

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

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Abstract

Is the current understanding of the concept of product with respect to its nature adequate enough to produce the right kind of products? One of the reasons out of several reasons for the lack of survival or growth of several products in the market is because of how the nature of product is understood. The conventional understanding of the nature of the product lacks substance to be able to provide manufactures to think and build an optimum level (and variety) of products for the consumers. The casual use of the term product in normal routine life has increased so much that the essence of the concept and the seriousness required to produce and continue the right kind of attributes has been lost. Despite sufficient research on the product and its aspects, there has been lack of attention to the underlying nature of the product. The study goes back to the idea of the product as a concentrated entity based on certain dimensions pertaining to the reality and knowledge structure of the reality of the nature of product that can help provide a clear direction in how the product should be approached. The study will examine the essence of product and will derive a contemporary understanding of the product nature with theoretical and applied implications for understanding and managing products with respect to right kind of attributes for the consumers

Keywords: Concept, product, nature

1. Introduction

The important role of products in businesses and lives of people makes it an unavoidable phenomenon to be studied so that its orientation is properly aligned with people (Helfat & Raubitschek, 2000). Product is an expression of both manufacturers and consumers due to which understanding products is more crucial than ever because of its rising complexity because of compartmentalized concentration in our environments and workplaces (Darling & Arnold, 1988; Fokkinga & Desmet, 2014). Over the period of years there has been several researches in various areas of business and consumer behavior on product. However, the researches reflect limitations in their assumptions on the predisposition of the product and has scarcely appraised and examined the complexity of product nature especially as a contemporary entity (Ha-Brookshire & Hawley, 2014; Liu, Wang, & Chang, 2021). Even though there have been researches on defining the nature of the product but it lacks an appropriate approach in examining the nature of product as a contemporary phenomenon. Since there is lack of literature on comprehensive understanding of the product nature (Redzuan & Aref, 2010; Kim & Christiaans, 2012). Therefore, this research

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attempts to discuss the nature of product with respect to its underlying dimensionality and bring out an understanding of its mechanism so that researchers and scholars can use it to construct a holistic way to develop products (Tellis & Johnson, 2007). The contemporary underlying mechanism of the product nature provides an opportunity to discuss about product as a variable phenomenon from the perspective of complete and incomplete continuum. In order to this the word product has to be examined which is used so much without a proper understanding of its underlying working that it is becoming difficult to develop something that is effective and impressive in the times of constant development. The casual overuse of the word without proper examination is making it lose its essence and importance and hence adding to the lack of success and survival rate of the products (Tangoren, 1991; Baumgardner, 2008). It also suggests that there hollow understanding of the consumers perspectives regarding the products and how they evaluate it. The definition of the product plays a critical role. The success of the product starts with how it is defined and then how it is realized, therefore in order to investigate the product and its contemporary nature, the path to inspection should be from its definition. Since product definition aligns the developmental processes by acting as a guiding consumer need milestone therefore assessment of the product term is a healthy starting point that can lead towards the investigation of the contemporary nature of product. Product as a term has been used by researchers and practitioners from several decades, but it consists of preconceived notions and gaps in the meaning of it. One of the reasons for these preconceived notions due to the lack of explicit literature in defining what is a product? The scarcity on the definition of product has kept the meaning of the product in a vague area due to which the nature of product and its manifestation cannot be investigated from the contemporary perspective. In order to use definitions as the starting point of entry towards the examination of the nature of product, it must be divided into explicit and implicit definitions. Explicit definitions are those that are apparently and conventionally repeated over the period of time while implicit definitions are those that have only been abstractly mentioned and requires further concreteness. In order to understand the nature of product and flesh out the contemporary dimensionality of the nature of product, both explicit and implicit definitions of the product would require re-assessment to propose an expanded understanding of the underlying mechanism of the product

2. Methodology

The method of concept review of “product” is undertaken in this paper and will be address in the following manner: To master something, its nature must be known (Mandeville, 1960). Therefore, to cope up the challenges pertaining to product, its nature must be extracted. To understand nature of something, its propositions must be understood (Moravcsik, 1975). Since propositions can also be taken as definitions, therefore the nature of product can be traced through the definitions related to product (Fawcett, 2011). Once the nature of product is extracted through its definitions then a structure over it can be built (McLerran, 2006) ontologically and epistemologically. In order to fulfil the objective of this chapter, a certain type of concept review is attempted, as applied in a particular way by Wang, Volkow, Thanos, & Fowler, (2004); Murschetz, (2005); Dostilio, et al., (2012); Cavaco & Machado, (2014); Shek, Yu, & Busiol, (2015); Shi, Hu, & Wang, (2018); aswell other researchers that followed a similar pattern but by different terms such as, phenomenon conceptualization by Morris & Sexton (1996), conceptual analysis by Meyer, Becker, & Vandenberghe (2004), distributive perspective through conceptual framework by Spillane, (2004), conceptual review by Fernández & Bonillo (2006), concept-based review by Carter & Goldstein,

(2014) and theoretical framework and conceptual analysis by Tamayo, Romero, Gamero, & Martínez-Román, (2015) and Houwer (2020) respectively, to explore the theoretical understanding of product by addressing the underlying nature of the inherent mechanism of product through; (a) dissecting the meaning of product (b) extraction of the underlying aspects through exploring it ontologically and (c) compartmentalizing these underlying explorations of the product epistemologically

3. Concept based Review – Dissecting the term “Product”

As per the standard marketing text book literature the following extracted definitions on product needs to be assessed:

- a) Product is any tangible or intangible offering which includes physical or digital goods, services, experiences, events, persons, places, properties, organizations, information, and ideas to satisfy need or want (Keller & Kotler, 2015; Ferrell & Hartline, 2010)
- b) Consumers concentrate on acquiring products for solutions along with admirations to satisfy needs and wants such as having food to solve hunger and microwave to cook food (Kotler, Armstrong, Saunders, & Wong, 1999)
- c) Product along with its tangibility compatibility with the consumers is also concerned with the intangible compatibility with the consumers (Perreault Jr & McCarthy, 2002)

As per definition (a) it can be understood that there is a vacuumed space inside of a product open to any sort of absorption or transformation either in physicality or non-physicality in order to fulfill the needs of the consumers (Herrmann, Gassmann, & Eisert, 2007). From definition (b) it can be understood that the mere task of the product for consumers is to what it presents as an outcome, solution or advantages that can be used to perform certain jobs for them (Oh, & Moon, 2015). Through definition (c) it can be understood that product is merely a means to satisfaction and does not need to be specified or unspecified in a certain way (Ifie, 2020). These definitions indicate that these are hidden and different expressions of consumer requirements or expectations which help the consumer in forming a certain idea or understanding of the product in their minds. These ideas that they develop regarding a product through the fulfilment of certain expectations are basically around certain notions of benefit-based requirements that the consumers want to extract from the product (MacStravic, 1986). These explicit definitions convey that the nature of product can only be understood if these implicit suggestions are taken into consideration to understand how the notion of expected benefits formulate the idea of product in the minds of consumers. Therefore, the implicit suggestion of these definitions indicate that the primary job of the product is to support people in their lives through different parameters which cannot be unidirectional. Even though these definitions indicate the hidden directionality of the product but does not fully entertain the variance of the product and its underlying nature. It largely gives a static and thing-like view of the products made to satisfy to the consumers. In simple words, the conventional and explicit view of the product overpowers the implicit directionality of the product and provides a binary understanding the product that it can only be recognized if it exists or not. However, a slightly different but not fully appropriate view exists in the understanding of the product that differentiates itself from defining the product as a static thing known conventionally. It suggests an alternative view of the product and partializes the product into a set or bundle of utilities that the customers require for satisfaction. Its view of the product and its relationship with the consumer is not based

on a set of aspects that the product provides but rather based on the breakup of the product into a bundle of different utilities (Moran & Strauss, 1980). In a way it resembles to the perspective that suggests that customers want bundle of benefits for the satisfaction of their needs but it still limits and restricts the nature of product and only presents the product as not a definite or static thing like form but rather a mixture of broken-down benefits for the consumer satisfaction. Therefore, the difference between conventional and the mentioned semi-conventional definition is the addition of “set or bundle of” benefits that satisfy the needs. Since product has been characterized as the requirement of aspects to satisfy the customer needs, therefore the semi-conventional definition of product was expanded to be defined as the whole set of aspects, benefits, experiences or offerings in order to suggest that product is not merely a static but rather a unconstrained consideration of total utility or total experience of the customers (Alpert, 1972; Calisaya, López-Valdivieso, De la Cruz, Gálvez, & Cisternas, 2016; Stolarska, 2020). This expansion of set of benefits to set of offerings was primarily done to ascertain the growing compartmentalized and specialized knowledge, processes and technology that has increased complexity around us (Masanauskas, 1996; Anthony Sgroi, 2014)

3.1 Concept based Review – Theoretical Background: Underlying ontology of “product”:

However, these changes into the understanding of the product from thing-oriented view of the product to the product being a bundle of set of offerings are consistent with the levels of product largely followed in the literature of marketing, but only provides a unidirectional view of the products. Unidirectional in the sense that these definitions do provide the starting point in understanding in how the product is presented in a partialized way to the consumers to make it appear dense, but they do not answer questions like; what is the contemporary reality of product and its partialized being? What intrinsic framework does the concept of product and its partialized being carry in order to understand its reality? How does the partialized product gain balance in order to satisfy consumers? Does it provide an understanding upon which any kind of concept can be integrated or every time a new concept will have to be introduced to improve a product?

