Toward an Ontological Analysis of Archetypal Entities in the Marketing Domain: Personas and Related Concepts

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Abstract. *Archetypal entities are widely applied in the marketing domain as fictional representations of customers and market segments. They are used by marketers in the task of understanding the customers' needs, wants and demands, and as drivers for marketing strategies. However, archetypes offer many challenges concerning their proper representation and utilization due to difficulties in meaning consensus and boundaries definition. In this work, we identified some archetypal entities and we examined their relations with other concepts in the marketing domain. We also reviewed some foundational and complementary theories pointing directions toward an ontological analysis on the subject.*

1. Introduction

Archetype definitions can be found in the dictionary as "the original pattern or model of which all things of the same type are representations or copies" (archetype, 2018a) and also as a "very typical example of a certain person or thing." (archetype, 2018b). Other definitions comprise specific domains such as in the Jungian psychoanalysis theory, representing a "primitive mental image inherited from the earliest human ancestors, and supposed to be present in the collective unconscious", or in literature, art and mythology as a "recurrent symbol or motif", e.g. "mythological archetypes of good and evil".

Semantic challenges start to arise from the fact that archetypal entities in different domains may share the same name, even when they do not represent the same concept. For example, in the psychology domain, Jung (1953) defines *Persona* as an "arbitrary segment of collective psyche", but the term has different meanings in other domains, as will be illustrated in the following examples. In addition, even in the very same domain it is possible to find different definitions and uses of the same term, as is the case with the design domain in which there are several specializations of the archetypal entity *Persona* (Floyd, Cameron, & Twidale, 2008). Finally, many distinct names are used in the academic and trade literature to refer to the *Persona* entity within the marketing domain, sometimes representing the exact same concept and, in other instances, referring to slightly different meanings. For example, the terms *customer persona*, *marketing persona*, *target persona, and buyer persona* are used either as synonyms or as specializations of the broader *Persona* concept.

Kotler & Keller (2016) define *Personas* in the marketing domain as "detailed profiles of one, or perhaps a few, hypothetical target consumers, imagined in terms of demographic, psychographic, geographic, or other descriptive attitudinal or behavioral information". In the design domain, Cooper (2004) defines *Personas* as the

"hypothetical archetypes of actual users", a construct whose purpose is to provide a description of the user and of what he wishes to accomplish. The author also emphasizes that, although *Personas* are imaginary, they must be represented with significant rigor and precision, being defined in terms of their personal attributes, habits and goals. He also states that *Design Personas* and *Marketing Personas* are not the same and that they have different purposes: while *Marketing Personas* are built upon demographics and distribution channels (shedding light on the sales process), *Design Personas* are based purely on users, enlightening the solution development process. In addition, he further elaborates on the distinction, calling *User Persona* the design related *Persona* that represents the actual user of the product or service being designed, and *Buyer Persona* the marketing related *Persona* who acts as the buyer of the product or service. Sometimes both *Buyer Personas* and *User Personas* can be representations related to the same person (when the buyer is also the user), but it is not uncommon to see different real persons as instances related with only one of the different *Personas*, like when a parent buys something for his/her children, or when a manager buys some solution that will be mostly used by workers of a specific division or function in the company and that may not include himself (the manager) as an user.

Both for the *Marketing Persona* and for the *Design Persona*, the representation of their characteristics (demographic, psychographic, geographic, etc.), behaviors (preferences, buying patterns, decision biases, etc.) and propositional attitudes (beliefs, desires, and intentions, among others) is a challenging task and could also use help of formal representations. Also, since marketing and design domains are closely related it is of great importance to better define the interfaces between them. Further, all these presented matters could benefit from a precise account of the archetypal entities, of the nature of their relations with their real-world counterparts, and of their connection with other entities within the domains. A broader investigation of these concepts, as well as their similarities and differences in each domain could help both researchers and practitioners, not only in understanding their correct utilization, but also motivating insights and fostering the development of new tools, frameworks and methodologies. For example, as shown in Griffo, Almeida, Guizzardi, & Nardi (2017), Nardi, Falbo, & Almeida (2014), and Azevedo et al. (2013), a solid conceptual foundation can serve to inform the design of (domain-specific) languages or representations approaches to extend them in the path to support their users in their tasks.

