



From consumers to consumption: The socio-technical assemblage of the persona in market segmentation

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ARTICLE INFO

Keywords:

Market segmentation
Audience segmentation
Customer segmentation
Assemblage thinking
Persona

ABSTRACT

Market segmentation is a fundamental concept in marketing research and practice, which, over the past seventy years, has become synonymous with customer segmentation—the act of classifying homogeneous consumer groups and representing them as idealized personas. However, customer segmentation and market segmentation are not identical, as the former focuses on different groups of people and the latter on strategically distinct markets. To address this issue, this paper contributes to marketing research by reclaiming market segmentation's original meaning: distinguishing markets. Using assemblage thinking as an analytical tool, the paper proposes that socio-technical personas are proxies that represent markets as assemblages constituted by people (consumers), spaces, devices, and agendas that afford recurring practices (consumption). Drawing from an illustrative case of chocolate consumption, the study builds upon a recent ontological shift in consumer research and strategy that distributes agency from the consumer to a socio-technical assemblage that intertwines as a consumption practice is actualized.

1. Introduction

Market segmentation is one of marketing's most distinctive techniques (Dibb & Simkin, 2009; Steenkamp & Ter Hofstede, 2002; Wedel & Kamakura, 2002). Introduced by Wendell Smith (1956), market segmentation distinguishes divergent demand curves, each characterized by an internal homogeneity and contrasting heterogeneity from other market segments (Yankelovich & Meer, 2006). Segmenting markets, in other words, means identifying markets that are sufficiently distinct, each requiring unique strategies and product offerings. While Smith focused specifically on markets when discussing segmentation, the emphasis has shifted over time from segmenting markets to segmenting customers,¹ with the result that segmentation has now become a practice of identifying groups of actual or potential customers (Bock & Uncles, 2002; Foedermayr & Diamantopoulos, 2008).

Consumer and market segments are not always equivalent (Diaz Ruiz & Kjellberg, 2020, p. 435). According to Salminen et al. (2023, p. 679), the segmentation literature often assumes that *customer segmentation* overlaps with *market segmentation*, yet “[p]redominantly, we focus on

customer segmentation, not market segmentation. Although these two concepts appear similar, they are not ... the former [market segmentation] deals with the overall market and the latter with the specific, current customer base.” What both of these segmentation types have in common is that their outcome is the *persona*, which is a fictitious character representing or embodying the idealized characteristics of a group of people (Aimé et al., 2022; Revella, 2015).

Merging market and customer segmentation has led to a fundamental misinterpretation of Smith's original concept because it assumes that classifying consumers into homogeneous groups is the only way to identify distinct demand patterns (Wedel & Kamakura, 2002). However, previous research shows that dividing consumers in terms of their demographics or preferences is only one way to identify distinct markets (Diaz Ruiz, 2013). Alternative approaches include the study of market practices (Kjellberg & Helgesson, 2007), for instance, identifying the distinct markets that result from classifying cannabis markets through medical and recreational uses (Kjellberg & Olson, 2017).

Reducing market segmentation to the production of distinct consumer subjects limits extant understandings of market segmentation in

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¹ A customer is a past or present buyer of a focal firm's products and services. Although the literature on customer segmentation historically uses the term customer, the current research focuses mainly on consumer markets and the terms customer and consumer are used interchangeably when referring to segmentation.

three ways. First, customer segments are intended to represent stable categories of people (Visconti et al., 2020), emphasizing the subject rather than the utility of the exchange. This is reflected in commonly accepted segmentation criteria, such as *exhaustiveness*, which requires that a customer belong to only one segment (Foedermaier & Diamantopoulos, 2008). However, different consumption motivations (e.g., seeking variation, sustainability, or hedonism) may drive the same consumer to engage in different consumption practices, leading them to shift between customer segments—even when consuming the same object, for example organic vegetables. Second, the methods designed for segmenting customers (Wedel & Kamakura, 2000; Smith, 2017) can overlook divergences in how products and services are used and thus fail to identify how new consumer practices emerge and create new markets (Akaka, Schau & Vargo, 2022; Diaz Ruiz & Makkar, 2021). Third, since *personas* represent the outcome of both customer and market segmentation, these anthropomorphic representations may focus on the phenomenology of the consumer subject rather than their practical affordances, which in turn has implications to how marketing strategy is developed. Recent work in consumer research echoes these concerns; Thompson (2024) argues that it is unfeasible to distinguish agency between the consumer subject and the affordances of socio-technical networks that enable it, such as in the case of algorithmic consumption on social media. In his essay, “The end of consumer research as we know it,” Thompson (2024) argues that consumers can be understood as distributed networks rather than subjects. These key limitations, we argue, demonstrate the need for an approach that reclaims Smith’s emphasis on markets when creating *personas*.

To address these limitations, we pose the following research question: *How can consumer segmentation be reconceptualized as a socio-technical persona in market segmentation?* To this end, we adopt a socio-technical theoretical perspective called assemblage thinking (e.g., Diaz Ruiz et al., 2020; Molander, Ostberg & Peñaloza, 2023) and propose an ontological shift in the marketing strategy and segmentation practices. A socio-technical analysis is an approach that considers how human, material, and spatial components interact with one another and catalyze recurring consumption practices.

Empirically, the study illustrates how the socio-technical *persona* segments can be constructed through chocolate consumption. In addition to its large economic significance, which is expected to reach US\$ 316.30bn by 2028 (Wunsch, 2023), chocolate appears as both a quotidian and festive consumption object entwined with a diversity of assemblages. Thus, it offers a fruitful empirical entry point for highlighting the heterogeneity and eclectic nature of a market segmentation. Consider, for example, the consumption of artisanal chocolate. From a traditional *persona* segmentation perspective, a marketing researcher could represent this segment with the *persona* of a thirtysomething woman who is a gourmet with a good income. Adding socio-technical layers to this interpretation allows us to observe the importance of the other elements in this assemblage—including people (e.g., friends sharing the chocolate), devices (e.g., having wine with the chocolate), spaces (e.g., at home), and agendas (e.g., having fun and relaxing)—which intertwine as the practice is carried out.

Our study makes two major contributions to the segmentation literature by following the “revelatory–disruptive–emergent” pathway introduced by Lucarelli et al. (2023). First, we update Smith’s original notion of market segmentation by elaborating the conceptual differences between market, customer, audience, and *persona* segmentation. Second, we propose a new theorization, that of a socio-technical approach, to market segmentation. We utilize assemblage thinking to augment customer segmentation to include aspects of markets by creating socio-technical *personas* that 1) update market segmentation to reflect consumption practices, 2) incorporate social-spatial-technical-material elements and not just people, 3) emphasize the interdependencies of these elements, and 4) reclaim the market aspect of market segmentation.

The rest of the paper proceeds as follows. After this introduction, we

present a three-part conceptual framework outlining the content, evolution, and purpose of market segmentation, after which we focus on *persona* segmentation, and then proceed to discuss the socio-technical approach to marketing research known as “assemblage thinking.” We then introduce the methods. The findings provide a non-exhaustive categorization of chocolate market segments in which the socio-technical *personas* we describe represent heterogeneous assemblages that induce consumption. Finally, the discussion states the paper’s conceptual contribution, suggests profound managerial implications by arguing in favor of an ontological shift in the marketing strategy and proposing a cyclical process for carrying out socio-technical *persona* segmentation in practice, and makes concluding remarks.

2. Conceptual Underpinnings

2.1. False Equivalences between market segmentation and customer segmentation

In 1956, Wendell Smith proposed market segmentation as a business practice that identifies distinct *markets*, each requiring an independent commercial strategy. Smith’s landmark publication made him one of the earliest proponents of market segmentation. According to Smith (1956, p. 4), managers should identify demand heterogeneity as the basis for their strategies: “The marketer may determine that it is better to accept divergent demand as a market characteristic and to adjust product lines and marketing strategy accordingly.” For example, according to Smith’s logic, passenger and freight trains require entirely different commercial structures even though they both offer transportation services. Indeed, market segmentation “implies an ability to merchandise to a heterogeneous market by emphasizing the precision with which a firm’s products can satisfy the requirements of one or more distinguishable market segments” (Smith, 1956, p. 4). Through market segmentation, a company can effectively create unique strategies tailored to different demand curves.

Although market segmentation seems to align seamlessly with customer segmentation, the concepts of market and customer are, in fact, not equivalent in Smith’s work. Indeed, Smith (1956) specifically chose the word “market” over “customer” in his landmark paper, using the term “market” 64 times, compared with only five appearances of “consumer” and only one of “customer.” For Smith (1956, p. 4,6), market heterogeneity refers to differences in exchange, symbolic, or normative practices. An example of market heterogeneity in chocolate consumption is that an artisanal chocolate crafter can produce luxury offerings at a premium price without necessarily competing with chocolate snacks sold in supermarkets, since they represent different markets.

Despite Smith’s emphasis on markets over consumers, marketing researchers have come to conflate consumers with markets (Bock & Uncles, 2002). For Beane and Ennis (1987, p. 20), market segmentation is “the act of dividing the market into distinct and meaningful groups of buyers who might merit separate products or marketing mixes.” In this definition, segmenting markets means identifying distinct groups of buyers and mapping their preferences (Dickson & Ginter, 1987) as they are expected to behave in the same way or have similar needs (Bennett, 1995, pp. 165–166). For Tynan and Drayton (1987, p. 301), doing market segmentation in practice means delineating “sets of buyers” according to “geographic, demographic, psychological, psychographic, or behavioral variables,” which then become the targets of a marketing plan.

