing is the experiential system in operation. Heuristics exemplify the operation of the experiential system as a rapid, action-oriented system (Kirkpatrick and Epstein, 1992, p.534). Heuristic processing is described as 'taking cognitive shortcuts when making inferences and forming judgments'. According to Operario and Fisk (1999), these cognitive short cuts include 'using schemas, scripts, stereotypes, and other simplifying perceptual tactics in place of careful thought...' (p.66).

P-consciousness entails primarily the experiential *properties* such as 'sensations, feelings and perceptions...but also thoughts, wants and emotions' (p.2). In this context, the thoughts such as the perceived value, utility, satisfaction of the offering are in the form of schema or perceptual tactics. When consumers do not make high cognitive efforts for processing the information, they would rely on their schema, prototype etc, the cognitive shortcuts, so we would argue that the cognitive A-C-V is still in operation. In this situation, even A-C-V could be associated with P-consciousness. The high level reach of the experiential system entails cognitive shortcuts, and acts as a rapid, action-oriented system by using schemas and other simplifying perceptual tactics in place of careful thought. The A-C-V in the P-consciousness state would not require much cognitive effort to process.

Proposition two: When the high level experiential system is in operation. A-C-V is dominant in consumer decision-making and action.

Rational system, A-Consciousness and A-C-V

We suggest that when the rational processing system in operation, people would make an analytical effort to process the information and use their logic and the evidence for analyzing the cause and effect. It can be argued that the rational system would be associated with the executive system of consciousness (Block, 1995). In the executive system, the A-consciousness content as the executive module would deal with the information relations among modules in the system. The perceived values, utility, satisfaction and the cognitive evaluations (A-C-V) would be processed by the system for consumer actions and judgments. In our context, it can be further suggested that when the rational processing system is in operation, the A-C-Value will be the more dominant value model to affect consumer judgment and to guide consumer actions.

Proposition three: When the rational system is in operation, A-C-V will be dominant in consumer decision-making and action.

In summary, the human consciousness system entails the dual information processing for processing their information. When the experiential system is in operation, P-consciousness will be more dominant; in contrast, when the rational system is in operation, A-consciousness will be more effective in the process for integrating the inputs for raising the level of consciousness. In the understanding of value, when P-consciousness is dominant, the P-C-V will be more important to affect consumer's judgment and decision-making. When A-consciousness is more dominant, the A-C-V will be more effective to influence consumer behavior. Thus, in order to understand the relationship between P-C-V and A-C-V, we need to understand the relationships between the experiential system and rational system and to understand the circumstances under which the information processing system is in operation.

Proposition four: When the low-reach experiential system is not active, A-C-V will be dominant in consumer decision-making and action.

Proposition five: When neither the high-reach experiential system and the rational system is active, P-C-V will be dominant in consumer decision-making and action.

Discussion

Service-Dominant Logic considers value as co-created in the use context, and of the six themes of value understanding identified in management literature - utility, monetary worth, perceived satisfaction, net benefit, means-end and phenomenological – Service-Dominant Logic takes a phenomenological perspective of value creation as that created in experience and in context.

In doing so, it adopts a special case of value based on some implicit assumptions. First, by acknowledging value as unique, created in the practices and processes enacted within a dynamically constructed context, it adheres to a phenomenological philosophical assumption, treating value creation as a verb rather than a noun. Second, it assumes that exchange (i.e. consumer choice) includes an expectation of phenomenological value creation in use but does not articulate the relationship between creation of value in the experience and an assessment of that value at the point of choice when acquiring an offering. By not articulating this relationship it presumes that value is consistent across purchase, consumption and evaluation. Third, and related to the previous point, by taking a phenomenological value perspective, Service-Dominant Logic assumes that a customer's awareness of value within the use experience is the same as their awareness of value ex-ante and ex-post judgment. In essence, assuming a customer's consciousness of value at consumption is the same consciousness of value at choice.

Whilst literature on the phenomenological perspective of value articulates the creation of value, it says little about how consumer perception of value should be measured, despite calls within the Service Science community to understand more about how value should be measured (e.g. Ostrom et al., 2010). Indeed, the other themes of value understanding, which

do discuss more in terms of measurement, largely take an atomistic philosophical perspective, in direct opposition to the phenomenological stance. As such, in order to understand how consumers evaluate perceived value of service offerings, researchers in service science aligned to Service-Dominant Logic need to understand more about the three assumptions in value literature – philosophical, chronological and consciousness.