For our intended work, we believe that conceptual modelling can be used as a means to address the required formalization. Falbo, Guizzardi, Gangemi, & Presutti (2013) explain that it can help "make a clear and precise description of the domain elements for the purposes of communication, learning and problem solving" assisting "humans in tasks such as meaning negotiation and consensus establishment", as well as possibly being used as guidance for the development of ontology design specifications and operational ontologies. Thus, in this paper we examine a number of concepts and theories that could serve as ontological foundations and we propose some directions in the conception of an ontology regarding archetypal entities in the marketing domain. We also believe in the potential to complement recent works of ontological analysis related to competition (Sales, Guarino, Guizzardi, & Mylopoulos, 2018), value proposition (Sales, Guarino, Guizzardi, & Mylopoulos, 2017), and value ascription (Andersson, Guarino, Johannesson, & Livieri, 2016). In these contexts, we can contribute by providing new components and viewpoints related to the representations

of the market (including its segmentation and related archetypal entities), and thus enlightening future works toward the evolution or integration of these ontologies.

This paper is further structured as follows: Section 2 briefly reviews the literature on the role of archetypal entities in the marketing domain. This allows us to identify in section 3 the concepts that should be focus of ontological analysis. Section 4 reviews some of the scarce literature on ontologies that cover similar topics. Section 5 identifies some foundations that can support us in ontological analysis, and finally section 6 presents concluding remarks and outlines the path for further investigation.

2. The Marketing Domain and its Archetypal Entities

Marketing is said to be about identifying and meeting human and social needs, while marketing management is "the art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value" (Kotler & Keller, 2016). For Drucker (2008), "the aim of marketing is to know and understand the customer so well that the product or service fits him and sells itself". The marketing process can be divided in five sub-processes: (i) understanding the marketplace and customer needs and wants; (ii) designing a customer value-driven marketing strategy; (iii) constructing an integrated marketing program that delivers superior value; (iv) engaging customers, building profitable relationships, and creating customer delight; and (v) capturing value from customers to create profits and customer equity. In this paper we are interested in the first step of this process, and therefore we will focus on the understanding of the *market* and of the customer *needs* and *wants*. The *needs* can be interpreted as "states of felt deprivation" and include physical, social and individual needs inherent of humans. The *wants* can be understood as the *needs* shaped in terms of culture and individual personality, representing preferences concerning the specific means by which their *needs* can be fulfilled. Finally, the *wants* become *demands* when backed by buying power, i.e. by the match between customers' *wants* and their resources. In this scenario, a *market* is defined as the set of actual and potential *buyers* of a *product or service* that share specific *needs* or *wants* which can be satisfied through *exchange relationships* (Kotler & Armstrong, 2017).

Kotler and Keller (2016) explain that companies address customer *needs* by providing a *value proposition* (set of *benefits* that provides *needs satisfaction*), which is materialized through an *offering* (combination of products, services, information and experiences). *Offerings* can lead to a *brand* (an *offering* from a known source such as a specific company) which forms an image in people's minds by many kinds of associations. The authors further delineate the existent relationships between an *industry* (collection of *sellers*) and a *market* (collection of *buyers*). While *sellers* send *products/services* and communications (such as advertisements) to the *market*, in return they receive money and information (like consumers attitudes and sales data) from the market. In addition, they reveal the process by which the *marketers* do market *segmentation* according to *geographic*, *demographic*, *psychographic*, and *behavioral* differences, electing the greatest opportunities (*target markets*). For each *target market* one *offering* is developed, aiming to generate a *positioning* strategy for the delivery of some key *benefits* (*value proposition*) to *target buyers* through *marketing channels*.