The false equivalence between customer segmentation and market segmentation has stabilized over the years (Venter et al., 2015). For example, Kotler and Armstrong’s textbook (2014, p. 192, emphasis added) argued firms divide the market “into smaller segments of *buyers* with distinct needs, characteristics, or behaviors that might require separate marketing strategies or mixes.” Textbooks teach the segmentation process through the S-T-P framework, where *segmentation* means

classifying consumers, *targeting* means selecting viable commercial targets, and *positioning* means communicating to differentiate from the competition (Dibb, 1998; Dibb & Simkin, 1991).

The growing importance of distinguishing between *customer segmentation* and *market segmentation* echoes a recent turn in consumer research that identifies the increasing difficulties in classifying distinct consumption patterns by categorizing consumer subjects (Arnould, 2024; Belk, 2024; Thompson, 2024). According to Thompson (2024), rapid advances in digital technologies require a relational understanding that emphasizes not only social interactions, but also technical and material interactions. The reason behind this is that it is not always feasible or desirable to distinguish between the consumer subject and the affordances that make consumption possible. Accordingly, consumer researchers, especially those advocating flat ontology (Franco et al., 2022), are placing greater importance on the qualities of the consumer subject immersed in a consumption system rather than the sensitivities of a decontextualized consumer subject.

The emerging understanding of consumption as distributed in networks calls into question multiple axioms taken for granted in the current literature on segmentation. Among them, well-established segmentation principles assume causation and stability between the preferences of the consumer subject and the ensuing consumption patterns. As the centrality of the consumer subject flounders, so do the established metrics that promise causality between the resulting segments, personas, and distinct demand patterns. The literature argues that personas must be *exhaustive* so that one consumer belongs to one segment, *identifiable* so that each persona is distinctive, and *stable* through time (Foedermayr & Diamantopoulos, 2008). In addition, personas must be *measurable* and *substantial* in quantity, and *actionable* and *responsive* in terms of reliably responding to marketing stimuli (Foedermayr & Diamantopoulos, 2008; (Dibb & Simkin, 2009)). To overcome these challenges, scholars have called for more research on how segmentation theory differs from practice (Venter et al., 2015) and voiced the need to renew its strategic relevance (Jenkinson, 2009).

In conclusion, the epistemological distance between *customer segmentation* and *market segmentation* raises questions about why and to what extent they share the same outcome, the *persona*. Whereas marketing practitioners use personas for convenience, marketing researchers should delve deeper to learn more about whether their practical advantages convey the strategic depth of market segmentation. We thus turn to reviewing the concept of personas.

2.2. Personas: Categories representing distinct consumer groups

Personas are the socially constructed categorizations that cast what people say and do, including their identities, into the role of buyers and users in a market-based economy (Zwick & Dholakia, 2004). These categorizations often embody the characteristics of a market segment and are presented as fictitious characters—that is, personas (Aimé et al., 2022; Revella, 2015). Marketers often use personas as the targets for managerial action (Pridmore & Lyon, 2012), and their creation has become a key aspect of marketing work. Indeed, “marketers spend much of their time imagining and constructing consumers (...) casting consumers in different roles and turning them into actionable targets of action” (Cayla & Peñaloza, 2006, p. 458).

Persona use is so widespread that it has become a common practice in popular culture, overflowing onto the pages of glossy magazines, such as the creation of the *lumbersexual* segment (Diaz Ruiz & Kjellberg, 2020). News media and academics use personas to discuss current issues, including how *Latinx* vote (Soto Vasquez & Gonzalez, 2022), whether GenZ will change retail markets (Ng et al., 2021), and what working-class *chavs* intend to communicate by wearing counterfeit designer clothes (Nayak, 2006). Personas convey the illusion of realism via one peculiarity of marketing work: its insistence on naming them and developing background stories and illustrations. Indeed, marketing practice is notorious for its use (and overuse) of fictional

representations, often via neologisms like *millennials* (Howe & Strauss, 2000) and *hipsters* (Arsel & Thompson, 2011).

While personas are often merely imaginary or myths (Stern, 1995), marketing consultants portray customers as strange others that can only be known through sophisticated mathematical calculations. According to Lien (2004, p. 49), marketers “tend to portray consumers as if they were strangers, acting unexpectedly, in ways that are difficult to understand or foresee. This image of the consumer as unpredictable and unknown, reinforced partly by consulting agencies, serves to constitute an image of a consumer as someone you do not know.” The relentless efforts of gathering and modeling data that only marketing specialists can interpret reinforces the idea that “the consumer is an abstract figure in an abstract market” (Lien, 2004, p. 13). One example is how, in online settings, *audience* segmentation relies on *surveillance data* and *algorithms* to profile and extrapolate users’ behavioral patterns online (Salminen et al., 2023).

At the other end of the spectrum, managers are known to create imaginary constructs that represent users without fully deploying the formal methods and techniques developed in academic marketing, a practice that Diaz Ruiz & Kjellberg (2020) call “feral” segmentation. For instance, Arnould and Cayla (2015) demonstrate that some firms *fetishize* their target segments without using formal methods; instead, managers imagine their idealized consumer in a process that closely resembles the kind of magical thinking that tribal societies engaged in with totems (Arnould & Cayla, 2015, p. 1377).

In practice, designers (Pruitt & Grudin, 2003), software developers (Pruitt & Adlin, 2006), and user experience (UX) professionals (Bradley et al., 2021) use personas without conducting market segmentation. In other words, personas represent idealized users (Pruitt & Adlin, 2006) as a part of user-centered design (Miaskiewicz & Kozar, 2011) without necessarily applying the rigorous methods developed for market segmentation (Tonks, 2009).

Table 1 summarizes the key differences between segmentation variations. While market segmentation aims to distinguish markets, all the other variations—based on customers, audiences, and personas—utilize users as proxies for the core notion of markets.

The main limitation of persona segmentation is that personas represent customers as types of homogeneous people, leaving the “market” part of market segmentation in the background. Thus, the focus is on consumer groups (Bock & Uncles, 2002) consisting of abstract groupings of unrelated consumers that exist only artificially (Cova & Shankar, 2020), leaving aside categorizations that emerge organically in the marketplace, or “in the wild,” without the top-down techniques developed and sanctioned by marketing researchers (Diaz Ruiz & Kjellberg, 2020). One way to make personas represent markets is to infuse them with socio-technical descriptions; thus, we turn to assemblage thinking.

2.3. Assemblage Thinking: A Socio-Technical perspective

In consumer research, an increasing number of studies conceptualize consumption as an assemblage of people, things, and ideas. These studies, collectively known as assemblage thinking (Canniford & Bajde, 2016; Diaz Ruiz et al., 2020; Parmentier & Fischer, 2015; Preece et al., 2019), offer a theoretical perspective on how technology, sociality, and narratives enact action (Alhonnoro et al., 2020; Hill et al., 2014; Hoffman & Novak, 2018). As used in consumer research, this theoretical perspective blends insights from Actor-Network Theory (Bajde, 2013; Latour, 2005), Assemblage Theory (DeLanda, 2016; Deleuze & Guattari, 1987), Science and Technology Studies (Orlikowski & Scott, 2015a, 2015b), and Post-Humanism (Bettany & Daly, 2008; Syrjälä et al., 2016). Assemblage thinking explores action as an outcome of socio-material arrangements, which include digital technologies that enable consumption, and takes into account how these arrangements affect practices.

Assemblage thinking departs from more traditional approaches to

Table 1
A typology of segmentation variations.

Base of segmentation	Approach	Emphasis	Fields	Indicative reference
Markets	Different markets require their own commercial strategies.	Markets	Strategic marketing	Smith (1956)
Customers	Distinct and meaningful groups of existing or potential buyers.	Customers and consumers	Marketing management and industrial marketing management	Sunderland & Denny (2012)
Audiences	Tailored communication to similar groups of people.	Communication and messaging	Media and communication	Newton et al. (2013)
Personas	Archetypical users are imagined.	Usage patterns	Design, computer sciences, and user experience (UX)	Pruitt & Adlin (2006)

consumer behavior in two important ways (Franco et al., 2022; Hill et al., 2014). First, the idea of consumer behavior emphasizes human agency and anchors action in individual agency (Syrjälä et al., 2016), though researchers embed individual consumers in social patterns, rules, and norms, acknowledging that institutions constrain and guide their behavior. While assemblage thinking also stresses the importance of consumer patterns of activity, it also criticizes this approach. Contrasting with the emphasis on human agency, the assemblage view elevates the importance of non-human actors in generating new consumption patterns (Franco et al., 2022). In assemblage thinking, agency is thus distributed across a socio-material collection of people, things, and narratives, rather than being assigned only to human entities (Diaz Ruiz et al., 2020; Syrjälä et al., 2016). Consequently, technologies and devices do not merely constitute passive mediators that carry meanings (Belk & Sobh, 2019); instead, the associations between humans and non-humans result in active and novel outcomes (Alhonnoro et al., 2020). The socio-technical perspective, in particular, reveals how digital technology does not simply mediate action but comprises a powerful actor in assemblages (Hoffman & Novak, 2018; Orlikowski & Scott, 2015a, 2015b). As Morgan-Thomas et al. (2020) have demonstrated, the socio-technical view shows how technological and non-technological actors interact to stimulate consumers' actions.

Secondly, assemblage thinking proposes that any form of social activity can be studied through its practices—arrangements of doings and sayings—in association with material devices, ideas, and other people (Diaz Ruiz & Makkar, 2021). These elements combine into assemblages that represent bundles of recursive associations that generate recognizable and organized activity patterns. Whereas the consumer behavior approach is grounded in individual beliefs and cultural idiosyncrasies, an assemblage emerges not just from the needs and wants of individuals, but also from its associations with material devices, which enable persistence and repetition across contexts and settings (Syrjälä et al., 2016). This core difference anchors an assemblage as the manifestation of social action through the embodiment or practice of shared understandings, norms, and beliefs, thus becoming the material nexus between disciplines and contexts (Bettany et al., 2014).