As discussed, it can be understood that the mentioned discussions on the definitions of the product does not provide the reality or the nature of product, rather it provides the partialized view of the product from the perspective of development rather than simultaneously requirements that goes into the minds of the consumers (Oltra-Badenes, Gil-Gomez, Merigo, & Palacios-Marques, 2019 & Shoukat et al., 2021). Therefore, these do not provide a sufficient understanding of how to appropriately capture the relativity of the consumers when it comes to its evaluation. By nature of product, it means the underlying mechanisms based on certain aspects that ascertain the concept of manifested outcome which can guide the practitioners to work on the same product entity infinitely with a balance (Loken, Barsalou, & Joiner, 2018). However, the discussed definitions provide a starting point by first addressing the product as not a static entity but rather a partialized entity. This has helped practitioners in understanding the product as an additive and partition-based entity that can be served through simplicity to complexity or complexity to simplicity (Qi, 2022). This is apparent from the implicit understanding of the explicit product literature but lacks to present the product from a variable perspective that can define the reality of the product and provide a framework in understanding that reality. Despite these understandings it must be noted that the product success and survival rate has decreased and has been challenged to fulfill the customers perception of product being an incomplete entity that is unable to fully satisfy the needs

and wants. This suggests that the partialized view of the products do not entertain the concept of competition of the customers or the related conceptions of competition through which customers evaluate their products or get satisfied through it. This suggests that the consumer evaluates products just like it evaluates an individual person as a continued entity involving various amalgamations (Leshem, 1992; Messina & Rogers, 2018). However, these amalgamations have been understood through different associations with the product that the researchers and practitioners have come up with to understand the working of the product with respect to their own understandings. This clearly suggests that the literature that defines the product does not do justice with its conception due which support of associative understandings are undertaken. However, this also helps in limiting in understanding the reality and nature of the product as it creates silos or compartments with regards to its respective associations and the fallout meanings it creates through its associations with the product. These associations use certain portions of partialized view of product and provides concentrated understandings of the product. This has happened due to the customers critical and continuous evaluation of the products that have increased in recent times due to rising technology (Wang, Zhou, Wang, & Fang, 2022). Even though these technological goods have changed the way how makers develop products in terms of processes it does not provide an understanding of how to entertain large of number of customers and their mindsets when it comes evaluation. This has happened because the associative product concepts have created concentrations in the partialized products and created rapid portions out of it causing some out of disbalance in the construction of products for its continuity. However, there has been some products that have managed to survive and sustain rapid progression and has appealed to large number of people with a higher success and survival rate (Baumgardner, 2008, & Noorani et al., 2020). These associate concepts formalize the adjective traits through which we try to improve the condition of products or develop other products. However, all the other words that stem from product are external to it, rather than intrinsic and represents the phenomena of the product only in terms of its tendency to variate itself into different degrees. This suggests that almost all products have the capacity for improvement or in other words room for improvement that is based on certain underlying mechanisms (Higuchi & Troutt, 2008; Wang, Nujoom, & Abubakar, 2018). This room for improvement suggests that products have the elastic and flexible tendency to adjust to various criticisms, ideas and concepts within itself and manifest those adjustments into different forms, shapes or other structures without making the previous forms or structures as instantly obsolete (Van der Zanden, Van Kleef, De Wijk, & Van Trijp, 2015). This view of the product to be partialized and portionalized through its associative concepts suggests that the product has the tendency to be elastic and flexible, suggesting constant room for improvement, adaption and adjustment to different conditions and requirements of the customer (Mello, 2003). However, this only provides a direction to the understanding of the underlying nature of the product but does not provide the mechanisms through which this nature of product is exercised and maintained. However, in order to extract product reality or its nature in support of this realized phenomena and understand its mechanism an examination through Table 1 was conducted on the associative concepts that reflect the state of product within itself without any dependency, to understand the collective traits of non-static tendency found within the product.

Table 1: Meaning and Nature Extraction

Basic Terminology	Meaning Extracted	Extracted Nature
Product	Product is a system that runs on the derivative constituent power generated by a set of fragments (Wahid, Ming, & Ahmad, 2020; Özbudun, 2012; Sallez, Berger, Deneux, & Trentesaux, 2010; erikshammar, Classen, Heymans, Bourdoux, & Demonceau, 2010)	Suggests product having energy within it
Associative Phraseology	Extracted Meaning	Extracted Nature
Product Development	Product development is defined as the development of new products or further advancement/improvement of existing products (Roivio, 2019; Gessa-Perera, Sancha-Dionisio, & González- Expósito, 2017)	Suggests product having the capacity to increase its potential
Product Creativity	Product creativity refers to the extent of continuous (rather than binary) difference in levels of product attributes (Jimenez-Mavillard & Suarez, 2021; Piffer, 2012; Wienbergen, Karow, & Rosemann, 2009)	Suggests product having fluidity rather than stagnancy
Product Quality	Product quality refers to is extent to which the product performs its targeted function and/or meets its specification(s) (Hamzah, Ali, & Abd Karim, 2020; Jacobs & Van Moll, 2007; Landryová & Irgens, 2006)	Product having the capability of reaching its potential
Product innovation	Product innovation is about development of new products or improvement in existing products (Abdullah, Hamid, Shamsuddin, & Wahab, 2016; Lehar, 2007; Trott, 2001)	Suggests product having the capacity to increase or cater its potential
Product Experience	Product experience refers to events (happenings that occur and unfold in space and time) which originate from range of product offerings (Choo & Cheng Ling Tan, 2018; Al-Fedaghi, 2017; Delprato & Smith, 2009; Malpas, 2001)	Product having the capacity to reveal itself

Through the mentioned definitions of the associative phrases and the extractions performed on it reflects the underlying nature of the product with respect to its variance. It suggests that the product has the capacitative tendency to absorb, adapt, evolve or revolutionize itself into different aspects. These tendencies support the product having a variable nature that has the capacity to adjust itself in the minds of the contemporary consumers without the need to jumping on to new developments (Peterson, 2013, Han & Hyun, 2014, Azhar & Bashir, 2018). This reflects that product has a state which is close to a being rather than a thing and has variability of low and high with respect to its attributions. The analysis of these associative phrases also suggests that self-introspective nature of the product that allows itself to be evaluated time to time to adjust to the pertaining timely needs of the consumers and fulfill expectations through its own attributions in order to minimize the room for improvement (Cortez-Arriola et al., 2016). These attributions are activities of certain aspects that allow the product to constantly adjust itself for the shifts and evaluation. Now that it is extracted that the product has underlying active mechanism, it can now be expected as what aspects are required to perform these underlying active mechanisms in order to produce a product

that appropriately addresses the needs of the consumers in the contemporary times as a contemporary entity. Even though it is not the first time that the product has been investigated with regards to its composition, however it may be the first time in which the nature of product is investigated from the expandable underlying mechanism perspective. Researchers have tried to understand the concept of product by trying to specify the partialized mechanism of the product into tangible or intangible attributes irrespective of whether it is a service or a good. Similarly, it has also been argued that the partialized product entity is a total set of psychological and physiological satisfactions. In other words, it can be argued that the product is a partialized amalgamation of overlapping physical and non-physical attributes constantly molding itself to adjust to the consumers. Therefore, in order provide theoretical understanding to this simplistic, yet complicated understanding of the product, several theories containing similar propositions needs to be examined to extract a collective understanding of these active underlying mechanisms within the product so that its ontological reality can help in drawing out its epistemological working. As per this it can be said that product is actually an entity that is defined through the active happening that takes place between the object, buyer, supplier and context. This understanding starts from the concept of pluri-signified product in which it is which it is discussed that the underlying mechanism of the product is based on the active happening between the “object, buyer and supplier” (Saren & Tzokas, 1998). However, it does not explicitly acknowledge the role of “context” as an active actor in the underlying mechanism of the product as argued by the revised systems theory of creativity. Even though the importance of context was mentioned implicitly by the researcher in the literature of pluri-signified product concept, but did not explicitly incorporate into the working of the theoretical underpinnings and left it as a tripartite mechanism. Even though the omission of context from the theoretical setting is not clearly defined, it can be roughly understood that the larger theme of the research was based on product being a market driven entity without incorporation of marketing driven entity perspective. The theme of the theory discusses the role of the product as a consumption fulfilling entity which shows that the mentioning of context plays a crucial role in determining the outcome of any product. Similarly, in order to support these replacements and further add on to the theoretical background of the underlying mechanism of the product, other theories for support and their misspecifications are taken into account to support the interaction between buyer, object, supplier, context. For proper understanding, table 1 can be seen to know the additions and adjustments to establish the four underlying aspects of product nature. One of the theoretical components that touches the idea of underlying constructs is product development and systems theory of creativity in which both the development of product and creativity of the product is dependent upon the relationship that exists between the user/product, product and context Klahn & Fontana, 2017; Horn & Salvendy, 2006. The ontological aspect presented in this view is that the development of product and the assessment of product creativity can be done through these actors that presents the systematic happening taking place between product, consumer/user and context. Therefore, it presents the similar underlying active mechanism of the product mentioned in the basic level product development as well as in the revised systems theory of creativity. One of the lacking in this theoretical understanding of the product development and revised systems theory of creativity is its inability to understand the umbrella characteristic product and consumer/user as an umbrella term and at the same time their form to be a participant as an internal partisan in its working. It is argued that ontologically it is not consistent for the product as well as consumer/user to be a part of its own ontological division within which the underlying happenings take place, therefore product needs to be replaced with object and consumer/user needs to be replaced with buyer. A similar miss