Blank & Dorf (2012) explain that marketers and investors evaluate a market by dividing it in: *Total Addressable Market*, that represents the total existent customers that

could benefit from the company product/service; *Served Available Market*, that is composed of the potential customers that the company can reach with its *channels*; and *Target Market*, aggregating the most likely buyers. Schiffman & Wisenblit (2015) clarify that *segmentation*, *targeting* and *positioning* are the foundational processes of marketing. In this regard, *segmentation* was defined as the process of dividing a *market* into subsets in a way that each subset represents a *consumer group* with shared *needs* that are different from those shared by other groups. In addition, *targeting* consists on the selection of the most attractive *segments*. Kotler & Armstrong (2017) presents four targeting strategies from the broader to the narrowest: the undifferentiated (mass) marketing, the differentiated (segmented) marketing, the concentrated (niche) marketing and the micromarketing (local or individual marketing). They clarify that when using a niche strategy, instead of going after a small share of a large market, a firm goes after a large share of one or a few smaller niches. Also, niching lets smaller companies focus their limited resources on serving niches that may be unimportant to or overlooked by larger competitors. Kotler & Keller (2016), present a *niche* as "a more narrowly defined customer group seeking a distinctive mix of benefits within a segment".

In the field of segmentation Jenkinson (1994) introduced a fine-grained approach toward the utilization of *grouping* and *alignment* concepts, which are more powerful than *segment* and *target*. He stated that to segment implies dividing a given population into portions based on appropriate factors, while grouping means finding and collecting together people who share common characteristics. Later, his ideas evolved to the concept of *CustomerPrints* defined as "day-in-the-life archetype descriptions", sort of imaginal characters that represent customer communities (Jenkinson, 2009). Dudler et al. (2014) recommends an alternative strategy for market segmentation in the place of the traditional geographic focus to be applied by consumer goods companies with the use of *market archetypes* and *consumer archetypes*. A *market archetype* is "a group of markets with a similar commercial environment, route to marketing, consumer and customer types, KPIs, and capabilities", while *consumer archetypes* is "a group of consumers that transcend geography and share similar needs and preferences". They also suggest to group *target personas* into *consumers archetypes*. Blank & Dorf (2012) also suggest the adoption of *customer archetypes* as the fictional representation of target customers, composed of detailed descriptions of customer traits including demographics and psychographics, among other customer data, to form a "descriptive profile and an entire story about a typical type or group of the company's customer(s)". They also define six *customer types*: end users, influencers, recommenders, economic buyers, decision-makers, and saboteurs.

In the design domain Cooper (2004) crafted the term *Persona* as "hypothetical archetypes of actual users", also differentiating the *user persona* of the design domain from the *buyer persona* of the marketing domain. For Revella (2015) *buyer personas* are "examples or archetypes of real buyers that allow marketers to craft strategies to promote products and services to the people who might buy them". She also alerts for the fact that the growing interest in *buyer personas* over the past decade has resulted in doubts concerning its effectiveness, mainly fostered by confusion about how they are created and used. The author discerns the *buyer persona* from the *buyer profile* (another helpful consumer representation to help thinking about target buyers as real people). The main distinction between both is that the latter lacks buying insights (presented in the buyer persona as a narrative of the buyer's story concerning his buying experiences).

The review of the marketing literature allowed us to identify the following questions for further investigation with the support of ontological analysis: (i) what is the nature of the archetypal entities in the domain (personas, archetypes, segments, and niches), and how are they related to real-world entities? (ii) which structures of categories and boundaries are best suited for the problems being addressed by marketers while defining and refining their strategies (segmentation, targeting and positioning), while generating fictional entities (archetypes and personas), and while classifying real-world actual and potential customers? (iii) how the buying choice factors of humans can be represented to consider the decision process over measurable quantitative information (product features and specifications, pricing, buying power), the individuality expressed through preferences concerning qualitative dimensions, and the biased and irrational behavior inherent to the human nature?