Segmentation based on practices, situations, and contexts is indeed gaining ground as an alternative to consumer-focused approaches (Visconti et al., 2020). As Woermann and Rokka (2015, p. 1499, emphasis added) put it: "Performing a practice essentially means integrating the elements *present in the situation at hand* in such a way that current conduct amounts to the performance of that particular practice." Such practices require more than the phenomenological or psychological experiences of individual consumers; they must include the technical and social practices occurring in a given situation. While this view acknowledges that consumers can hold different identity positions (Cova & Shankar, 2020; Visconti et al., 2020), assemblage thinking encourages us to examine consumption in terms of its technical, social, or material constituents (Diaz Ruiz & Kjellberg, 2020). Moreover, assemblage thinking enables us to examine multiple overlapping practices simultaneously as they come together in a fragile configuration subject to failure and collapse (DeLanda, 2016; Preece et al., 2019). The current study shows how several mundane practices help define market

segments.

By emphasizing the role of material elements and techniques, the assemblage view examines how consumers interact with heterogeneous actors to generate new configurations of practices (Canniford et al., 2018). Consumption can be studied through its socio-material arrangements because activities are entwined with objects in ways that precede them and mold them into a unified form (Schatzki, 2002). Building on DeLanda (2016), research has shown how various components of an assemblage may have material and expressive capacities that contribute to (de)stabilizing it (Parmentier & Fischer, 2015; Preece et al., 2019). Let us consider the case of chocolate, an object with a known material capacity to produce senso-emotional pleasure—it is, after all, one of the most craved foods (Meier et al., 2017). Despite its association with pleasure, chocolate consumption can also trigger guilt (Merlino et al., 2021). The material capacities of the object appear through its interactions with the human body; for instance, Meier et al. (2017) found that chocolate intensifies positive mood when the consumer eats it slowly and pays attention to its color, texture, and aroma. Expressive capacities, on the other hand, appear in relations between sentient beings, such as consumers sharing these feelings with their community of peers. The variations of interactions between humans and chocolate—the subject-object interactions—are meaningful in understanding the construction of assemblages.

Objects do not simply carry meanings (Epp & Price, 2008); rather, they afford action by generating the conditions in which practices manifest. Assemblage thinking considers that arrangements of devices, spaces, technologies, and narratives constitute actors that are comparable in agentic power to human actors and as these various elements constantly renegotiate their relationships, the assemblages rarely remain stable (Molander et al., 2023). Rather than being passive entities that consumers use to carry meanings, assemblages, including devices, spaces, and agendas, often shape the realities in which humans live. By changing the configurations—for instance, by introducing new chocolate production technologies—the assemblage changes, giving new variations the opportunity to emerge and driving the demise of seemingly stable assemblages (Epp & Velagaleti, 2014; Molander et al., 2023; Parmentier & Fischer, 2015; Preece et al., 2019).

Therefore, this article's primary theoretical argument is that assemblage thinking offers a novel theoretical perspective on market segmentation by revealing socio-technical personas that capture market heterogeneity. While assemblage thinking can be applied to understand sub-assemblages of consumer groups (Molander et al., 2023), the current research instead directs interest to how heterogeneous consumption practices catalyze other elements of assemblages to form market segments. Using the case of chocolate consumption, the current paper reclaims Smith's original view of market segmentation and reconceptualizes it to fit with the contemporary state of assemblage thinking.

3. Methodology

Informed by assemblage thinking, we conducted extensive qualitative fieldwork to illustrate the socio-technical personas of chocolate

markets. First, to facilitate unelicited, naturally occurring discussions about chocolate and its integration into various daily occurring assemblages, we organized online focus groups (Stewart & Shamdasani, 2017). Focus group participants (n = 99; age 18–65; various types of households) were recruited from a commercial consumer panel; they were asked to discuss their snacking practices and to write a “snacking diary” in the online discussion platform. Following the methodological principles of focus group implementation, we divided the participants into three internally homogenous groups to generate enriched discussions around the given topics (Eriksson & Kovalainen, 2016, p. 186). To ensure anonymity, all participants used pseudonyms.

The online focus groups lasted for four months, during which the three groups followed 33 identical discussion scripts that approached snacking practices from different viewpoints, none of which directly concerned chocolate. Yet, chocolate appeared spontaneously in relation to 16 topics (addressing, e.g., places of snacking; healthiness of snacks; snack brands; and sensory experiences). Assemblage thinking inspired some of the discussions (see items marked with * in Table 2). In these discussions, participants were advised to consider elements of foods, places, people, agendas, and material processes (see Syrjälä et al., 2017). Altogether, chocolate was mentioned 220 times in the online discussions and snacking diaries. These data produced the raw data (70 pages) for our analysis. The number of references to chocolate in the discussion topics and the diaries is presented in Table 2.

Second, to gain a more detailed understanding of chocolate consumption practices, we recruited 12 interview informants via social media forums. When recruiting them, we ensured that they would eat and buy chocolate products regularly (see Table 3). A semi-structured interview guide included four themes informed by assemblage thinking to highlight socio-material elements of chocolate consumption. We also used visual aids to elicit rich discussions (Moisander & Valtonen, 2006). First, we showed multiple pictures representing occasions, activities, places, social situations, and feelings based on the findings from previous chocolate consumption studies by Zarantonello and Luomala (2011) and Giacalone and Jaeger (2016). Then, we showed a wide range of chocolate brands to elicit the informants’ memories of chocolate consumption. On the average, the interviews lasted one and a

Table 2
References to chocolate in the focus group data.

	Group 1	Group 2	Group 3	Sum
Private diaries	19	7	15	41
Topics on the online platform				
Introduce yourself	5	11	5	21
Places of snacking	7	3	7	17
Smells of snacks	0	2	3	5
Replacing meals with snacks	2	8	5	15
A selfie with your favorite snack	1	1	7	9
Snacking while playing games (1)	2	2	3	7
Hidden, embarrassing snacking	8	12	13	33
Sustainability in snacking	0	0	3	3
Healthiness of snacking	0	3	3	6
Packaging of snacks*	3	5	0	8
What is a good sandwich like?	0	1	0	1
Revising snacks*	1	2	8	11
Moods when snacking*	9	5	10	24
Snacking while playing games (2)	2	0	3	5
Agency of snacks	2	2	3	7
Senses in snacking	1	2	4	7
Total	62	66	92	220

Table 3
Summary of the interview informant profiles.

#	Age	Occupation	Chocolate consumption frequency
1	43	Student	Episodes of intense purchase
2	61	Teacher	Weekly
3	34	Customer service adviser	Every day
4	28	Project manager	Weekly
5	50	Salesperson	Almost every day
6	24	Student	Weekly
7	24	Student	Once every two weeks
8	37	Grant researcher	2–3 times per week
9	24	Student	Once every two weeks
10	42	Entrepreneur	Weekly
11	37	State employee	Four times per week
12	59	Pensioner	Weekly

half hours. They were recorded and transcribed, resulting in 300 pages of text.

We started the analysis by combing the focus group and interview data, familiarizing ourselves well with the materials, and identifying the threads that included references to chocolate consumption situations. Then we coded each of the data extracts under the analytic categories of assemblage thinking identified by Diaz Ruiz et al. (2020, p. 1012): spatial territories, skilled others, techniques, and material devices. They were slightly modified to fit with the empirical context of chocolate, resulting in the categories of people, spaces, devices, and agendas. Here, *people* refers to the social relations involved in chocolate consumption, and we discovered instances of being alone or with family members, friends, or co-workers. *Spaces* comprise the territories or geographies in which chocolate consumption occurs, such as homes, workplaces, cafés, grocery stores, and on-the-go spaces (in the car or on public transportation). *Devices* represent the techno-material elements identified as assembling with chocolate consumption practices, including packaging, tools, entertainments, and dishes. *Agendas* represent the purposes and meanings associated with chocolate consumption. We found out that chocolate served as a means to fulfil the goals of rewarding, recharging, and relapsing. In the final phase of analysis, we condensed all the coding into four socio-technical personas that represent chocolate market assemblages.

The difference between our analysis and customer segmentation is the unit of analysis. While the traditional methods employ subject phenomenology and use an individual consumer as the unit of analysis, assemblage thinking leans on a flat ontology (Franco et al., 2022) taking a consumption assemblage as the unit. Thus, instead of seeking to categorize the ideas, feelings, or behaviors of individual consumers, assemblage thinking regards the consumer subject as being immersed within the consumption assemblages where multiple social-spatial-technical-material elements show agency. Further, in line with our goal of reconceptualizing persona segmentation, we did not aim for a representative overview of chocolate consumer segments but to illustrate a handful of the possible socio-technical personas of chocolate markets. Readers interested in a more exhaustive overview of chocolate consumption experiences can consult Zarantonello & Luomala (2011). However, certain methodological choices were employed to strengthen the trustworthiness of the analysis. Firstly, we employed two qualitative methods in data collection to generate a rich set of empirical evidence. Secondly, we used researcher triangulation when coding the data and discussed unclear interpretations within the author team. Thirdly, when grounding the final persona illustrations on the empirical materials, each of the socio-technical persona segments needed to be supported by a substantial number of data extracts, thereby ensuring that the saturation point has been reached (see Appendix 1).

4. Findings

This section demonstrates how socio-technical personas can be used as proxies for market segments by discussing four socio-technical

personas that represent heterogeneous consumption assemblages. Each resulting persona represents an assemblage that is equivalent to a market segment. Each socio-technical persona thus incorporates interconnected elements of people, spaces, devices, and agendas that together highlight the ontological shift of marketing strategy by changing the focus from individual personas to consumption assemblages. Fig. 1 summarizes the main findings and Appendix 1 offers a detailed description of each socio-technical persona related to chocolate consumption and additional data illustrations for forming a fuller picture.