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conceptualization is witnessed in the underlying aspects of both product quality and product innovation in which application/material things, business/people and development are used in which material aspects and application, people and business, as well as development, all serve as umbrella terms and cannot be included as a participant in its own theoretical breakup (OpenLearn, 2019; Hofmann & Geiger, 1995). Therefore, in order to maintain consistency, material things and application were replaced with object, people and business were replaced with buyer and development was replaced with supplier. This is necessary so that the underlying aspects that acts as an agent for the mechanism to occur can fit well under the umbrella labels. Similarly, the misspecification in the breakup of product experience was also identified which keeps both umbrella terms of product and user as partisans in the relationship between product, user and context Desmet & Hekkert, 2007; Burrows, 2018. Product or user cannot be part of the underlying mechanism along with the product since product is a user level consumer-oriented entity and it appears to be a conflicting aspect theoretically as it creates an overlapping confusion with itself and the other umbrella term of the user. Therefore, keeping consistency within all the theoretical perspectives and its underlying aspects, words like “product, material things, application” was replaced with “object” and words like “consumer, business or user” was replaced with “buyer” and word like “development” was replaced with “supplier” to keep up terminological consistencies in order to provide a clarity over what is said and what is understood in order to keep a similar theme of communication for the internal relations found in the nature of product (Thomas & Heffron, 2012; Foino, 2012; Erikshamar, 2011; Dubberly, 2010; Scheithauer, Augustin, & Wirtz, 2009; Angerer, 2006; Thau, 2004; Trott, 2001; Saren & Tzokas, 1998; Fennell, 1985). The only consistent term that was found in most of the theoretical ontologies was of the term “context” which serves as one of the important ontological aspects in the interaction of the product. Based on this understanding, a collection of all the consistent terms from all the mentioned theoretical aspects along with consistent theoretical specifications, a joint proposition for a systematic quadripartite product concept comprising of “object, buyer, supplier and context” is suggested below in table 2 and 3 that demonstrates the reality of the nature of product.

Table 2: Extracted underlying aspects of the nature of product

Basic Terminology	(+) Associative phraseology					(=)
	Product Development (PD)	Product Creativity (PC)	Product Quality (PQ)	Product innovation (PI)	Product Experience (PE)	Product Nature
Object	Object (Product)	Object (Product)	Object (Application)	Object (Material things)	Object (Product)	Object
Buyer	Buyer (User)	Buyer (Customer)	Buyer (Business)	Buyer (People)	Buyer (User)	Buyer
Supplier	N/A	N/A	Supplier (Development)	N/A	N/A	Supplier
N/A	Context	Context	N/A	Context	Context	Context

(P) Extracted From pluri-signified product concept (Saren & Tzokas, 1998); (PD) Extracted From basic level product development (Klahn & Fontana, 2017); (PC) Extracted From modified systems theory of product creativity (Horn & Salvendy, 2006); (PQ) Extracted from software quality triangle (Hofmann & Geiger, 1995); (PI) Extracted from sources of innovation for products, services & systems (Open Learn, 2019); (PE) Extracted From product experience framework (Desmet & Hekkert, 2007; Burrows, 2018).

Table 3: Ontology: Reality of the nature of the product

Ontology	Reality of the nature of the product	Object	Buyer	Context	Supplier
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3.2. Concept based Review – Theoretical Framework: Underlying epistemology of “product”

These four elements in the quadripartite concept of product can be explained as the foundation of consumer fulfilling aspects in which the relationship of these elements can be understood as the formative interactions energetically taking place within the nature of the product. Each of the element fulfilling its role but in alignment with the other elements to provide a harmonious formation of the product. Object fulfils the requirement of materiality of the consumer for the product (Leonardi, 2010). Buyer aspect fulfills the possessional requirements of the consumer for the product. Supplier fulfills the requirement of professionalism requirement of the consumers for the product and context fulfills situational or circumstantial requirement of the consumer for the product (Mills, 2015; Glahn & Gruber, 2020). This suggests another drawback in associative theories that they propose these actors as the elements that shape up the product whereas it is discussed in this examination of the nature of product that these actors only act as a baseline of requirements for the product instantiation. This indicates that the product output is based upon a multilayered nature and passes from one theoretical underpinning of product to another theoretical underpinning of the product. Since these underpinnings are based on the consumer understanding of the product fulfillment. the knowledge structure can be referred to understand the basis for it. Knowledge structure primarily concerns with the collection of interrelated concepts and its linkages for understanding relationships with respect to the conceptual expansion of the relationships by explaining its breadth and depth. In this regard the knowledge structure of the consumer knowledge regarding the product shows lack of breadth and depth as it only covers the product from the viewpoints objectivity and subjectivity which caters to the object or materiality baseline element of the nature of product (Selnes & Grønhaug, 1986, Ellis, 2015). This dichotomy of the consumer view point in the evaluation of the product provides a limited view, overlapping and confused classification to the product. Due to which the knowledge classification of the consumer understanding of the products can be clearly understood that there is room for other knowledge dichotomies to cater the baseline elements of the nature of product such as buyer, supplier and context. The evolution of knowledge structure suggests that nature of things cannot be known only through the dichotomy of objectivity and subjectivity (Brown, 1914). This also has forced the product developers and managers to understand consumer requirements through the lens of objectivity and subjectivity largely catering to the object or materiality that has restricted them from clearly developing and managing the requirements. This gives the direction as to how the rest of the epistemological viewpoints be chosen and positioned to ascertain certain ontological actors within the nature of the product. Therefore, for theoretical consistency and correct appropriation of nature theoretical references were found based on cues regarding the viewpoints of the product and then followed up with the general epistemological dichotomous standards from current literature. Through literature search it was found that consumer want a product that can fulfil the consumer requirements as a buyer. From the general standards of the epistemological viewpoints the relativistic requirement of the consumers mentioned in the literature only presents

a partial aspect of the dichotomy (Coltman, Hughes, M. Devinney, & M. Whiting, 2006). This understanding provided the cue for the general absolutivity-relativity dichotomy from the literature general epistemological criterion, providing an opportunity to dichotomously cater the buying element within the nature of the product (Kennedy, 2015; Gillespie, 2016; Segala, 2010). Similarly, one of the characteristics of the customer requirement for product suggests that the product should be adjustable to the situational variance of the individual (Deuker & Radmacher, 2008; Masuda & Hara, 2011; Cheng, Cao, & Gu, 2021). This cue presented another partial aspect of another epistemological dichotomy known as particularity-universality standard (Krajewski, 2001; Langsdorf, 2010). Hence provided the opportunity to fully cater the contextual parameter of the nature of product from particularity and universality point of view. Similarly, one of the characteristics that consumer require is the professional reliability that the product present (Chen, 2006; O'Brien, 1978; Effiong & Alozie, 2021). This allowed in determining another partial aspect of the general dichotomy found in the belief forming process of reliabilism, which is broken down as infallibility-fallibility epistemological standard (Nichols & Pinillos, 2018; Daoust, 2018). On the basis of the customer knowledge of objectivity and subjectivity catering the object or materiality aspect of the product nature, rest of the philosophical viewpoints were adjusted to the multilayered nature of the product. Therefore, it provided an opportunity to ascertain the ontological notion of supply ability of the product as one of the requirements of the consumer in evaluating the product.

Table 4: Epistemology: Knowledge structure to know the reality of the nature of the product

Ontology	Reality of the nature of the product	Object	Buyer	Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product				

All of the cues and adjustments provided 4 significant epistemological dichotomies with 8 distinct philosophies to fulfil the gap in the knowledge structure of the nature of product. These are; (a) objectivity and subjectivity towards materiality requirement, (b) absolutivity and relativity towards buying requirement, (c) particularity and universality towards contextual requirement and (d) fallibility and infallibility towards supply ability requirement. Since these adjustments were the extractions from the cues in the literature that were not rigorously determined therefore in order to understand these revised extractions the theoretical positions will be discussed under the light of customer-oriented product viewpoint and clarify the matter of contentions found in the literature.