3. Preliminary Domain Analysis

In this section, we synthetize some selected concepts found in the literature concerning the archetypal entities of the marketing domain (Table 1). The selected literature was comprised of a mix of the works of reference authors, consecrated textbooks, recent industry reports and published research papers, besides popular trade literature broadly employed by practitioners in the field. Following, we represent the concepts and their relations in a straightforward schematic (Figure 1) in accordance to their definitions and trying to minimize necessary adjustments. Finally, we briefly discuss some topics that caught our attention and some aspects related to our research questions.

Table 1. Concepts related to the archetypal entities in the marketing domain

Concept	Definition
needs	states of felt deprivation (physical, social and individual) (Kotler & Armstrong, 2017)
wants	*needs* shaped in terms of culture and individual personality, representing preferences (specific means by which *needs* can be fulfilled) (Kotler & Armstrong, 2017)
demands	*wants* backed by buying power (resources) (Kotler & Armstrong, 2017)
value proposition	benefits to satisfy the *needs* and *wants* of customers (Kotler & Keller, 2016)
offering	materialization (products or services bundle) of a *value proposition* (Kotler & Keller, 2016)
channel	enable the delivery of benefits to the customers (Kotler & Keller, 2016)
total addressable market	total existent customers that could benefit from the company product or service (Blank & Dorf, 2012)
served available market	potential customers reachable by company through *channels* (Blank & Dorf, 2012)
target market	aggregation of the most likely buyers (Blank & Dorf, 2012) selection of the most attractive *market segments (*Schiffman & Wisenblit, 2015*)*
market	set of actual and potential buyers of a product/service that share specific *needs*/*wants* which can be satisfied through exchange relationships (Kotler & Armstrong, 2017)
market segment	*consumer group* with shared *needs* that are different from those shared by other groups (Schiffman & Wisenblit, 2015)
niche	more narrowly defined customer group seeking a distinctive mix of benefits within a *market segment* (Kotler & Keller, 2016)
market archetype	group of markets with a similar commercial environment, route to marketing, consumer and customer types, and capabilities (Dudler et al., 2014)

consumer archetype	group of consumers that transcend geography and share similar *needs* and preferences (Dudler et al., 2014)
customer archetype	fictional representation of target customers composed of detailed descriptions (demographics, psychographics, among other customer data) (Blank & Dorf, 2012)
user (consumer) persona	hypothetical archetypes of real users (Cooper, 2004)
buyer (customer) persona	archetypes of real buyers that allow marketers to craft strategies to promote products and services to the people who might buy them (Revella, 2015)
	hypothetical target consumers in terms of demographic, psychographic, geographic, or other descriptive attitudinal or behavioral information (Kotler & Keller, 2016)