In the following, we discuss each socio-technical persona with an illustrative example from the data. We begin our analysis by presenting the consumption practice that catalyzes the emergence of the socio-technical persona. To highlight the novelty value of assemblage thinking, we continue by suggesting how each segment in question could be presented as a persona in a traditional sense—as a type of customer classified by socio-demographics, preferences, or behaviors. We then add layers of socio-technical elements to the persona.

4.1. Indulgent time persona

The indulgent time socio-technical persona is catalyzed by the chocolate *consumption practice* that is carried out, for instance, after working hard for several hours or at the end of the working week, and it triggers consumption of indulgent rewards. This assemblage is connected with the understanding of what is often considered as “me-time,” as exemplified by this quote from an online focus group discussant:

For me, it is my own quality time, often accompanied by a book, movie, scrolling, etc. In general, no one should feel guilty about eating, but of course, sometimes I feel slightly guilty when I realize I’ve had four warm sandwiches with sausage and cheese, a liter of soda, half a liter of ice cream, and even half a chocolate bar... fortunately, indulgences are rare on that scale: Late-night snacks are usually planned in advance; I prepare by getting chocolate, ice cream, popcorn, chips, nuts (either ready-made or roasting and seasoning them myself), frozen pizza, or other quick and easy junk food... Indulgence only begins with my partner after the kids are asleep and after the essential evening chores are done. [...] I’ve noticed that this so-called “quality time snacking,” especially in families with children, is quite common... secretly from the kids...:D (Na77ukka, Online

Focus Group)

As a traditional persona, this kind of consumer could be segmented as belonging to a group of thirtysomething females having a preference for delicious chocolates. The socio-technical persona approach, however, brings forward a more comprehensive interpretation entwined with various elements of the assemblage. Therefore, the characteristics of the consumer are just a part of the assemblage, and they are not assumed to be fixed to any one type of consumer. In relation to other people, the indulgent time persona contextualizes me-time as a process that can be solitary or involve others, but perhaps only close others like one’s spouse or cat. In this socio-technical persona, the *space* is located essentially at home. *Devices* can vary greatly and contextualize the type of indulgence with abundance: Devouring huge quantities of chocolate while mindlessly scrolling social media is a different experience than savoring a chocolate praline while knitting. Thus, the *agenda* is entwined with seeking an indulgence as a reward and using chocolate for this purpose. Thus, this socio-technical persona represents the indulgent-time market segment, and when it is actualized, an assortment of socio-technical elements is connected.

4.2. Energy-recharging persona

The energy-recharging socio-technical persona appears when chocolate *consumption practice* is actualized during a hectic day filled with duties and responsibilities. This practice is entwined with efforts to keep on going, as exemplified by this online focus group discussant:

On busy workdays, there isn’t always time to eat on schedule, so at worst, I postpone hunger with whatever I can grab in a hurry. Typically, my bag contains something (a sandwich, an apple/banana/satsuma, nuts, a muesli-fruit bar, small chocolate) specifically for these moments, but if not, I’ll grab anything left over from earlier coffee meetings in the office kitchen: salty or other types of crackers, chocolate, or something more or less unhealthy. So, the packaging doesn’t matter, anything goes for that worst blood sugar dip. (Pamela, Online Focus Group)

In a traditional sense, this persona could be segmented as a group of consumers occupied with working life or as stay-at-home parents—perhaps middle-aged parents with lives full of responsibilities. When approached through assemblage thinking, however, the socio-technical persona brings forward other complex elements in this segment, rather

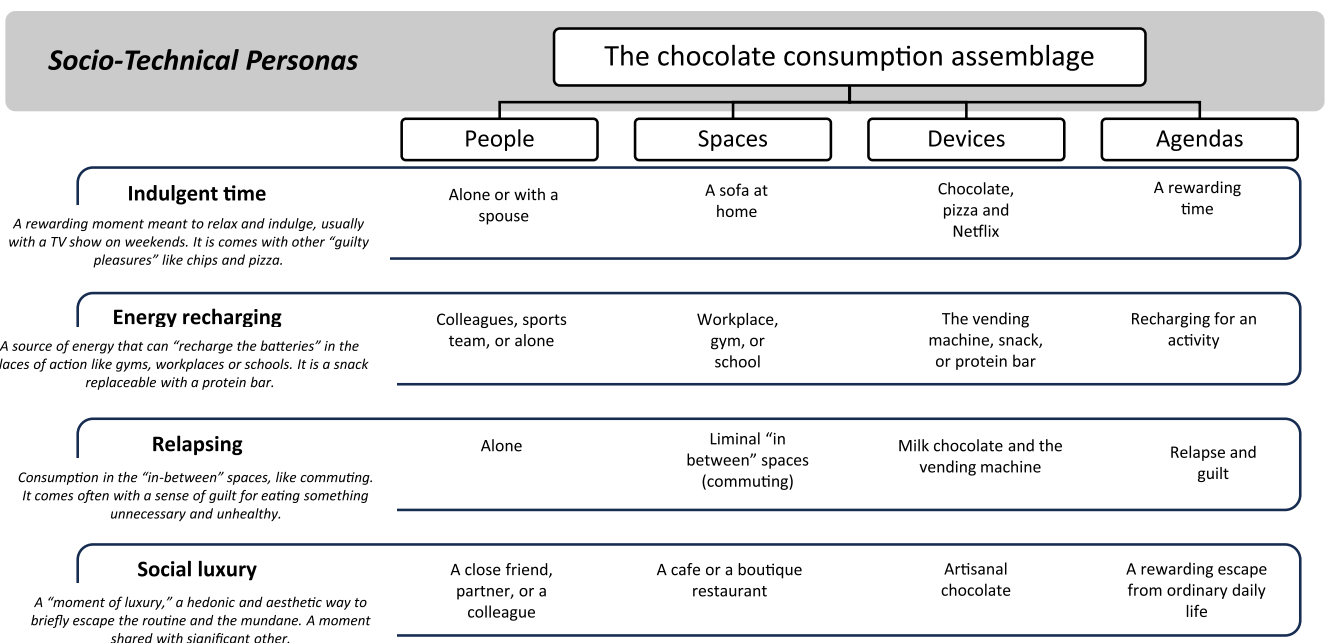


Fig. 1. Illustration of socio-technical personas assembling chocolate market segments.

than focusing on a consumer's socio-demographics or life phase. The chocolate consumption practice, in this socio-technical persona, means getting an extra energy kick to accomplish tasks, highlighting how it is induced by the *agenda* of recharging one's batteries in order to continue one's daily activities. The *devices* include all the material arrangements and infrastructures connected with busy lives. Eating a chocolate bar while sitting in front of a workstation may look different from eating one while standing and preparing baby formula in the kitchen, but the devices suggest exhaustion and tenacity. Examples of the emergence of this assemblage include eating a chocolate bar to gain the energy to help children with homework, gulping down a snack bar bought from a vending machine in order to continue a workout, and munching on a chocolate bar while proofreading a report. When it comes to other *people*, one's co-worker, partner, baby, and school-aged children may be interwoven in this socio-technical persona. In turn, this merges with the *spaces* where consumers carry out their responsibilities, whether these be a workstation, a changing room at a swimming pool, or the kitchen table. The examples highlight the entanglement of various elements and intersecting practices involved with the energy-recharging market segment.

4.3. Relapsing persona

The relapsing socio-technical persona actualizes when the chocolate consumption practice is carried out impulsively, so that performing the practice is not planned. These practices may involve relapsing from health goals and buying a chocolate bar or two on impulse, as exemplified by the following two data excerpts:

Sometimes, if I relapse on the way home from the store while feeling hungry, it's popcorn or a chocolate bar, even though a smoothie would be a more sensible option. (Pohjan Akka, Online Focus Group).

Perhaps there have been impulse purchases too sometimes, you know, in grocery stores when you've already placed your items on the conveyor belt. Right at that last moment when you can still add something, often these small chocolate bars are there. (Interviewee 3)

From a traditional, persona segmentation perspective, this type of consumer is problematic to categorize, as chocolate is such a popular food product; these consumers could be anyone, regardless of their socioeconomic status or gender. However, when viewed from the socio-technical perspective, impulse-buying reveals nuances and interlinkages with various heterogeneous elements. *Spaces* here are pivotal, consisting of liminal places that are neither work nor home, but located in-between or in transit. In this way, the emergence of a relapsing persona is interwoven with the assemblage's marketplace setting, such as in-store product placement that induces this consumption practice. The grocery store plays a crucial role in this assemblage, as retailers have elevated conspicuous point-of-sale displays of chocolate bars into an art form. The *devices* of the grocery store pair chocolate bars with cash registers, making them inescapable temptations for the relapsing consumer making extra purchases. While carrying out this practice, consumers are on the move; they may be going to work, home, hobbies, or to pick up the children, highlighting how chocolate consumption intersects with other daily practices. As the *agenda* is relapsing, consumers often describe feelings of regret after buying what they view as an unnecessary chocolate bar. Consequently, the *agenda* is guided by the consumer's need to justify eating the chocolate bar they did not intend to buy. In this assemblage, these consumers are alone, and usually, no other familiar *people* are around. When these elements combine, this socio-technical persona captures the relapsing market segment.