3.2. (a) Epistemological objectivity of object ontology (materiality)

Non personal perspectives relating to the real time properties of the object aspect of the product is considered as the objectivity of the object. It exists without the interference of the feelings of the observer or consumer (Schuon, 1983). It lacks personal perceptual biases irrespective of the negative or positive which eliminates the aspect of opinions of the consumer that goes into decision

making processes (Zaliwski, 2011). It is something that is considered as something that just exists in the object setting of the product. Objectivity of the consumers regarding the materiality of the object are based on the things that exist in it as concrete facts rather than being subject to personal interpretation of them and therefore excludes aspects that are based on the production of mental assumptions or conjectures. Objectivity of the product is based on the proposition of properties that exist without the influence of external sentient subject (Kim, 2011). These are non-sentient attributes of the product that exist without the aspect of being essential to the product rather than subject to perceptions or feelings and does not provide any room to any sort of aspects based on qualia for the mind to generate interpretations regarding what they witness in the object setting of the product. That is why objectivity of something is also considered as something without bias and having neutrality of thought in terms of its identification and recognition of features and use (Jacquette, 2008). Most of the times the objectivity of something leads to black and white or binary notification suggesting a numerical evaluation of the object at hand. Objectivity of the product is one those epistemological standards in which the agreement over the characteristics within the product will be largely agreed upon or disagreed upon (Goldman, 2007). It can be understood as having the number of stairs or levels of floors required to climb or reach a certain apartment. Similarly, it would be also considered by the consumers in a close to precise manner as to how many times these stairs or levels of floors will be required to use (Park & Chang, 2022). Even though slight variations in the objectivity requirements of the object may vary based on some conditions it exists in or based on the knowledge level of the customers through which it is seen.

Table 5: Objectivity as epistemological coverage of object ontology

Ontology	Reality of the nature of the product	Object	Buyer	Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity			

3.2. (b) Epistemological subjectivity of object ontology (materiality)

The opposite of objectivity of the product is the subjectivity of the product based on personal rather than impersonal characteristics (Wieviorka, 2005). These characteristics are largely based on the interpretation of human mind in which subject becomes the authority over determining the importance of aspects found in the product from their own understanding of the aspects provided. Subjectivity being one of the most important epistemological standards in evaluating the objects is based on the individual personalities and their mental capabilities in giving meaning to certain aspects of the product. These mental evaluations are based upon personal level feelings, thoughts or opinions (Horvath & Bencsik, 2020). This suggests that product possibly has or needs to concentrate on those aspects that are only evaluated primarily on the thoughts and feelings of the consumers (Daria, 2021). It must be noted that not the entire product is based on the subjectivity assessment of the product since the aspects that are evaluated by the consumer are those elements which they consider as something personal to them and hence feel having the privilege to evaluate

freely about it only on the basis of what they think or feel about it. Even though this may come of as uncertain, but the subjectivity of knowledge of the consumers is developed over the period of time through their use of personal thoughts and feelings and therefore a certain pattern within those thoughts or feelings can be discovered and figured out to reduce uncertainty and large variation of the bias and as a result fulfil those consumer subjectivity aspects that they seek in the object setting of the product. It can also be understood that subjectivity assessment of the object or material setting of the product is based on the personal projection of the consumer on the product and evaluates all those things that are subject to feelings and thoughts through their own understanding of the mental and physical knowledge that they have adjusted themselves to over the period of time, hence indirectly thinking that they themselves are the benchmarks that the product needs to cater to. This makes it challenging for the product developers to cater to since they have to figure out the implicit patterns of the consumers unlike the objectivity of the product in which everything that falls under the objectivity of the product is explicit and the determination of the object is impersonal.

Table 6: Subjectivity as epistemological coverage of object ontology

Ontology	Reality of the nature of the product	Object		Buyer	Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity			

3.2. (c) Epistemological relativity of buyer ontology (Possessionality)

Relativistic requirement of the customer is one of the cues found dominantly in literature but without being established as an epistemological standard for the customers to evaluate the product. It is one of the aspects that plays an important role in having characteristics within the product from the comparative view point of the customers (Lee & Trail, 2011). Within product research and its literature relativistic characterization of the product is unclear in its ideas and positions which suggests a lack of consensus amongst scholars about it. Relativity is basically based upon the comparative frame of reference in the customer expectation evaluation with respect to another product with similar (or in some cases same) characteristics (Meroyi, 2013). In relativity, it is considered that there are certain aspects of anything that does not or cannot exist on its own and is neither subject to personal interpretation, but rather its evaluation and its recognition of existence is only possible if it can be identified in comparison to others or its prior forms (Jacob, Yanto, Md Fudzee, & Salamat, 2018). It argues that the understanding of the product is only possible if it can be determined as good, bad, poor or any other trait when put in comparison with another related version, characteristic or product. This suggests that if there is no point of reference for certain aspects of things like goods or services then there is no use of having it since the worth of it cannot be estimated. This implicitly indicates that the explicit possession of such characteristics may not have any meaning if its expression for the customers does not fall in terms of its comparative existence for satisfaction. Therefore, it suggests that customers want some or certain aspects of the

product in which the characterization of the product falls under relativity in which the comparison can be done naturally keeping variation within them as advantageous for the product

Table 7: Absolutivity as epistemological coverage of buyer ontology

Ontology	Reality of the nature of the product	Object		Buyer	Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity		

3.2. (d) Epistemological absolutivity of buyer ontology (possessionality)

Absolutivity is the other half of the dichotomy of customer comparative assessment that product developers and managers need to consider. This is one of the standards that stand directly in opposition to relativity but can exist as independent characteristic(s) with little to no vagueness with respect to the characteristics pertaining to relativity (Lassiter & Goodman, 2013). This can be considered as an achievement by the customers in expressing the product as authentic and unique Brown, 1914. This understanding of absolutism is different in terms of the universalization of absolutism, rather this dichotomous standard which is in pair with relativity of the characterization of goods or services in order to be independent, prominent and free from parametric restrictions of recognition. Unlike relativity in which the frame of reference is comparative, absolutivity frame of reference is based on being a self-conceived class of its own in which the customers consider certain characterization or characteristics of the product as one of a kind whose meaningfulness and worth is derived from being incomparable to others (Wax, DeChurch, & Contractor, 2017). However, it should be noted that the real-time possibility of accomplishing such a characteristic within a product is very difficult to achieve in actuality, although greasy or closeness to absolutivity of characterization may be achieved for advantages (Wynngaerd, 2012). One of the reasons for drawing this line and not taking the absolutivity of characterization as it is due to its real-time application and not worrying about its fixed aspects as it may turn out to be unhealthy in order to maintain its consistency and therefore a variable understanding of absolutivity may be achieved in terms of high or low in existence. This can be understood through container view of things which provides an understanding that for some time period there can be things that can exist in the place without having any comparative relationship with place or objects in that place it exists in. Suggesting that the product has the potential to have those characteristics within it which can be considered as maximums (maximal degrees) or minimums (minimal degrees) which can have some form of absolutism or rarity making it distinctive from others (Kennedy, 2007; Faroldi & Soria, 2017).

Table 8: Relativity as the epistemological coverage of buyer ontology

Ontology	Reality of the nature of the product	Object		Buyer		Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity	Relativity		

3.2. (e) Epistemological particularity of context ontology (situationality)

Particularism has roots in ancient philosophy and is sometimes referred closely with situation of a case which satisfies a certain set of circumstances (Väyrynen, 2004; Rebecca, 2013). It is becoming of the most important epistemological considerations in the contemporary understanding of things. The other reason for its growing importance is that it facilitates in the contextual understanding of things like goods which allows in understanding the evaluative mindset of consumers and their determination of certain characteristics within the product. It must be noted that since it's a context-sensitive theory, it does not mean that it constantly changes because particularism either acts as a source or consequence. Suggesting that it may surround itself on a certain case but may not vary case to case in order to entertain every case (Piller, 2006). The doctrine of particularism allows the characterization of the product aspects from a tunnel vision which considers things or matters pertaining to the aspects of product in terms of cases. This provides an understanding that the traits found in type of goods cannot be available and neither can be applicable to other type of goods and may be solely attributed in entertaining or fulfilling certain set of requirements within a certain product or its type (Dancy, 2021). This allows the customer to feel important as it makes them think that the product developers or managers as considering their possessions as a special case and are neither overlapping it with other cases nor taking it as unimportant to be treated same. This decreases the casual element of one rule for all mindset in which everything is catered through same yardstick (Smith, 2011). In simple words particularism is based on the customer evaluation criteria of being treated special pertaining to matters that they think exclusively belongs to them.