The preliminary schema presented in Figure 1 illustrates important relations and highlights the interplay between concepts. There is a latent need for proper differentiation concerning categories, collections, kinds, roles and related ontological affairs which could be addressed from the perspective of a foundational ontology such as UFO (Guizzardi, Wagner, Almeida, & Guizzardi, 2015). For example, the portrayal of consumers and customers (also their types) as roles of a possible more general client entity can be explored. Further, there are open questions concerning the nature of the relations between fictitious entities such as archetypes (in a collective dimension) and personas (in an individual dimension) and their real-world counterparts. We also believe that the market concept and its bundled entities (market segment, served available market, target market, niche, customer, and consumer) deserve further investigation of their meronomic relations and aspects such as pertinence criteria and definition of boundaries. Finally, attributes can be identified to better characterize each of the concepts, with expected challenges on the subjectivity of needs, wants and demands.
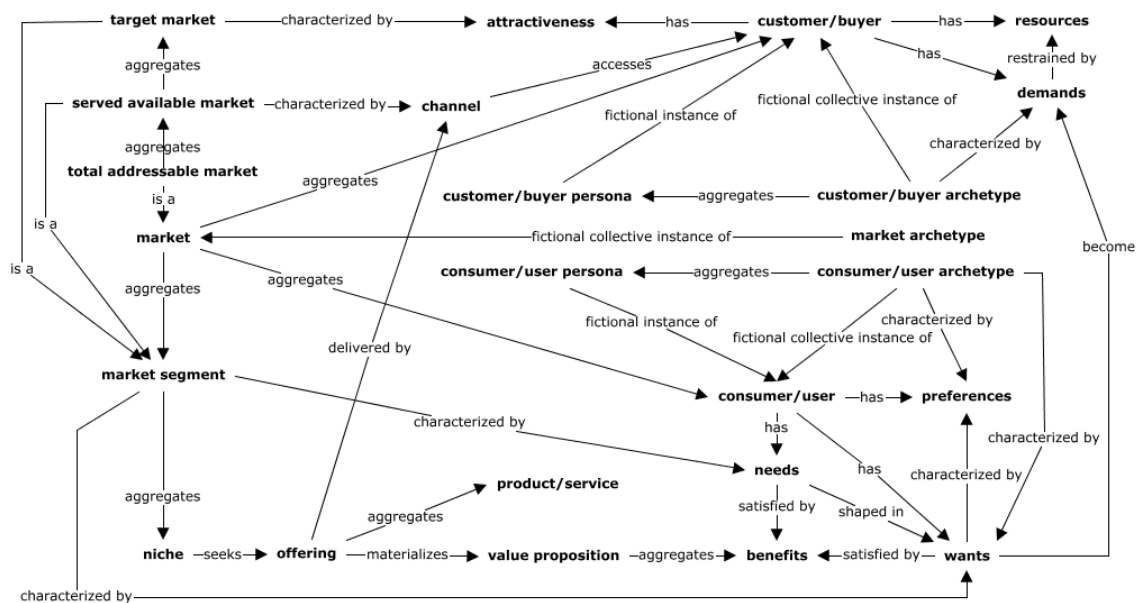

Figure 1. Preliminary schema representing the relations among the concepts related to the archetypal entities of the marketing domain

4. Extant Literature

A preliminary effort for the identification of *Persona* kinds, attributes, and characteristics was made by Floyd et al. (2008). They were motivated by the

communication problem that emerges from the use of different concepts under the same labels within the same research domains. In their work they differentiated the *marketing persona* from the *design persona*, focusing on the latter for further analysis. They identified six kinds of *design personas* and classified each of them in terms of their characteristics, also comparing them with a broader concept of *marketing persona*.

Salma, El-Kadiri, & Buraga (2012) and Negru & Buraga (2013) developed the Ontology of *Personas* (PersonasOnto) for the User-Centered Design process, to be applied within semantic web technologies, generating semantic annotation templates for *Personas* as a complementary tool to usability testing schemas. Since their focus was on the design process (rather than marketing activities), they have not addressed the relation between personas and the concerns of segmentation, targeting and positioning. Instead, they have explored the methods of User Persona (user requirements communication) and Usability Testing (ease of use measurement) as tools to assist the design process and product development.

Sim & Brouse (2014) developed the OntoPersonaURM, an Ontology-Based Persona-Driven User Requirements Modeling Model composed of three interrelated ontologies: *Persona* Ontology, Behavioral-GST (Behavioral-Goal-Scenario-Task) Ontology, and Requirements Ontology. It aims to foster common understanding of users' needs and behaviors among developers and stakeholders. It was built in the form of a UML class diagrams and specifications in the Protégé-Frames ontology knowledge management environment. Similarly, to PersonasOnto, the focus was on the design persona rather than its relation to marketing concerns. They have focused on the construction of ontologies for explicit specification of personas as representations of users' knowledge and characteristics, not approaching issues concerning the buying decision process of customers, nor the market segmentation process of marketers.

The same observation applies to the work of Anvari & Tran (2013). They proposed the design of a persona ontology framework through a hierarchical representation for user-centred design professionals. Although the term "ontology" is used in their work, they have not presented a rigorously specified model for the domain.