Our paper begins to address this point. Using Block's (1995, 1999) notion of consciousness, we elaborate on consumer consciousness of value. We propose two states of consciousness; a phenomenal consciousness of value (P-C-V), which centers on the phenomenon of lived experiences and is created in contexts of use, and an access consciousness of value (A-C-V), which centers on logic and is based on the perception and introspection derived from choice *ex ante* and valuation *ex post*. The paradox being, there is truly only one type of value created i.e. P-C-V. However, P-C-V sits at the raw experience level and any measurement, assessment or evaluation can only capture an A-C-V. Indeed, A-C-V could be mistakenly viewed as a Goods-Dominant Logic concept of value as belonging to the essence of the offering, subjectively perceived. We argue that it is not. Instead, we argue that the antecedent of A-C-V is in how the individual becomes conscious of value.

By applying theories on information processing (e.g. Epstein, 1994; Operario and Fiske, 1999), one of the three aspects of consciousness, we reinterpret these two types of consciousness of value. As summarised in Table 3, we propose that different information processing systems are in operation in a P-C-V and A-C-V. Specifically, we propose that when P-C-V is dominant in consumer decision-making i.e. in contexts of use, the low-reach experiential system is active but neither the high-reach experiential system or the rational system are. In contrast, when A-C-V is dominant in consumer decision-making i.e. in evaluation pre- and post-experience, the high-reach experiential system and the rational system may be active but the low-reach experiential system is not. This has two important implications for the understanding of value in service science and management literature in general.

First, it suggests, unlike the implicit assumption in value literature, that consciousness of value is not the same at consumption as at choice because the information processing systems in operation are treating the content of the experience differently.

Second, we identify two types of information system that may be in operation in A-C-V; a rational system and a high-reach experiential system. Arguably, current literature assumes a rational system. All the value perspectives, with the potential exception of phenomenological as it does not articulate A-C-V, assume that the value of an offering can be rationally evaluated and objectively measured and further, that consumers are economic men and rational beings making decisions based on logic and reasoning. Although an experiential system may be acknowledged in literature, there are no measures of value in management literature which successfully incorporate the experiential system.

Conclusion

Value and value creation have become the fundamental concepts in management literature for decades. Its definition and measurement have been of great interest both in management and

economics. Despite the extant approaches to value, the understanding of value and its creation is still fragmented and there is scant literature that sheds light on the underlying assumptions of these approaches. As value creation for consumers is a central function of economic activity, a comprehensive understanding of value is essential to customers, businesses and policy makers.

In exploring how consumers might process information for a phenomenal or access consciousness of value, we challenge the consciousness assumption identified in value literature, proposing that the information processing systems in operation may be different in the two states of consciousness and as a result, consumer consciousness of value will be different at consumption than in judgment before and after the experience.

There is still limited understanding of value creation and judgment in service science, and in management literature in general. In order to further understanding, research needs to acknowledge and challenge the assumptions in the existing literature. Future research would investigate the operationalization of the propositions presented here and testing them in an experimental setting.

Table 1 Values Streams and Value Assumptions

	Value Streams					
	Utility	Monetary worth	Perceived Satisfaction	Net benefit	Means end	Phenomenological
Philosophical Assumption	<p>Assumes the value of an offering is in the essence of it.</p> <p>It is created from the customer consuming (and destroying) the essence of the offering.</p>	<p>Assumes the value of an offering is a willingness-to-pay amount at the point of choice.</p> <p>Value is created (for the firm) when customers buy.</p>	<p>Assumes value of an offering is the essence of it and the customer is a passive consumer.</p> <p>Value is created when it is 'delivered' to the customer through the offering.</p> <p>Assumes the firm is able to promise expected value, as well as exceed expectations of that value to customers at choice.</p> <p>Assumes the firm is able to (within limits) control the affordance of the offering and context; with agency and the resources of the customers at</p>	<p>Assumes value is an outcome to be predicted by the customer at choice.</p> <p>Assumes that, in predicting the goodness of the offering, customers presuppose a predictable and consistent set of context, agency and resources at consumption such that they can make a rational assessment of expected outcomes and expected outlays of consumption at the point of</p>	<p>Assumes the value of an offering is the essence of its attributes' fit to outcomes in context.</p> <p>Value is created when there is a good fit of offering's attributes performance to outcomes.</p>	<p>Acknowledges a phenomenological value of an offering that is unique and exists as practices and processes are enacted with the offering within a dynamically-constructed context.</p>

			consumption as expected and predictable for the firm to 'deliver' satisfaction.	choice.		
Chronological Assumption	<p>Assumes value (utility) upon purchase is the same value (utility) obtained upon consumption i.e. the offering generates the same utility (regardless of context, agency or resources) as expected during purchase.</p> <p>Some literature acknowledge subjective perception or state-dependency of utility.</p>	<p>Assumes the translation of value to willingness-to-pay is constant across a customer's consumption life-time.</p> <p>Assumes that the offering is consistent in its affordance, and that the 'goodness' in consuming an offering is always in the same context, with the same resources and agency for each consumption experience such that willingness-to-pay for offering does not change over time.</p> <p>Also assumes that the</p>	Acknowledges a possible difference in perception of value at consumption to that perceived at choice or evaluation.	Assumes benefits and outlays manifested at consumption are the same benefits and outlays predicted by the customer at choice.	Acknowledges that the value of an offering can change based on the context at consumption but assumes that rational assessment of anticipated use situations can be made at choice.	Assumes that exchange includes an expectation of phenomenological value creation but does not articulate relationship between phenomenological creation of value and an assessment of that value at the point of choice.