Table 9: Universality as the epistemological coverage of context ontology

Ontology	Reality of the nature of the product	Object		Buyer		Context	Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity	Relativity	Universality	

3.2. (f) Epistemological universality of context ontology (situationality)

The other part of the contextual dichotomy in opposition to particularity of the product is universalism. It is point of view in which it is considered that there are certain things or aspects of the product which can be considered as a matter of general interest (Schroth, 2003). Suggesting that universalism is another name of generalism and caters to customers evaluation of ideas in terms of its universality. This is one of those aspects in which customers want a collection of certain aspects of the product so that they can feel that they are part of the community and also allow them to stay connected with others (Apers & Verbeke, 2014). That is why universality just like unity is a contested concept but still remains as one of the ambitious epistemological views required to entertain the aspect of similar contextual requirements of human beings (Harper, 2007). This unlike particularism works on the idea of golden rule or one rule for all which despite being context bound does not make it context sensitive. It is based on the idea that human beings despite being different and despite existing in different matters share certain common contextual parameters which needs to be catered for mutual living driven out of complexity (Clayton & Frey, 1997). These things are systematically required in the customer possessions and are seen as being similar in quality or quantity for common adjustment. This stands on the grounds of familiar zones in which everyone can instantly relate to without having the difficulty of adjustment. This contextual setting is seen as a representation of social nature of customers in which community acceptability is seen as an important element as it considers certain situational elements in any case with similar or dissimilar aspects collectively aligned in terms of needs irrespective of their religion, culture or nationality (Parkman, 2010).

Table 10: Particularity as the epistemological coverage of context ontology

Ontology	Reality of the nature of the product	Object		Buyer		Context		Supplier
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity	Relativity	Universality	Particularity	

3.2. (g) Epistemological infallibility of supplier ontology (professionalism)

Infallibility is defined as lacking possibility of being problematic. One of the most important customer views regarding their assessment of the product is how professional it is in terms of its provision and buildup (Gamkrelidze, 1972). This pertains to the infallibility that the product has in it and concerns with the matter of the ability of top-notch supply or provision of the product with respect to its make and working. Infallibilism reflects an epistemological condition of things in which the knowledge of the maker or provider cannot be doubted because of the high level of craft that goes into the buildup of the that thing. It suggests that the goods should reflect such a condition that the idea of something being wrong in it is not considered a matter of concern and

provides a sense of infallibility (Auger, 2010). Infallibility of something holds the view that something is incorrigible to the effect that entities possessing it reflects lack of error in the development of goods. Therefore, infallibility is about belief forming process with respect to reliability of the goods having certainty in its existence. Customers being certain about goods/services suggest that they take it for granted in a positive way because they have no doubt on it and its provider and therefore holds no reservations in its possession. Customers want characterization of the product to have infallibility because they don't want to live in the burden of doubt regarding the product that they have acquired (Kulms & Kopp, 2019). This makes infallibility of the product is a priori-propositional element for the customers to form consider it reliability unconditionally (Bell, 2010). Therefore, the word infallibilism or infallibility in its strict application pertaining to the products reflects indefectibility as a consideration of the product being flawless, lacking decay, errors or bugs.

Table 11: Infallibility as the epistemological coverage of supplier ontology

Ontology	Reality of the nature of the product	Object		Buyer		Context		Supplier	
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity	Relativity	Universality	Particularity	Infallibility	

3.2. (h) Epistemological fallibility of supplier ontology (professionalism)

Fallibility of things or fallibilism from the perspective of corrigilism is an epistemological position which serves as the other half of the reliability dichotomy in the customer assessment of goods/services. It suggests that despite customer requirement of product having infallibility they do have the maturity to understand the possibility of issues that may occur in their possessions (Janicki, 1991). This provides customers to evaluate the maturity of product developers or managers in realizing of such possibilities as well also evaluate the room for maintenance and corrections kept in the product as a consequence of such realization by the product developers or managers (Claxton, 2014). This makes it popular amongst scholars and practitioners due to its cognitive attraction which suggests that nothing that exists can be seen in a conclusive condition and alternatively provides a realization point of it so that the same faculties that have developed inconclusive goods can work towards achieving conclusivity. The concept of fallibilism does not suggest that things are prone to error and should be left on its own, rather it suggests that the matter of prone to error must be taken as a realization point so that those shortcomings can be dealt with corrections upon it (Turşucu, Spandaw, Flipse, & De Vries, 2018). This suggests that the fallibilism does not only advocate that knowledge can have mistaken rather it also helps in belief forming process of reliability of goods in which knowledge mistakes can be overcome through thinking and learning about knowledge on how to overcome flaws. This is a view taken as part of the evolutionary process in which errors and mistakes are not only embraced but also researched to appropriately and efficiently address those drawbacks so that instant working can be done on it

for its rectification (Johnston, 1982). This sort of professionalism with the product and with the providers of the product facilitates in increase the reliability of the goods that customers acquire.

Table 12: Fallibility as the epistemological coverage of supplier ontology

Ontology	Reality of the nature of the product	Object		Buyer		Context		Supplier	
Epistemology	Knowledge structure to know the reality of the nature of the product	Objectivity	Subjectivity	Absolutivity	Relativity	Universality	Particularity	Infallibility	Fallibility

4. Conclusion

It can now be understood that conventionally the concept of product with respect to its nature had its limitations both for scholars and practitioners. For scholars the limitation was about the primary question of what is the reality of the nature of product and in what ways does the relationship exist at the foundational level. The secondary question was about how to know the reality of the nature of the product so a perceptual alignment can occur between the products and customers. Through literature analysis it figured out that the product has been largely dependent upon its associative adjectives that does dwell into the nature of the products, but makes it unidirectional in doing so. In order to extract the reality of the nature of product various definitions based on associative concepts of product were examined. The examination of these definitions suggested that the product has an elastic and flexible nature that is open to improvement with the tendency of getting mold in which every direction. In order to understand the mechanism that goes within this tendency theories like modified systems theory of product, sources of innovation and signification process theory were studied from the perspective of flexibility to bring out complete set of basic level internal catalysts that interact with each other to instantiate product like entity. However, basic level internal catalysts only answered the question on the reality of nature of products, but lacked aspects that relate and align with the customer perspectives so that the question of how to know this reality can be addressed. To understand this the knowledge structure of customer was examined to understand how these aspects support and initialize the knowledge structure. Through knowledge structure it was found out that it largely addressed the perceptual aspects of the customer under the commonly known epistemological dichotomy. This dichotomy only catered, though insufficiently, to one of the basic level theoretical concerns of nature of product. To resolve this issue cues from the existing literature were taken, by following basis of the existing theoretical dichotomy of the customer knowledge structure and then those cues were adjusted by finding it from the current literature in order to understand the rest of the actors that instantiates the nature of product. This approach allowed in correctly understanding and aligning each of the epistemological dichotomy with its respective baseline element. This allowed in developing an appropriate theoretical understanding of the layered theoretical nature of product so that scholars

and practitioners can carefully instantiate and initialize the product as an entity appropriately adjusted to the customer thought processes.

References

- Abdullah, N. H., Hamid, N. A., Shamsuddin, A., & Wahab, E. (2016). Exploring the relationships among transformational leadership, organizational culture, and product innovation using PLS-SEM. *Proceedings of the 1st AAGBS International Conference on Business Management 2014 (AiCoBM 2014)*, 151-160. doi:10.1007/978-981-287-426-9_13
- Al-Fedaghi, S. (2017). Modeling Business Processes: Events and Compliance Rules. In *Proceedings of the International Conference on Modeling, Simulation and Visualization Methods (MSV). The Steering Committee of The World Congress in Computer Science, Computer Engineering and Applied Computing (WorldComp)*., pp. 61-67. Retrieved from <https://www.proquest.com/openview/8f77f5d2ca078bf6beea0bdeaff46239/1?pq-origsite=gscholar&cbl=1976344>
- Alpert, M. I. (1972). Personality and the determinants of product choice. *Journal of Marketing Research*, 9(1), 89. doi:10.2307/3149617
- Angerer, A. (2006). The impact of automatic store replenishment on retail. doi:10.1007/978-3-8350-9129-0
- Anthony Sgroi, J. (2014). *The innovative lean machine: Synchronizing people, branding, and strategy to win in the marketplace*. CRC Press.
- Apers, A., & Verbeke, A. L. (2014). Modern usufruct-empowering the usufructuary. *Journal of South African Law/Tydskrif vir die Suid-Afrikaanse Reg*, 2014(1), 117-129. Retrieved from <https://journals.co.za/doi/abs/10.10520/EJC148478>
- Auger, J. (2010). Alternative Presents and Speculative Futures: Designing fictions through the extrapolation and evasion of product lineages. *Negotiating futures—Design Fiction*, 6, 42-57. Retrieved from <https://researchonline.rca.ac.uk/1093/>
- Azhar, K. A., & Bashir, M. A. (2018). Understanding E-loyalty in online grocery shopping. *International Journal of Applied Business and International Management*, 3(2), 37-56. doi:10.32535/ijabim.v3i2.158
- Baumgardner, J. (2008). Language, complexity, and design. *Divine Action and Natural Selection*, 938-980. doi:10.1142/9789812834355_0041
- Bell, R. (2010). *Scientific Restraint: The Balance between Progress and Safety (168)*. Retrieved from University of Rhode Island, DigitalCommons@URI website: <https://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1170&context=srhonorsprog>