4.4. Social luxury persona

The social luxury socio-technical persona appears when a chocolate consumption practice involving celebratory events with friends or family takes place. As an example, the following excerpt from the online focus group showcases a group of friends having a special moment together

while enjoying some delicacies:

I got a new position, and we decided to celebrate by going to a nearby café with my friend who works in the same field. We felt that this called for a celebration with a shared coffee moment and some treats. We headed to a familiar and delightful café known for its unique and delicious cakes and pastries. Indulging like this doesn't happen every day. For my cake choice, I went with a chocolate cake topped with caramel and salted crumbs. Oh, it was delightful! Truly satisfying to the taste buds. The cake was just the right size and not overly sweet so that I could enjoy it with a clear conscience. It was a pleasant way to celebrate a great achievement in the company of a good friend and a tasty treat. (Suzie, Online focus Group)

A regular market researcher could represent this customer segment—in a traditional sense—with the persona of a twentysomething urban female with great taste and good income. Adding the socio-technical layers to the interpretation, however, allows us to observe the importance of the other elements in this assemblage. The *people* element plays a key role in this assemblage: the chocolate cake may be for someone's birthday or other special reason. Unlike the indulgent time socio-technical persona, the social luxury persona is deeply social, with a keen intention of sharing the special moment. The *devices* are festive and celebratory, with a hint of luxury. Chocolate is no longer an ordinary, wrapped bar, but a luxurious experience. An indulgent chocolate cake, an artisanal chocolate confection, and coffee or wine make this moment celebratory. The *spaces* are inherently social, including cafés and restaurants. The core *agenda* is rewarding, as this socio-technical persona emerges in relation to special circumstances, such as celebrations and family gatherings. Taking these elements together, this socio-technical persona thus showcases a case of social luxury markets.

Our analysis of these four socio-technical personas demonstrates how assemblage thinking may be utilized in market segmentation. Link 1 demonstrates the illustrative categories of socio-technical personas and their dynamic movements in chocolate markets. The main elements constituting the consumption assemblage are pictured on the left side of the figure, and the assembled socio-technical personas shown on the right.

Link 1. *The eclectic nature of socio-technical personas of chocolate consumption.*

By moving the mouse on the screen, one can inspect the continuous reconstruction of market segments, highlighting how different elements are related to market segments. The visualization demonstrates that the elements vary in an eclectic process and that consumers may change segments while entering another assemblage. Thus, there are unavoidable overlaps in the elements of assemblages defying the traditional segmentation criteria such as stability and exhaustiveness (e.g., Foedermayr & Diamantopoulos, 2008). While some of the variations of the elements relate solely to one socio-technical persona, others may be connected to two or more personas. For example, the socio-technical personas indulgent time, relapsing, and energy-recharging all comprise variations of "alone" in terms of the "people" element. Yet, as these three socio-technical personas connect differently to other elements, they represent different market segments. As assemblages are not regarded as fixed (e.g., Parmentier & Fischer, 2015; Preece et al., 2019), the eclectic visualization aims at pinpointing the instability of the market segments. Following the articulation of Preece et al. (2019, p. 345), we emphasize how "various elements are enrolled and unenrolled in different combinations to allow for continuity and change." In the following section, we discuss how chocolate consumption works as an informative example of how to reclaim market segmentation by reconceptualizing the persona construct using assemblage thinking.

5. Discussion

While personas are convenient for representing customer segments, they can be insufficient to represent markets. The reason is that personas tend to focus almost exclusively on the consumer subject, a person. In turn, this paper proposes that *socio-technical personas* can be used to

represent markets integrating subjects—the consumer—along with consumption practices. This socio-technical approach: 1) helps update market segmentation to reflect consumption practices; 2) incorporates social-spatial-technical-material elements (namely, people, spaces, devices, and agendas) as affordances that allow the consumption practice to occur; 3) emphasizes the interdependencies between these elements; and 4) aids in reclaiming the market aspect of market segmentation. Below, we outline these theoretical contributions in greater detail, and then move on to managerial implications and suggestions for future studies.

5.1. Theoretical contributions

To explicate our theoretical contributions, we follow Lucarelli et al.’s (2023) model of the pathways of theoretical contribution in interpretive marketing and consumer research. Our research follows the “revelatory–disruptive–emergent” pathway, meaning that we challenge prevailing assumptions, we propose a new theorization, and we take an alternative lens in the analysis. More specifically, this paper addresses the fundamental theoretical misconception that categorizing consumers into groups is equivalent to segmenting markets. To overcome this problem, this paper challenges previous literature by arguing that market segmentation differs from customer segmentation (Salminen et al., 2023, p. 679). Further, we propose a new theorization, namely, a socio-technical approach to market segmentation. Finally, we adopt an alternative lens—assemblage thinking—to reclaim market segmentation in marketing, using the construct of socio-technical personas.

To elaborate these contributions further, our first argument is that socio-technical personas are regarded as heterogeneous assemblages reflecting distinctive consumption practices that involve human and non-human elements. The core distinction is that while the persona represents the consumer subject, the socio-technical persona represents a consumption assemblage. Returning to the case of chocolate, the socio-

technical lens focuses on chocolate consumption rather than consumer types. The reason is that a person can be engaged in multiple consumption practices, making the assemblage the preferred unit of analysis. A single person or user enjoys chocolate in more than one way, for example, as an office snack or as a luxury experience in a café. The existence of multiple consumption practices for a single persona challenges the axioms of exhaustiveness and identifiability in the segmentation literature (e.g., Foedermayr & Diamantopoulos, 2008).

What makes the practices distinctive is the emergence of social, spatial, technical, and material elements that situate consumption. As Fig. 2 illustrates, the socio-technical approach works through assemblages that distribute agency from the subject into heterogeneous associations, each entwined in consumption practices.

Thus, secondly, our approach extends the notion of personas to include consumption practices connected to heterogeneous elements of people, spaces, devices, and agendas. This, in turn, helps to reconfigure the market segmentation process so that people and consumption are related. Therefore, audience segmentation can also be improved by explicating how to include the socio-technical aspects of consumption, as while the digital domain uses algorithms (Salminen et al., 2023), behavioral data is often based on usage patterns rather than consumer preferences.

Thirdly, socio-technical personas highlight how it is pivotal to comprehend the interdependencies between human and non-human elements. As demonstrated in Link 1, the same variations of the elements may be connected to different socio-technical personas depending on the emerging assemblage. This means that, say colleagues of the “people” element may be present in either energy-recharging or social luxury persona, but it is the connection to other elements—devices, spaces and agendas—that determines which socio-technical persona is activated. This means that the human subject in each socio-technical persona may be involved in not one but multiple consumption patterns over time. This shows how the socio-technical approach enables capturing the

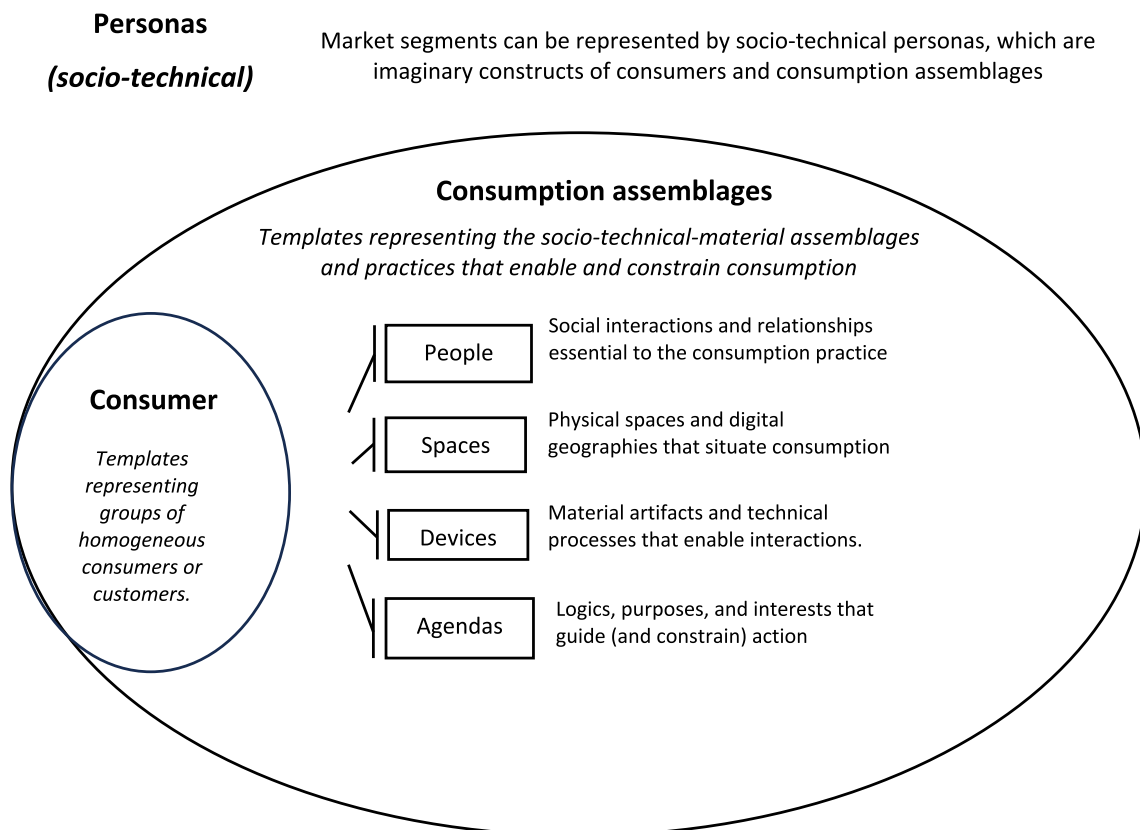


Fig. 2. Representing markets through socio-technical personas.

continuity of markets and changes in them (Molander et al., 2023; Parmentier & Fischer, 2015; Preece et al., 2019), and how it offers a more nuanced and comprehensive understanding of target market segments, leading to more effective marketing strategies and product offerings. After all, the persona concept has been used in design to represent users rather than entire markets (Dion & Arnould, 2016; Miaskiewicz & Kozar, 2011; Pruitt & Adlin, 2006; Pruitt & Grudin, 2003). The socio-technical segmentation approach we propose refocuses market segmentation from the consumer (person) to consumption (practice), catalyzing the emergence of heterogeneous assemblages consisting of multiple elements (Diaz Ruiz et al., 2020). Thus, it serves marketers in need of refined understanding of certain markets.