		<p>offering's fit towards the individual's consumption outcomes does not change over time.</p> <p>Assumes that perceived goodness is the same for every consumption event such that the customer will consistently buy or will buy more over time.</p>				
Consciousness assumption	<p>Assumes the consciousness of value (utility) at consumption is the same consciousness of goodness (utility) at choice.</p>	<p>Assumes that the awareness of the value does not change at choice, consumption or evaluation.</p>	<p>Assumes that the consciousness of value of the offering is the same at choice, consumption and evaluation (because of the philosophical assumption of value as essence of the offering).</p> <p>Assumes the evaluation of the <i>outcome</i> is equivalent to the evaluation of the</p>	<p>Assumes that the awareness of goodness (value) at consumption is the same awareness of goodness at choice and evaluation.</p>	<p>Assumes offering has properties of value which are consumed in the context of use, implying that the awareness of goodness (value) at consumption is the same awareness of goodness at choice and evaluation.</p>	<p>Assumes that a customer's awareness of 'goodness' within the phenomenon experience is the same as ex-ante and ex-post judgment. In other words, judgment of goodness is the same as the experience of goodness.</p>

			<i>offering</i> as context, agency and resources are held to be predictable and constant.			
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Table 2: Experiential and rational systems

Experiential system	Rational system
<p>Affective in nature, emotionally-driven (Shiv and Fedorikhin, 1999; Novak and Hoffman, 2009); associated with affect (but not to the exclusion of all non-affective cognitions) (Epstein, 1994).</p>	<p>Cognitive in nature (Shiv and Fedorikhin, 1999; Epstein, 1994)</p>
<p>At the lower level of operation, associated with crude system and rapid processing (Shiv and Fedorikhin, 1999); Automatic, holistic and associationistic (Novak and Hoffman, 2009; Denes-Rai and Epstein, 1994); with less effort, efficiently and more simply, to process information (Epstein, 1994; Kirkpatrick and Epstein, 1992).</p> <p>At its higher reaches, and in particularly in interaction with the rational system, it is a source of intuitive wisdom and creativity ... schemas inductively derived from emotionally significant past experiences, it is capable of generalization and abstraction through the use of prototypes, metaphors, scripts and narratives' (Epstein, 1994, p.715; Denes-Rai and Epstein, 1994, p.819).</p>	<p>Operates according to a person's understanding of conventionally established rules of logic and evidence (Kirkpatrick and Epstein, 1992, p.534); cause and effect (Novak and Hoffman, 2009).</p>
<p>Outcome-oriented rather than process-oriented (Novak and Hoffman, 2009; Kirkpatrick and Epstein, 1992).</p>	<p>Hierarchical, sequential, process oriented (Novak and Hoffman, 2009)</p>
<p>Rapid to implement but slow to change, immediate (Novak and Hoffman, 2009).</p>	<p>Slow to implement but quicker to change (Novak and Hoffman, 2009)</p>
<p>Preconscious and experiences passively with the process opaque to the individual (Novak and Hoffman, 2009); operates automatically outside or at the fringes of conscious awareness (Kirkpatrick and</p>	<p>Primarily conscious analytical system (Denes-Raj and Epstein, 1994).</p> <p>Experienced actively with the individual aware of and in control of the process</p>

Epstein, 1992, p.534).	(Novak and Hoffman, 2009).
Represents events in the form of concrete exemplars rather than abstract symbols, is shaped by emotionally significant past experience (Kirkpatrick and Epstein, 1992, p.534).	Abstract system ... It is capable of very high levels of abstraction (Epstein, 1994)
Automatic, holistic and associationistic (Novak and Hoffman, 2009; Denes-Raj and Epstein, 1994); with less effort, efficiently and more simply, to process information (Epstein, 1994; Kirkpatrick and Epstein, 1992).	Deliberate, effortful (Shiv and Fedorikhin, 1999; Epstein, 1994); verbally mediated (Denes-Raj and Epstein, 1994). Associated with a more refined and deliberate processing (Shiv and Fedorikhin, 1999; Epstein, 1994).

Table 3 Consciousness, Information processing systems and Value models

Components of Consciousness			ACV	PCV
Functions			Integrating a lot of information	No causal roles for information processing
Computation	<i>Not in the scope of this paper</i>		-	-
Information Processing	Rational system		P3	P5
	Experiential system	High reach	P2	P5
		Low reach	P4	P1

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