- Boucher, Q., Classen, A., Heymans, P., Bourdoux, A., & Demonceau, L. (2010). Tag and prune: A Pragmatic Approach to Software Product Line Implementation. Proceedings of the IEEE/ACM international conference on Automated software engineering - ASE '10. doi:10.1145/1858996.1859064
- Brown, H. C. (1914). Value and potentiality. *The Journal of Philosophy, Psychology and Scientific Methods*, 11(2), 29. doi:10.2307/2013227
- Burrows, A. B. (2018). Designing out-of-box experiences for older adults: exploring the boundaries of inclusive design (Doctoral dissertation, Loughborough University, Leicestershire, England). Retrieved from https://repository.lboro.ac.uk/articles/thesis/Designing_out-of-box_experiences_for_older_adults_exploring_the_boundaries_of_inclusive_design/9360389
- Calisaya, D. A., López-Valdivieso, A., De la Cruz, M. H., Gálvez, E. E., & Cisternas, L. A. (2016). A strategy for the identification of optimal flotation circuits. *Minerals Engineering*, 96-97, 157-167. doi: 10.1016/j.mineng.2016.06.010
- Carter, J., & Goldstein, D. (2014). Sympathoneural and Adrenomedullary Responses. *Comprehensive Physiology*
- Cavaco, N. M., & Machado, V. C. (2014). Sustainable competitiveness based on resilience and innovation – an alternative approach. *International Journal of Management Science and Engineering Management*
- Cheng, L., Cao, J., & Gu, Z. (2021). Design of customer satisfaction evaluation system based on big data. *Lecture Notes in Computer Science*, 3-10. doi:10.1007/978-3-030-77025-9_1
- Choo, P. W., & Cheng Ling Tan, C. L. (2018). A Review of Customer Experience Quality Measurement in Malaysian Heritage Hotels. *Global Business and Management Research: An International Journal*, 10(1), 379-395. Retrieved from https://www.researchgate.net/publication/329872687_A_Review_of_Customer_Experience_Quality_Measurement_in_Malaysian_Heritage_Hotels
- Claxton, G. (2014). School as an epistemic apprenticeship: The case of building learning power / La escuela Como aprendizaje epistémico: el Caso de construyendo el poder para el aprendizaje. *Infancia y Aprendizaje*, 37(2), 227-247. doi:10.1080/02103702.2014.929863
- Clayton, K., & Frey, B. B. (1997). Studies of mental “noise”. *Nonlinear Dynamics, Psychology, and Life Sciences*. *Nonlinear Dynamics, Psychology, and Life Sciences*, 1(3), 173-180. doi:10.1023/a:1022381114713
- Coltman, T., Hughes, K., M. Devinney, T., & M. Whiting, S. (2006). Proceedings of the Australian and New Zealand Academy of Management Conference. Rockhampton, Australia: Central Queensland University.
- Cortez-Arriola, J., Groot, J. C., Rossing, W. A., Scholberg, J., Améndola Massiotti, R. D., & Tittonell, P. (2016). Alternative options for sustainable intensification of smallholder dairy farms in north-west Michoacán, Mexico. *Agricultural Systems*, 144, 22-32. doi: 10.1016/j.agsy.2016.02.001
- Dancy, J. (2021). Ethical particularism and morally relevant properties. *Practical Thought*, 37-50. doi:10.1093/oso/9780198865605.003.0004

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Daoust, M. (2018). Epistemic akrasia and epistemic reasons. *Episteme*, 16(3), 282-302. doi:10.1017/epi.2018.6
- Daria, M. (2021). Social Media Marketing for Art Projects: Exploring the Possibilities of Using Social Networks to Improve Promotion of VB Photography Centre, Kuopio (Master's thesis, Kuopio, Finland). Retrieved from https://www.theseus.fi/bitstream/handle/10024/498624/Mikhailova_Daria.pdf?sequence=2&isAllowed=y
- Darling, J. R., & Arnold, D. R. (1988). The competitive position abroad of products and marketing practices of the United States, Japan, and selected European countries. *Journal of Consumer Marketing*, 5(4), 61-68. doi:10.1108/eb008239
- Delprato, D. J., & Smith, N. W. (2009). Sketch of J. R. Kantor's psychological interbehavioral Field theory. *The Psychological Record*, 59(4), 671-678. doi:10.1007/bf03395686
- Desmet, P., & Hekkert, P. (2007). Framework of product experience. *International journal of design*, 1(1).
- Deuker, A., & Radmacher, M. (2008). Multicast and individual service provisioning in mobile TV. 2008 10th IEEE Conference on E-Commerce Technology and the Fifth IEEE Conference on Enterprise Computing, E-Commerce and E-Services. doi:10.1109/cecandee.2008.107
- Dostilio, L., Brackmann, S., Edwards, K., Harrison, B., Kliewer, B., & Clayton, P. (2012). Reciprocity: Saying what we mean and meaning what we say. *Michigan Journal of Community Service Learning*
- Dubberly, H. (2010). The space of design. *Interactions*, 17(5), 74-79. doi:10.1145/1836216.1836236
- Effiong, D. E., & Alozie, M. (2021). Attaining excellence in professional pharmacy practice-pharmacists in academia must take the lead. *Journal of Scientific Research and Reports*, 60-67. doi:10.9734/jsrr/2021/v27i130348
- Ellis, D. (2015). Consumer knowledge and its implications for aspects of consumer purchasing behaviour in the case of information-intensive products (Unpublished doctoral dissertation). KTH Royal Institute of Technology, Division of Industrial Marketing, INDEK, Stockholm, Sweden.
- Erikshamar, J. (2011). Collaborative Product Development: A Purchasing Strategy for Small Industrialized House-Building Companies. Doctoral dissertation, Luleå tekniska universitet.
- Faroldi, F. L., & Soria, A. O. (2017). The scale structure of moral adjectives. *Studia Semiotyczne*, 31(2).
- Fawcett, J. (2011). Theory testing and theory evaluation. *Theory Testing and Theory Evaluation*. Mississauga, ON: Jones and Barrett Learning, 605-24
- Fernández, R. S., & Bonillo, M. I. (2006). Consumer perception of value: Literature review and a new conceptual framework. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*
- Fennell, G. (1985). Things of heaven and earth: Phenomenology, marketing, and consumer research. *ACR North American Advances*. Retrieved from <https://www.acrwebsite.org/volumes/6445>
- Ferrell, O. C., & Hartline, M. D. (2010). *Marketing Strategy (5e)*. South-Western.

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Foino, R. M. (2012). *Game and Graphics Programming for iOS and Android with OpenGL ES 2.0*. John Wiley & Son.
- Fokkinga, S., & Desmet, P. (2014). Introduction to the design issue. *Journal of Motivation, Emotion, and Personality: Reversal Theory Studies*, 3(1). doi:10.12689/jmep.2014.301
- Gamkrelidze, R. V. (1972). Assurance of infallibility in discrete systems. *Probability Theory, Mathematical Statistics, and Theoretical Cybernetics*, 5-61. doi:10.1007/978-1-4684-8079-5_2
- Gessa-Perera, A., Sancha-Dionisio, M., & González- Expósito, I. (2017). Opportunities for waste recovery to improve the carbon footprint in the Spanish cement industry under a cap and trade system: Insights from a case study. *Journal of Cleaner Production*, 142, 3665-3675. doi: 10.1016/j.jclepro.2016.10.101
- Gillespie, R. (2016). Normative reasoning and moral argumentation in theory and practice. *Philosophy & Rhetoric*, 49(1), 49-73. doi:10.5325/philrhet.49.1.0049
- Glahn, C., & Gruber, M. R. (2020). Designing for context-aware and contextualized learning. *Emerging Technologies and Pedagogies in the Curriculum*, 21-40. doi:10.1007/978-981-15-0618-5_2
- Goldman, A. H. (2007). The case against objective values. *Ethical Theory and Moral Practice*, 11(5), 507-524. doi:10.1007/s10677-007-9098-y
- Ha-Brookshire, J. E., & Hawley, J. (2014). Trends of research published by *Clothing and textiles research Journal* (1993–2012) and outlook for future research. *Clothing and Textiles Research Journal*, 32(4), 251-265. doi:10.1177/0887302x14541543
- Hamzah, N., Ali, S. A., & Abd Karim, S. F. (2020). Improvement of process quality via integration of statistical process control and engineering process control in batch process. 2020 IEEE 10th International Conference on System Engineering and Technology (ICSET). doi:10.1109/icset51301.2020.9265367
- Han, H., & Hyun, S. S. (2014). Medical hotel in the growth of global medical tourism. *Journal of Travel & Tourism Marketing*, 31(3), 366-380. doi:10.1080/10548408.2013.876955
- Harper, S. (2007). Is there design-for-all? *Universal Access in the Information Society*, 6(1), 111-113. doi:10.1007/s10209-007-0071-2
- Helfat, C. E., & Raubitschek, R. S. (2000). Product sequencing: Co-evolution of knowledge, capabilities and products. *Strategic Management Journal*, 21(10-11), 961-979. doi:10.1002/1097-0266(200010/11)21:10/11<961: aid-smj132>3.0.co;2-e
- Herrmann, A., Gassmann, O., & Eisert, U. (2007). An empirical study of the antecedents for radical product innovations and capabilities for transformation. *Journal of Engineering and Technology Management*, 24(1-2), 92-120. doi: 10.1016/j.jengtecman.2007.01.006
- Higuchi, T., & Troutt, M. (2008). Physical location. *Life Cycle Management in Supply Chains*, 259-272. doi:10.4018/978-1-59904-555-9.ch012
- Hofmann, H. F., & Geiger, J. (1995). Quality management in action. *Information Technology & People*, 8(1), 35-53. doi:10.1108/09593849510086715