Beyond those efforts focused on design persona, there have been some attempts to build more general enterprise ontologies including marketing concepts (Osterwalder, 2004; Uschold, King, Moralee, & Zorgios, 1998). Although some of these refer to the notions of markets and customers, they do not attempt at an account of the marketing archetypal entities and their related concepts. Thus, there is an opportunity for research that can bring clarity on the matter and fill this gap in the literature.

5. Complementary Theories toward the Ontological Analysis

So far, we have identified that an ontological analysis of the domain ought to clarify: (i) the nature of the concepts and their relations, including relations between the (imaginal) archetypal entities and their 'mapping' to real-world entities; (ii) the issues concerning categorization, boundaries, pertinence to groups and representativeness that are extensively used as strategy drivers in the domain; and (iii) the various phenomena that govern the decision processes of marketers and customers, as well as the multiple factors that affect the interplay between industries and markets over time. In this section, we identify some theories that can support us in this research agenda.

5.1. Categories and Archetypal Representations

The Prototype theory (Rosch, 1973) states that there are *natural prototypes* that can be central or peripheral to a known category and whose utilization enhances the learning about the category, leaning to be used as the reference for comparisons concerning categorization. Even when the *natural prototype* is not a central tendency of the category, they are likely to be perceived as sharing the most typical characteristics with the members of the category. Following the Prototype theory ideas, Gardenfors (2004) introduces a framework for knowledge representation in which Conceptual Spaces consist of a number of geometrical quality dimensions resulting in regions that denote concepts. Thus, the process of categorization happens through comparisons using the notions of similarity and distance between concepts. By its turn, the Exemplar theory stablishes that "an observer stores the individual training exemplars of a category in memory" in contrast with Prototype theory in which "the observer forms an abstract summary representation of a category" (Nosofsky, 1992). In both theories classification reasoning is based on the similarity of an item to the underlying category representation.

These cognitive theories were developed in an attempt to represent how human mind is able to learn, construct and integrate new concepts in category schemes. They can shed light on the empirical processes used by marketers while deciding about the election of characteristics to define a category (in the processes of market segmentation or *Persona* depiction*)*. We believe they could assist us in the tasks of modelling markets, segments, niches, archetypes (in a collective dimension), personas (in an individual dimension), customers and consumers, and also their aggregation relations, once for several of these concepts there are challenges concerning boundaries definition and pertinence criteria. The notions of collections, clusters, comparison references and boundary fuzziness, as well as of distances between concepts and exemplars similarity can help address some of these issues. Rosch (1978) explains that categories tend to be viewed as being as separate from each other and as clear-cut as possible by means of formal, necessary and sufficient criteria for category membership. She further elaborates presenting that another way to achieve separateness and clarity of actually continuous categories is by conceiving of each category in terms of its clear cases rather than its boundaries, once categorical judgments become a problem only if one is concerned with boundaries. Thus, for some concerns, the conventional mereological approach and logical reasoning technique may not be sufficient, thus requiring the use of these complementary theories to find better ways for their proper conceptual representation.

5.2. Needs, Wants and Demands

Intentionality is "the power of minds to be about, to represent, or to stand for, things, properties and states of affairs" (intentionality, 2018). It leads to action when directed toward some goal or thing as a result of reasoning based on propositional attitudes such as beliefs, desires and intentions (Quine, 1956; Searle, 1983; Bratman, 1987; Grice, 2001). These concepts are of great relevance while modelling consumer behavior and decision processes regarding the fulfillment of consumer needs, wants and demands, and could use help of a foundational ontology of intentional and social entities such as UFO-C that addresses notions such as beliefs, desires, intentions, among others (Guizzardi, et al., 2015). In addition, human irrationality is also a subject of great importance concerning consumers' behavior. The pioneering works of Kahneman & Tversky (1979) and Kahneman, Slovic & Tversky (1982), besides the recent works of