Fourthly, we address that the *market* in market segmentation requires a much more comprehensive understanding and approach than simply dividing a consumer group in terms of its online or offline behaviors or characteristics. An example of such a partial approach is *audience segmentation*, which divides communication efforts between distinct groups of people to deliver tailored messaging (Newton et al., 2013). Similarly, *customer segmentation* focuses on identifying people with similar needs, preferences, and behaviors (Beane & Ennis, 1987; Dibb, 1998; Wedel & Kamakura, 2000). Focusing exclusively on customer segmentation, even with online behavioral data, is insufficient to represent markets as complex adaptive systems. Market researchers already include consumers and consumption in their daily practice (Venter et al., 2015), but this insight has not as yet been codified in the academic segmentation literature. Even though researchers know that market segmentation must focus also on consumption, the literature on personas emphasizes the human subject. By proposing socio-technical personas, we echo Jenkinson (2009), who argued that strategic segmentation is not the same as dividing groups of people into categories; it requires managerial effort to channel organizational capabilities. Similarly, we join the scholars who foresee that our discipline will move toward studying distributed networks rather than individual consumers, leading to an ontological shift in marketing strategies (Thompson, 2024).

The illustrative study of chocolate demonstrates how socio-technical assemblages capture the emerging market segments. Previous research has used the assemblage-thinking approach in contexts like board sports, observing that these markets can be segmented by the type of board and atmospheric conditions (wind and waves). In this example, windsurfing, kite surfing, and surfing emerge as distinct markets because each sport has distinct requirements, such as the presence or absence of waves (Diaz Ruiz & Makkar, 2021). In another example, the dog enthusiast market may be segmented based on shifting identity positions, which would produce different market-level outcomes based on the various devices, agendas, spaces, and practices related to heterogeneous consumption objects (Syrjälä, 2016). In the following, we discuss the managerial implications of the socio-technical persona approach in market segmentation.

5.2. Managerial implications

The differences between consumer/customer and consumption are more than mere semantic issues—they have profound managerial implications. The following discussion on managerial implications is divided into two parts. First, we point out the changes in strategic thinking and then we provide hands-on managerial suggestions proposed as a cyclical process for carrying out socio-technical persona segmentation in practice.

First, the key managerial implication of the current research is the argument that reclaiming the market in segmentation enables renewing strategic thinking. Existing research on market segmentation excels at dividing customers and audiences into homogeneous groups but may struggle to identify heterogeneous markets because consumption is included only as an afterthought. To this end, we push forward the argument that when making new strategic innovations, the initial source

of insight should be derived from understanding how consumption takes place in the markets, which can be managed using tools such as ethnographic methods, as this facilitates questioning the prevailing assumptions (Cayla & Arnould, 2013). Starting from the analysis of how consumption occurs in the markets enables altering the interpretation of the extant economic criteria of segmentation (e.g., measurability, substantiality, actionability, and responsiveness [Foedermayr & Diamantopoulos, 2008; Dibb & Simkin, 2009;]).

To illustrate, when measuring the size of the segment, instead of calculating the number of consumers in each segment, we should be measuring the frequency of emergences of the assemblages in the market (see also, Visconti et al., 2020). Similarly, when marketing strategies are no longer targeted to certain kinds of consumers (e.g., young urban females), the marketing communications may resonate with various kinds of individual consumers as they enter a market, such as energy-recharging. This in turn broadens the scope of how accessibility, actionability and responsiveness should be understood and how the segments' profitability could be measured. In this, we reiterate Molander et al. (2023, p. 779) "that heterogeneous consumer groups simultaneously exploring and actualizing value in interaction with subsets of components in a brand assemblage may have a relationship of cooptation whereby they benefit from each other's presence" to emphasize "that while consumer heterogeneity may be threatening, it is also an opportunity for renegotiations between assemblage components that may end up actualizing further value potentially useful in stabilizing and strengthening a brand assemblage."

This paper shows that emphasizing consumer practices through *socio-technical personas* enhances segmentation because this approach represents markets better than *personas* alone. Unlike personas, socio-technical personas situate consumption practices in their heterogeneous material networks. Therefore, consumption practices are managerially relevant because new markets emerge as novel consumption practices appear and as existing consumption practices develop variations (Diaz Ruiz & Makkar, 2021; Martin & Schouten, 2014) and assemblage thinking provides a pivotal way to capture the changing configurations that drive changes in the market segments (Epp & Velagaleti, 2014; Molander et al., 2023; Parmentier & Fischer, 2015; Preece et al., 2019).

Second, the methods designed to identify multiple yet independent customer segments are different from the ones needed to identify consumption assemblages. To implement the socio-technical persona approach in practice, we propose that marketing managers should follow the multi-methodological (Cayla & Arnould, 2013; Dion & Arnould, 2016) steps shown in Fig. 3. By following these steps, marketing managers can leverage the power of socio-technical personas. The cyclical process of implementation highlights its continuous nature (also Visconti et al., 2020) as the assemblages emerge "ferally" in the markets (Diaz Ruiz & Kjellberg, 2020).

It is important to be aware, however, that the traditional approach to personas that emphasizes people over assemblages remains relevant. Specifically, customer, audience, and market segmentation can all serve the management well as long as their purposes, strengths and weaknesses are recognized. Audience segmentation is for communication purposes and market segmentation is for business strategy. By understanding that socio-technical personas are not just representations of individuals but rather assemblages of social and material elements, marketing managers can better understand whether their markets are viable. Moreover, socio-technical personas can also be helpful for user-centered designers and software engineers because they focus on what the user does. Combining material and social elements elevates personas from representing users to representing distinct consumption practices.

5.3. Future research suggestions

Future research could build upon this work in a number of ways. In the following, we elaborate on six particularly interesting avenues. First, we propose further exploration and refinement of the concept of "socio-

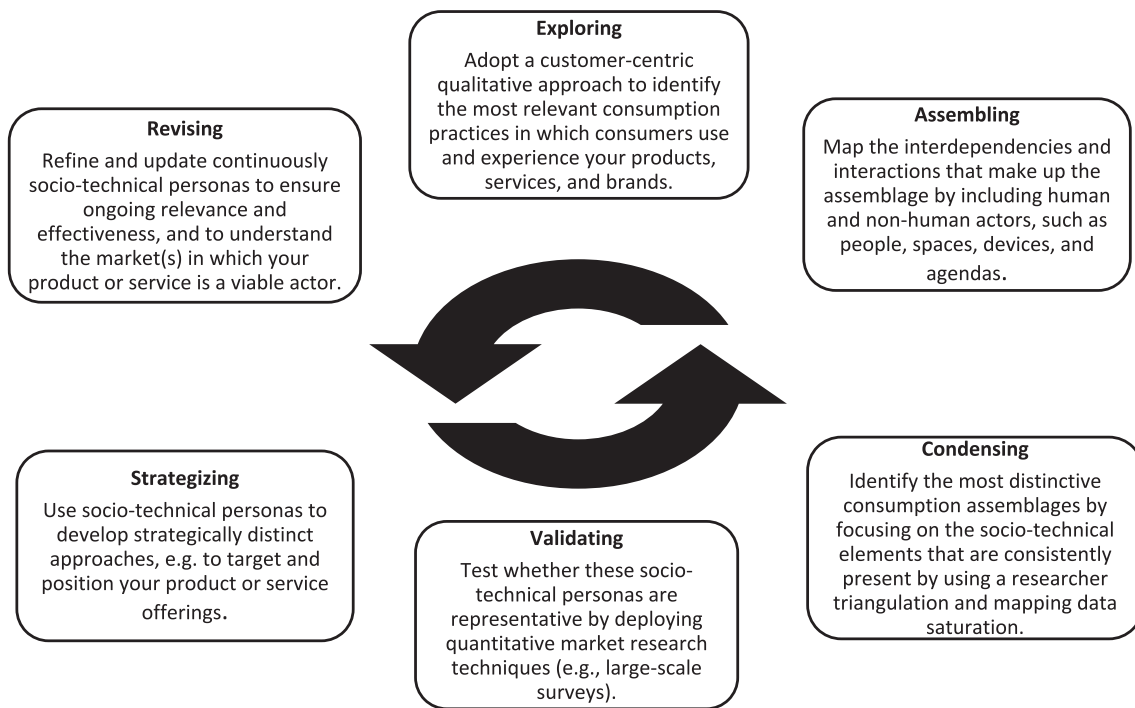


Fig. 3. Cyclical process of implementing socio-technical persona segmentation.

technical personas” and its applications in all types of segmentation (audience, customer, and market). Researchers could perform empirical studies that test the effectiveness of socio-technical personas against traditional personas. This is important, as the current research focused on a consumption object with almost endless variations, with all its interlinked heterogeneous elements of assemblages making it a perfect entry point for investigating the socio-technical persona approach in segmentation. While we argue that socio-technical persona segmentation results in a profound ontological shift in marketing strategy and practice, it is worth noting that it may be easier to apply to markets with similarly dynamic consumption patterns, such as consumption of other foodstuffs or entertainment services. To overcome this limitation, it is pivotal for future research to explore other markets with potentially less opportunities or consumer willingness for variation. Researchers could pursue in-depth investigations into whether, and to what extent, socio-technical personas represent different markets accurately, with all their nuances.

Second, future research could focus on the instability of market segments, by for instance identifying the catalytic triggers that cause disruptive changes in market segments (Molander et al., 2023). As the current analysis reveals an illustration of chocolate market segments, further research should investigate what elements or collections of elements trigger both continuity and changes in how the socio-technical personas emerge.