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Horn, D., & Salvendy, G. (2006). Product creativity: Conceptual model, measurement and characteristics. *Theoretical Issues in Ergonomics Science*, 7(4), 395-412. doi:10.1080/14639220500078195
- Horvath, P., & Bencsik, A. (2020). Aggregation methods influence the employee performance ranking list. *Economic and Social Development: Book of Proceedings*.
- Houwer, J. D. (2020). Revisiting classical conditioning as a model for anxiety disorders: A conceptual analysis and brief review. *Behaviour Research and therapy*
- Ifie, K. (2020). Excellent product ... but too early to say: Consumer reactions to tentative product reviews. *Journal of Interactive Marketing*, 52, 35-51. doi:10.1016/j.intmar.2020.03.002
- Jacob, D. W., Yanto, I. T., Md Fudzee, M. F., & Salamat, M. A. (2018). Maximum attribute relative approach of soft set theory in selecting cluster attribute of electronic government data set. *Advances in Intelligent Systems and Computing*, 473-484. doi:10.1007/978-3-319-72550-5_45
- Jacobs, J. C., & Van Moll, J. H. (2007). Effects of virtual product development on product quality and their influencing factors. *Industrial Engineering and Innovation Sciences*. Technische Universiteit Eindhoven.
- Jacquette, D. (2008). Psychologism revisited in logic, metaphysics, and epistemology. *Metaphilosophy*, 32(3), 261-278. doi:10.1111/1467-9973.00187
- Janicki, K. (1991). Applying linguistics for peace education. *International Journal of Applied Linguistics*, 1(2), 164-173. doi:10.1111/j.1473-4192.1991.tb00013.x
- Jimenez-Mavillard, A., & Suarez, J. L. (2021). A computational approach for creativity assessment of culinary products: The case of eIBulli. *AI & Society*, 37(1), 331-353. doi:10.1007/s00146-021-01183-3
- Johnston, T. D. (1982). Selective costs and benefits in the evolution of learning. *Advances in the Study of Behavior*, 65-106. doi:10.1016/s0065-3454(08)60046-7
- Keller, K. L., & Kotler, P. (2015). *Marketing Management - Global Edition (15e)*. Pearson.
- Kennedy, C. (2007). Vagueness and grammar: The semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy*, 30(1), 1-45. doi:10.1007/s10988-006-9008-0
- Kennedy, G. A. (2015). *History of rhetoric, volume I: The art of persuasion in Greece*. Princeton University Press.
- Kim, C., & Christiaans, H. (2012). 'Soft' usability problems with consumer electronics: The interaction between user characteristics and usability. *J. of Design Research*, 10(3), 223. doi:10.1504/jdr.2012.047938
- Kim, M. (2011). *Consumers' choice of dentist: How and why people choose dental school faculty as their oral care provider (Unpublished doctoral dissertation)*. The University of Iowa, IA.
- Klahn, C., & Fontana, F. (2017). Impact and assessment of design on higher order benefits. *Challenges for Technology Innovation: An Agenda for the Future*, 237-242. doi:10.1201/9781315198101-42

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Kotler, P., Armstrong, G., Saunders, J., & Wong, V. (1999). *Principles of marketing*. Prentice Hall Europe.
- Krajewski, W. (2001). *Polish philosophers of science and nature in the 20th century*. Rodopi.
- Kulms, P., & Kopp, S. (2019). More human-likeness, more trust? *Proceedings of Mensch und Computer 2019*. doi:10.1145/3340764.3340793
- Landryová, L., & Irgens, C. (2006). Process knowledge generation and knowledge management to support product quality in the process industry by supervisory control and data acquisition (SCADA) open systems. *Production Planning & Control*, 17(2), 94-98. doi:10.1080/09537280500223772
- Langsdorf, L. (2010). *ISSA Proceedings 2010–The Metaphysics Of Argument: Two Proposals About Presuppositions*. Rozenberg Quarterly.
- Lassiter, D., & Goodman, N. D. (2013). Context, scale structure, and statistics in the interpretation of positive-form adjectives. *Semantics and Linguistic Theory*, 23, 587. doi:10.3765/salt.v23i0.2658
- Lee, D., & Trail, G. (2011). A Theoretical Model of Team-Licensed Merchandise Purchasing (TLMP). *ICHPER-SD Journal of Research*, 6(1), 62-67. Retrieved from <https://eric.ed.gov/?id=EJ936022>
- Lehar, H. (2007). *The Malaysian Economy Past and Present*. University Publication Centre, Universiti Teknologi MARA.
- Leonardi, P. M. (2010). Digital materiality? How artifacts without matter, matter. *First Monday*, 15(6). doi:10.5210/fm.v15i6.3036
- Leshem, G. (1992). Simulation of real-time embedded systems. *ACM SIGSIM Simulation Digest*, 22(2), 35-41. doi:10.1145/142103.142107
- Liu, X., Wang, Y., & Chang, J. (2021). A review on the incorporation and potential mechanism of heavy metals on the recovered struvite from wastewater. *Water Research*, 207, 117823. doi:10.1016/j.watres.2021.117823
- Loken, B., Barsalou, L. W., & Joiner, C. (2018). Categorization theory and research in consumer psychology. *Handbook of Consumer Psychology*, 146-176. doi:10.4324/9780203809570.ch5
- MacStravic, R. S. (1986). Product-line administration in hospitals. *Health Care Management Review*, 11(2), 35-43. doi:10.1097/00004010-198601120-00005
- Malpas, J. E. (2001). Comparing topographies: Across paths/around place: A reply to Casey. *Philosophy & Geography*, 4(2), 231-238. doi:10.1080/10903770123850
- Mandeville, M. J. (1960). The nature of authority. *Academy of Management Journal*, 3(2), 107-118
- Masanauskas, J. (1996). Product planning and new product development. *Ekonomika*, 40. doi:10.15388/ekon.1996.16369
- Masuda, H., & Hara, Y. (2011). A dynamic evaluation model based on customer expectation and satisfaction. *2011 Annual SRII Global Conference*. doi:10.1109/srii.2011.53

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Mello, S. (2003). Customer-centric product definition: The key to great product. PDC Professional Publishing.
- Meroyi, S. I. (2013). A philosophical analysis of the concepts of respect and cooperation in Nigeria's civic education curriculum (Doctoral dissertation, University of Ibadan, Ibadan, Nigeria).
- Messina, A., & Rogers, A. (2018). Using the “Agile” paradigm to support innovation in large organizations. *Advances in Intelligent Systems and Computing*, 191-203. doi:10.1007/978-3-319-70578-1_18
- Mills, S. (2015). Anxiety, Deferral, Dying in Heidegger (Unpublished doctoral dissertation). Doctoral dissertation, University of Guelph, Ontario, Canada.
- Moran, G., & Strauss, D. (1980). Countable partitions of product spaces. *Mathematika*, 27(2), 213-224. doi:10.1112/s002557930001010x
- Moravcsik, J. M. (1975). Aitia as generative factor in Aristotle's philosophy. . *Dialogue: Canadian Philosophical Review/Revue canadienne de philosophie*, 14(4), 622-638
- McLerran, L. (2006). Exploring the Quark Gluon Plasma with Bikash Sinha. In *Journal of Physics: Conference Series*. IOP Publishing, 50, No. 1, p. 455
- Murschetz. (2005). Interactivity and leadership effectiveness: A concept review and analysis of email as an interactive leadership tool. . *Leadership in the media industry—Changing contexts, emerging challenges*
- Morris, M. H., & Sexton, D. L. (1996). The concept of entrepreneurial intensity: Implications for company performance. *Journal of Business Research*, 36(1), 5–13
- Meyer, J. P., Becker, T. E., & Vandenberghe, C. (2004). Employee Commitment and Motivation: A Conceptual Analysis and Integrative Model.. . *Journal of Applied Psychology*, 89(6), 991–1007
- Nichols, S., & Pinillos, N. Á. (2018). Skepticism and the acquisition of “knowledge”. *Mind and Language*, 33(4), 397-414. doi:10.1111/mila.12179
- Noorani, I., Shakir, K., & Rehman, N. A. (2020). Plato’s allegory and the capitalist’s world: A hermeneutical analysis of the effects of modern business and advertising practices on consumer rationality
- O’Brien, R. C. (1978). Technological factors in international communication. *Media Asia*, 5(2), 103-106. doi:10.1080/01296612.1978.11725932
- Oh, H. S., & Moon, S. K. (2015). An object-oriented design framework for developing product-service systems. *Journal of Society of Korea Industrial and Systems Engineering*, 38(4), 168-176. doi:10.11627/jkise.2015.38.4.168
- Ultra-Badenes, R., Gil-Gomez, H., Merigo, J. M., & Palacios-Marques, D. (2019). Methodology and model-based DSS to managing the reallocation of inventory to orders in LHP situations. Application to the ceramics sector. *PLOS ONE*, 14(7), e0219433. doi:10.1371/journal.pone.0219433