Ariely (2009) and Thaler (2017) are examples of relevant research on the subject. Thaler was awarded in 2017 with the Nobel Prize in Economics for having "incorporated psychologically realistic assumptions into analyses of economic decision-making. By exploring the consequences of limited rationality, social preferences, and lack of self-control, he has shown how these human traits systematically affect individual decisions as well as market outcomes" (Royal Swedish Academy of Sciences, 2017). Once the buying decision process is affected by social preferences and human biased reasoning it is important to take into account how these phenomena are manifested by the real-world customers and also how they can be represented in their archetypal (imaginal) representations as individuals (e.g. personas) and as bundled entities (e.g. customer archetypes and market segments). Therefore, in an ontological analysis these irrationality patterns must be considered in conjunction with demographic, psychographic, geographic, and other descriptive attitudinal or behavioral information for a more precise representation of reality.

Finally, the match between market offerings and consumer needs, wants and demands can be clarified with theories such as Affordances (Gibson, 1979) and Powers (Molnar, 2007). Originally, affordances explain the (environmental) niche phenomena in which there is a match between a specific animal (and its characteristics, preferences and behaviors) and a specific environment. In this view, the match happens once some properties of the elements that compound the environment enable dispositions that fulfill specific animal needs (e.g. shelter and nutrients). This theory was introduced in the design domain by Norman (1999) focusing on the perceived affordances of objects that indicates its proper operation and that can be explored by designers in the path toward better usability. In a similar perspective, *powers* are intrinsically dispositional properties inherent to things in such a way that an object may have the power of manifesting some behavior or utility under certain stimuli. Both theories may help on the ontological analysis concerning the buying decision phenomena in the marketing domain by enlightening the choice process and product suitability perception.

6. Conclusion and Future Work

Reasoning systems for marketing can benefit of ontology applications ranging from human meaning negotiation and consensus establishment for the design of strategies and systems, to the utilization of ontology-based databases (enhancing data retrieval, analysis and integration), metadata annotation and mapping of ontology classes to database schemas. In addition, activities such as sales leads classification and scoring can use automated reasoning to gather insights to avoid missing sales opportunities and to better allocate resources. Also, the increasingly customer experience personalization and client base fragmentation require new tech-aided approaches according to recent industry reports. Chui et al. (2018) point that the highest potential impact from using Artificial Intelligence (AI) is in marketing and sales, especially in industries that generate large data sets due to frequent digital interactions with customers. The report highlights practices such as defining ontologies and managing models over time to deal with challenges concerning data handling. Furthermore, in a survey by IBM (2018), executives expect that AI will help best in addressing challenges such as fully understanding of customer needs, successfully prospecting new markets and targets, and effectively managing customer/lead strategy. Gartner (2018) also recommends the combination of *Personas* with customer databases as key resources in marketing.

With this context in mind, we have done a preliminary work of identification of archetypal entities and the problems concerning their representations in the marketing domain, as well as of some theories that can be used as the basis for an ontological analysis. The preliminary schema (Figure 1) introduces a synthetized visual representation that contributes to the understanding of the main concepts of the domain and the relations between them. It helped us to identify the main targets of an ontological analysis to be made concerning the bundled concepts (e.g. market segments), the imaginal entities used by marketers (e.g. archetypes and personas), and the components that interfere in the buying decision process (e.g. benefits, value proposition, offering, channel, needs, wants, demands, preferences, resources). This will be the basis for the construction of a well-founded ontology following an ontology-driven conceptual modelling approach. This way we expect to elucidate in a near future the research questions presented in this paper.

We see our forthcoming work as having the potential to complement recent works toward ontologies about business domains (Sales et al., 2018; Sales et al., 2017; Andersson et al, 2016) by providing new components and viewpoints related to the representations of the market elements, thus having the potential to enlighten future works toward the evolution or integration of these ontologies. We also envision contributions in the development of domain-specific languages, once a theoretical well-founded analysis can help inform the design of language elements and their combinations. Successful applications of well-founded ontologies for language re-design reveals the fruitfulness of this research direction (Griffo et al., 2017; Nardi et al., 2014; Azevedo et al., 2013).

Acknowledgments

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