Third, future research should investigate the practicalities of constructing socio-technical personas using offline market research and online machine learning. Specifically, we propose performing a comparative analysis of the effectiveness and accuracy of market segmentation when the socio-technical personas are constructed utilizing online versus offline data collection methods. This investigation could involve comparing customers’ online usage patterns to their offline ones and examining how marketers can leverage them in their segmentation strategies.

Fourth, from a socio-technical persona approach, the relationship between audience and market segmentation requires more research. Future research could explore the differences and similarities between these two approaches and how they can be used together to create more

effective marketing strategies. In particular, we see promise in studies focusing on the combination of people’s offline and online behaviors, and thereby highlighting the nature of *devices* as boundary objects (Star, 2010) that extend consumption beyond online and offline assemblages.

Fifth, we see promise for socio-technical personas in fields beyond marketing. We suggest that researchers could examine the role of socio-technical personas in design and software development. This could involve exploring if and how socio-technical personas can be used to create more compelling user interfaces and how they can be integrated into the user-centered design process to improve the quality of product development.

Sixth, when applying the notion of socio-technical personas in an online context, the ethical implications surrounding market and audience segmentation must be explored. The capture and use of surveillance data must be carefully balanced with the need for privacy.

6. Conclusions

The fundamental misconception that this paper addresses is the mistaken belief that categorizing consumers into groups is equivalent to segmenting markets. Instead, this paper proposes a socio-technical approach to reclaim market segmentation’s original meaning—identifying markets requiring distinct managerial strategies. We claim that *socio-technical personas* can help to represent markets by redistributing agency from the subject (the customer) to a heterogeneous assemblage that includes other people, agendas, spaces, and material elements (devices) that catalyze recurring practices (consumption). As a result, the socio-technical persona approach shows an ontological shift in marketing strategy, offering marketers and designers the chance to develop unique strategies and product offerings that cater to distinct markets and identify those socio-technical arrangements that generate heterogeneous or even new markets. Future research can further explore the potential of this approach and its implications for marketing and design practices in the digital age.

The authors acknowledge the use of the AI-assisted writing tools: Grammarly’s AI Writing Assistant and ChatGPT3.5. These tools were used for grammatical corrections and enhancing sentence structure. Since the

interviews were conducted in Finnish, a large language model (LLM) was also used to provide a basic translation into English, which was then revised by native Finnish speakers. Otherwise, the authors take full responsibility for the content of this publication.

CRedit authorship contribution statement

Henna Syrjälä: Writing – review & editing, Writing – original draft, Visualization, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Carlos Diaz Ruiz:** Writing – review & editing, Writing – original draft, Visualization, Validation, Project administration, Conceptualization. **Hanna Leipämaa-Leskinen:** Writing – review & editing, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Harri T. Luomala:** Writing – review & editing, Validation, Funding acquisition, Conceptualization.

Appendix 1

Illustrative Examples of Socio-Technical Personas of Chocolate Consumption									
Consumption practice	Indulgent time persona		Energy-recharging persona		Relapsing persona		Social luxury persona		Description
	Description	Data illustrations	Description	Data illustrations	Description	Data illustrations	Data illustrations		
<p>People shows whether this assemblage is connected to other people, or not, and what kind of social relations they concern</p>	<p>Either alone or with a spouse</p>	<p><i>Indulgence only begins with my partner after the kids are asleep and the essential evening chores are done. [...] I've noticed that this so-called 'quality time snacking,' especially in families with children, is quite common... secretly from the kids...:D" (Online FG, Na77ukka) Something like summer-related [...] Well, it's just that when you, it could also be that you're alone there on the summer terrace and just, wonderfully warm and you drink that coffee and eat that one chocolate there. Enjoyment. (Int. 1)</i></p>	<p>Either alone or with co-workers</p>	<p><i>I'm on a break at work, alone in my own office. Before the snack, I had been working hectically in the company of several people and needed a break from people. (Online FG, Palleroinen) Especially on a hike, also it could be after sports, when you are by yourself, so in those moments, it brings that good feeling. (Int. 4)</i></p>	<p>Most commonly alone</p>	<p><i>I don't buy these little snacks unless I'm alone. (Online FG, Riksu)I have that stash there now, so when I have a really weak moment, I go to my stash myself. (Int. 2)</i></p>	<p>With friends or colleagues</p>	<p><i>I got a new position, and we decided to celebrate it by going to a nearby café with my friend who works in the same field. (Online FG, Suzie)This brings to mind parties and such [...] naturally, chocolate is eaten at parties, that's where it's enjoyed, but then it's often arranged by the hosts. (Int. 4)</i></p>	
<p>Spaces describes the contextual environments with which the assemblages are entwined with</p>	<p>Usually at home</p>	<p><i>And then I engage in that dialogue with myself, and I realize that hmm, everything is perfect, but I crave something good to eat. Because all senses must always be in use. There must be beautiful flowers, hearing beautiful music, a leisurely atmosphere. [...]</i></p>	<p>Workplace, home, place for sports (gym, swimming hall), on the move</p>	<p><i>I go water jogging at the swimming hall. [...] Then it's off to the sauna, and afterward, in the locker room, I enjoy a small snack – a banana and a chocolate bar – to have the energy to pedal home. (Online FG, Mummeli)</i></p>	<p>Grocery store, café, city centre</p>	<p><i>So, for example, I'm not the type to go to the store alone and buy a big chocolate bar or a slab and secretly devour it before going home. Like many mothers supposedly do. (Int. 10)For example, when I'm out grocery shopping, I might grab a</i></p>	<p>Restaurant, café, home</p>	<p><i>I was on a girls' trip last week, and during that time, snacks and everything were taken care of in restaurants and cafes. (Online FG, HeiniP)... chocolate is often associated with celebrations or occasions</i></p>	

(continued on next page)

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

This research is part of Consumers' Everyday Practices as Bellwethers for Digitalization project funded by Foundation for Economic Education (grant number: 12-6707) and Finnish Cultural Foundation, Middle-Ostrobothnia Foundation (grant number: 25171240). A part of data generation is carried out in a Co-Creative Snacks project (4571/31/2014), which is mainly funded by the European Regional Development Fund via Tekes—the Finnish Funding Agency for Technology and Innovation. Funding sources were not involved in the study design.

(continued)

Illustrative Examples of Socio-Technical Personas of Chocolate Consumption								
Consumption practice	Indulgent time persona		Energy-recharging persona		Relapsing persona		Social luxury persona	
	Chocolate consumption practices characterized by indulgent and even binge eating activities where chocolate is seen as well-deserved. These practices often take place over evenings and weekends.		Chocolate consumption practices that take place when extra energy is needed. These practices intersect with other practices such as doing work tasks or sports.		Chocolate consumption practices that typically actualize in commercial places. These practices are characterized by feelings of being in a rush, hungry or exhausted.		Chocolate consumption practices that most commonly actualize when celebrating, where eating chocolate happens for “a good reason.” These practices are characterized by a high level of sociality.	
Elements of assemblages	Description	Data illustrations	Description	Data illustrations	Description	Data illustrations	Description	Data illustrations
		<i>With woolly socks on, the tactile sensation comes, and a warm shawl there and... All senses are fulfilled, everything is fine, but one sense still remains, and that is the sense of taste. So what fits better than chocolate? (Int. 2) And then at home, eating chocolate is more about that kind of calming down and then sort of like just because I never buy any cookies or such at home, so then it's... some might eat cookies with coffee, I usually buy chocolate. And it's associated with, then the situation is such a moment of resetting. (Int. 4)</i>		<i>Let's say, for example, when you're going somewhere, having a chocolate bar or a small chocolate bar in your bag, you know that you can always quickly get some energy from it if you start feeling a bit tired. (Int. 2)</i>		<i>chocolate bar and eat it as soon as I leave the store. They're usually nicely displayed right next to the cash registers. I doubt I'd have the energy to chase after anything healthier to a specific aisle. Hah! (Online FG, OmenanPuolesta)</i>		<i>when there's something going on. So, when guests come over or for any other reason, there's always chocolate available. Because I like it myself, so I offer it to guests as well. (Int. 5)</i>
Devices represent all the techno-material elements and infrastructures connected to the assemblage	Chocolate slab or other larger amounts of chocolate, other indulgent delicacies (pizza, potato crisps, candies, red wine), TV, mobile phone	<i>...after studying for twelve, sorry, thirteen and a half hours, I drank that glass of red wine and ate that raw chocolate and watched one of my favorite series. (Int. 1) So that I want to cheer myself up. Well, it could be anything from these kinds of things, like I might read in bed or play SIMS. [...] And watching a movie, well usually TV, it doesn't always have to be a movie. In these kinds of moments that I personally enjoy, that's when I eat [chocolate]. (Int. 12)</i>	Healthier kinds of chocolates, like protein bars with chocolate, but anything goes. Other snacks, like nuts, fruits.	<i>...And sometimes, if I grab a bar at the gym, a sports bar, or buy one from the vending machine there, I might eat it at the gym. [...] (Int. 11) At work, my go-to snack is often Eloveena snacks. My favorites are dark chocolate and caramel-cranberry. (Online FG, Pihlaja)</i>	Chocolate bar, or other typically small-sized chocolate. In-store advertisement or vending machine.	<i>In those moments, I do buy occasionally a chocolate bar, perhaps a nice little treat from Fazer... (Online FG, Riksu) Perhaps sometimes there have been impulse purchases as well, you know, in grocery stores, when you've placed your groceries on the conveyor belt and right at the last moment when you can still add something to it, often there are these small chocolate bars there. So, it has been an impulse purchase sometimes, but... I don't make impulse purchases very often. Maybe once a month, once every two months, roughly. (Int. 3)</i>	Indulgent chocolate, like handmade or artisanal chocolates, a box of chocolates or cakes. Coffee or wine. Tableware.	<i>It was a time to indulge. When I saw that delightful chocolate cake, oh my goodness. I didn't have to think long about what to eat. That was my indulgence for the day. (Online FG, HeiniP) Especially chocolate boxes [...]. You can also buy them for home if there are some parties or friends visiting or something, then you can buy a box of chocolates and open it on the coffee table, for example. (Int. 5)</i>
Agendas purposes, ideals, and logics that guide (and constrain) assemblage to occur	Rewarding	<i>The feeling was euphoric when I downed a can of Pepsi and nibbled on chocolate. I thought it was terribly unhealthy [...] But I felt like I so</i>	Recharging	<i>Having coffee alone in complete silence was wonderful. My mind and nerves were at rest. The chocolate cookie tasted heavenly</i>	Relapsing	<i>Sometimes, if I relapse on the way home from the store while feeling hungry, it's popcorn or a chocolate bar, even though a smoothie would be a</i>	Rewarding	<i>This particular dessert [melting chocolate] definitely crowned an already good mood. (Online FG, Eepi) It also</i>