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- OpenLearn. (2019). Innovation through representation. Retrieved from The Open University website: <https://www.open.edu/openlearn/science-maths-technology/innovation-through-representation/altformat-printable>
- Özbudun, E. (2012). Procedural issues in constitutional change. *Anayasa Hukuku Dergisi*, 1(1), 109-144.
- Park, H. Y., & Chang, S. R. (2022). When and how brands affect importance of product attributes in consumer decision process. *European Journal of Marketing*, 56(13), 1-25. doi:10.1108/ejm-09-2020-0650
- Parkman, I. (2010). Two essays examining design briefs as knowledge based assets: Content and cross functional collaboration (Unpublished doctoral dissertation). University of Oregon , OR.
- Perreault Jr, W. D., & McCarthy, E. J. (2002). *Basic Marketing: A Global Managerial Approach*. Mc-Graw Hill.
- Peterson, M. (2013). CALL and new digital technologies. *Computer Games and Language Learning*, 1-13. doi:10.1057/9781137005175_1
- Piffer, D. (2012). Can creativity be measured? An attempt to clarify the notion of creativity and general directions for future research. *Thinking Skills and Creativity*, 7(3), 258-264. doi:10.1016/j.tsc.2012.04.009
- Piller, C. (2006). Particularism and the structure of reasons. *Acta Analytica*, 21(2), 87-102. doi:10.1007/s12136-006-1006-x
- Qi, X. (2022). Building a bridge between economic complexity and the blue economy. *Ocean & Coastal Management*, 216, 105987. doi:10.1016/j.ocecoaman.2021.105987
- Rebecca, G. (2013, June 12). Principlist and Particularist Ethics: Strengths and Weaknesses. Retrieved from <https://bekahblade.wordpress.com/tag/particularism/>
- Redzuan, M., & Aref, F. (2010). Constraints and potentials of handicraft industry in underdeveloped region of Malaysia. *African Journal of Business Management*, 5(2). doi:10.5897/AJBM09.166
- Roivio, P. (2019). Product development and marketing strategy for SaimaaHoliday: The Linnansaari project. Saimaa University of Applied Sciences, Faculty of Tourism and Hospitality, Imatra Campus . Retrieved from <https://www.theseus.fi/bitstream/handle/10024/227033/Thesis%20FINAL%20DRAFT%20%282%29.pdf?sequence=5>
- Sallez, Y., Berger, T., Deneux, D., & Trentesaux, D. (2010). The lifecycle of active and intelligent products: The augmentation concept. *International Journal of Computer Integrated Manufacturing*, 23(10), 905-924. doi:10.1080/0951192x.2010.490275
- Saren, M., & Tzokas, N. (1998). The nature of the product in market relationships: A pluri-signified product concept. *Journal of Marketing Management*, 14(5), 445-464. doi:10.1362/026725798784867761
- Scheithauer, G., Augustin, S., & Wirtz, G. (2009). Describing services for service ecosystems. *Service-oriented computing – ICSOC 2008 workshops*. doi:10.1007/978-3-642-01247-1

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Schroth, J. (2003). Particularism and Universalizability. *The Journal of Value Inquiry*, 37(4), 455-461. doi:10.1023/b:inqu.0000019032.13457.20
- Schuon, F. (1983). The ambiguity of the emotional element. *Studies in comparative religion*. Retrieved from <http://www.studiesincomparativereligion.com/uploads/ArticlePDFs/385.pdf>
- Segala, M. (2010). Schopenhauer and the empirical confirmations of philosophy. *Idealistic Studies*, 40(1), 27-41. doi:10.5840/idstudies2010401/23
- Selnes, F., & Grønhaug, K. (1986). Subjective and Objective Measures of Product Knowledge Contrasted. *NA - Advances in Consumer Research*, 13, Pages: 67-71.. Retrieved from <https://www.acrwebsite.org/volumes/6464/volumes/v13/NA-13>
- Shek, D., Yu, L., & Busiol, D. (2015). Preventing and Combating Internet Addiction: A Concept Review. *Student Well-Being in Chinese Adolescents in Hong Kong*.
- Smith, B. (2011). Characterizing moral particularism. *Particularism and the Space of Moral Reasons*, 1-27. doi:10.1057/9780230292437_1
- Shi, Q. L., Hu, Q., & Wang, Z. (2018). Dynamic demand control for system frequency regulation: Concept review, algorithm comparison, and future vision. *Electric Power Systems Research*
- Shoukat, A., Baig, U., Batoool Hussain, D., Rehman, N. A., & Shakir, D. K. (2021). An Empirical Study Of Consumption Values On Green Purchase Intention. International Journal of Scientific & Technology.*
- Spillane, H. & (2004). Towards a theory of leadership practice: A distributed perspective. Curriculum Studies, 36(1):3-34*
- Stolarska, A. (2020). Marketing in the activities of banks. *Wschód Europy. Studia humanistyczno-społeczne*, 5(2), 87. doi:10.17951/we.2019.5.2.87-98
- Tangoren, I. (1991). Pseudogenes. *Nature*, 354(6348), 10-10. doi:10.1038/354010c0
- Tellis, G. J., & Johnson, J. (2007). The Value of Quality. *Marketing Science*, 26(6). Retrieved from <https://sci-hub.hkvisa.net/10.1287/mksc.1070.0286>
- Thau, M. (2004). What is Disjunctivism? *Philosophical Studies*, 120(1-3), 193-253. doi:10.1023/b:phil.0000033755.32540.76
- Thomas, A., & Heffron, R. J. (2012). Third party nuclear liability: the case of a supplier in the United Kingdom. *Energy Policy Research Group, University of Cambridge*. Retrieved from <https://www.jstor.org/stable/pdf/resrep35974.pdf>
- Trott, P. (2001). The role of market research in the development of discontinuous new products. *European Journal of Innovation Management*, 4(3), 117-126. doi:10.1108/14601060110390585
- Turşucu, S., Spandaw, J., Flipse, S., & De Vries, M. (2018). Teachers' core beliefs about improving students' transfer of algebraic skills from mathematics into physics in senior pre-university education. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(10). doi:10.29333/ejmste/93398

An Adequate Understanding of the Concept of Product with Respect to its Underlying Notions

- Tamayo, J. A., Romero, J. E., Gamero, J., & Martínez-Román, J. A. (2015). Do Innovation and Cooperation Influence SMEs' Competitiveness? Evidence From the Andalusian Metal-Mechanic Sector. *Innovar*, 25(55).
- Van der Zanden, L. D., Van Kleef, E., De Wijk, R. A., & Van Trijp, H. C. (2015). Examining heterogeneity in elderly consumers' acceptance of carriers for protein-enriched food: A segmentation study. *Food Quality and Preference*, 42, 130-138. doi:10.1016/j.foodqual.2015.01.016
- Väyrynen, P. (2004). Particularism and default reasons. *Ethical Theory and Moral Practice*, 7(1), 53-79. doi:10.1023/b:etta.0000019980.79568.2f
- Wahid, Z., Ming, T. T., & Ahmad, K. (2020). Use of Taguchi robust design to optimize rubber glove process. *Journal of Physics: Conference Series*, 1489(1), 012034. doi:10.1088/1742-6596/1489/1/012034
- Wang, G.-J., Volkow, N., Thanos, P., & Fowler, J. (2004). Similarity between obesity and drug addiction as assessed by neurofunctional imaging: A concept review. *Journal of Addictive Diseases*, 23(3):39-53
- Wang, Q., Nujoom, R., & Abubakar, M. (2018). Integration of missing parameters into a DES tool. *IOP Conference Series: Materials Science and Engineering*, 436, 012016. doi:10.1088/1757-899x/436/1/012016
- Wang, X., Zhou, T., Wang, X., & Fang, Y. (2022). Harshness-aware sentiment mining framework for product review. *Expert Systems with Applications*, 187, 115887. doi:10.1016/j.eswa.2021.115887
- Wax, A., DeChurch, L. A., & Contractor, N. S. (2017). Self-organizing into winning teams: Understanding the mechanisms that drive successful collaborations. *Small Group Research*, 48(6), 665-718. doi:10.1177/1046496417724209
- Wienbergen, F. M., Karow, M., & Rosemann, M. (2009). How German hospitals govern IT-An empirical exploration. *ECIS 2009 Proceedings*.
- Wieviorka, M. (2005). After new social movements. *Social Movement Studies*, 4(1), 1-19. doi:10.1080/14742830500051812
- Wyngaerd, G. V. (2012, May). The Absolute-Relative Distinction in Adjectives [PDF]. Retrieved from https://www.crissp.be/wp-content/uploads/2012/03/BKL_2012_handout.pdf
- Zaliwski, A. S. (2011). Information – is it Subjective or Objective? *tripleC*, 9(1). Retrieved from <https://doi.org/10.31269/triplec.v9i1.250>