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(continued)

Illustrative Examples of Socio-Technical Personas of Chocolate Consumption									
Consumption practice	Indulgent time persona		Energy-recharging persona		Relapsing persona		Social luxury persona		
	Chocolate consumption practices characterized by indulgent and even binge eating activities where chocolate is seen as well-deserved. These practices often take place over evenings and weekends.		Chocolate consumption practices that take place when extra energy is needed. These practices intersect with other practices such as doing work tasks or sports.		Chocolate consumption practices that typically actualize in commercial places. These practices are characterized by feelings of being in a rush, hungry or exhausted.		Chocolate consumption practices that most commonly actualize when celebrating, where eating chocolate happens for “a good reason.” These practices are characterized by a high level of sociality.		
Elements of assemblages	Description	Data illustrations	Description	Data illustrations	Description	Data illustrations	Description	Data illustrations	
		<i>deserved this.</i> (Online FG, Vihreäpuutarhuri) <i>Yet, I didn't feel guilty. After all, as a hard worker, I had earned my moment of rest!</i> (Online FG, Lilli77) <i>For some reason, perhaps the most enjoyable moment is when I'm alone, relaxing and watching a movie, so that's when it happens. It's because this is my own time now and I'm enjoying it.</i> (Int. 9)		<i>[...] After the coffee break, I was filled with new energy!</i> (Online FG, Palleroinen) <i>Currently, the most common snack I eat is chocolate, unfortunately. But when I need something quick to grab while dealing with that little person, it becomes a necessity. My diet has taken a bit of a hit as I just grab whatever to keep going, whether it's to cook a proper meal or go everywhere with my son.</i> (Online FG, Nevvi)		<i>more sensible option.</i> (Online FG, Pohjan Akka) <i>Or even when feeling really desperate, like on the way to school. Eating a chocolate bar, for example, as you go home.</i> (Int. 7)		<i>adds to the atmosphere, everyone is relaxed and happy, and then it becomes a nice moment.</i> (Int. 4)	

Data availability

The authors do not have permission to share data.

References

Aimé, I., Berger-Remy, F., & Laporte, M.-E. (2022). The brand, the persona, and the algorithm: How datafication is reconfiguring marketing work. *Journal of Business Research*, 145, 814–827. <https://doi.org/10.1016/j.jbusres.2022.03.047>

Akaka, M. A., Schau, H. J., & Vargo, S. L. (2022). Practice diffusion. *Journal of Consumer Research*, 48(6), 939–969.

Alhonnoro, L., Leipämaa-Leskinen, H., & Syrjälä, H. (2020). Distributed agency in food waste: A focus on non-human actors in retail setting. In *Food Waste Management* (pp. 141–167). Springer. Doi: 10.1007/978-3-030-20561-4_6.

Arnould, E. (2024). Praxeomorphology, ontology, and renewal of post-consumer personhood. *Journal of Marketing Management*, 40(7–8), 635–641. <https://doi.org/10.1080/0267257X.2024.2346012>

Arnould, E. J., & Cayla, J. (2015). Consumer fetish: Commercial ethnography and the sovereign consumer. *Organization Studies*, 36(10), 1361–1386. <https://doi.org/10.1177/0170840615580012>

Arsel, Z., & Thompson, C. J. (2011). Demythologizing consumption practices: How consumers protect their field-dependent identity investments from devaluing marketplace myths. *Journal of Consumer Research*, 37(5), 791–806. <https://doi.org/10.1086/656389>

Bajde, D. (2013). Consumer culture theory (re)visits actor–network theory. *Marketing Theory*, 13(2), 227–242. <https://doi.org/10.1177/1470593113477887>

Beane, T. P., & Ennis, D. M. (1987). Market segmentation: A review. *European Journal of Marketing*, 21(5), 20–42. <https://doi.org/10.1108/EUM00000000004695>

Belk, R. (2024). Apples, oranges, and self. *Journal of Marketing Management*, 40(7–8), 569–578. <https://doi.org/10.1080/0267257X.2024.2346016>

Belk, R., & Sobh, R. (2019). No assemblage required: On pursuing original consumer culture theory. *Marketing Theory*, 19(4), 489–507. <https://doi.org/10.1177/1470593118809800>

Bennett, P. D. (1995). *Dictionary of marketing terms* ((2nd ed.).). American Marketing Association.

Bettany, S., & Daly, R. (2008). Figuring companion-species consumption: A multi-site ethnography of the post-canine Afghan hound. *Journal of Business Research*, 61(5), 408–418.

Bettany, S. M., Kerrane, B., & Hogg, M. K. (2014). The material-semiotics of fatherhood: The co-emergence of technology and contemporary fatherhood. *Journal of Business Research*, 67(7), 1544–1551. <https://doi.org/10.1016/j.jbusres.2014.01.012>

Bock, T., & Uncles, M. (2002). A taxonomy of differences between consumers for market segmentation. *International Journal of Research in Marketing*, 19(3), 215–224. [https://doi.org/10.1016/S0167-8116\(02\)00081-2](https://doi.org/10.1016/S0167-8116(02)00081-2)

Bradley, C., Oliveira, L., Birrell, S., & Cain, R. (2021). A new perspective on personas and customer journey maps: Proposing systemic UX. *International Journal of Human-Computer Studies*, 148, Article 102583. <https://doi.org/10.1016/j.ijhcs.2021.102583>

Canniford, R., & Bajde, D. (2016). *Assembling consumption: Researching actors, networks and markets*. Routledge.

Cayla, J., & Arnould, E. (2013). Ethnographic stories for market learning. *Journal of Marketing*, 77(4), 1–16. <https://doi.org/10.1509/jm.12.0471>

Cayla, J., & Peñaloza, L. (2006). The production of consumer representations. *Advances in Consumer Research*, 33, 458.

Canniford, R., Riach, K., & Hill, T. (2018). Nosenography. *Marketing Theory*, 18(2), 234–248. <https://doi.org/10.1177/1470593117732462>

Cova, B., & Shankar, A. (2020). Tribal marketing. In L. M. Visconti, L. Peñaloza, & N. Toulouse (Eds.), *Marketing Management: A Cultural Perspective* (2nd edition., pp. 168–182). New York: Routledge.

D. Newton, J., J. Newton, F., Turk, T., & T. Ewing, M. (2013). Ethical evaluation of audience segmentation in social marketing. *European Journal of Marketing*, 47(9), 1421–1438. <https://doi.org/10.1108/EJM-09-2011-0515>

DeLanda, M. (2016). *Assemblage theory*. Edinburgh University Press.

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.

Diaz Ruiz, C. (2013). Assembling market representations. *Marketing Theory*, 13(3), 245–261. <https://doi.org/10.1177/1470593113487744>

Diaz Ruiz, C., & Kjellberg, H. (2020). Feral segmentation: How cultural intermediaries perform market segmentation in the wild. *Marketing Theory*, 20(4), 429–457. <https://doi.org/10.1177/1470593120920330>

Diaz Ruiz, C., & Makkar, M. (2021). Market bifurcations in board sports: How consumers shape markets through boundary work. *Journal of Business Research*, 122, 38–50. <https://doi.org/10.1016/J.JBUSRES.2020.08.039>

- Diaz Ruiz, C., Penaloza, L., & Holmqvist, J. (2020). Assembling tribes: An assemblage thinking approach to the dynamics of ephemerality within consumer tribes. *European Journal of Marketing*, 54(5), 999–1024. <https://doi.org/10.1108/EJM-08-2018-0565>
- Dibb, S. (1998). Market segmentation: Strategies for success. *Marketing Intelligence & Planning*, 16(7), 394–406. <https://doi.org/10.1108/02634509810244390>
- Dibb, S., & Simkin, L. (1991). Targeting, segments, and positioning. *International Journal of Retail & Distribution Management*, 19(3). <https://doi.org/10.1108/09590559110143800>
- Dibb, S., & Simkin, L. (2009). Implementation rules to bridge the theory/practice divide in market segmentation. *Journal of Marketing Management*, 25(3–4), 375–396. <https://doi.org/10.1362/026725709X429809>
- Dickson, P. R., & Ginter, J. L. (1987). Market segmentation, product differentiation, and marketing strategy. *Journal of Marketing*, 51(2), 1–10. <https://doi.org/10.1177/002224298705100201>
- Dion, D., & Arnold, E. (2016). Persona-fied brands: Managing branded persons through persona. *Journal of Marketing Management*, 32(1–2), 121–148. <https://doi.org/10.1080/0267257X.2015.1096818>
- Epp, A. M., & Price, L. L. (2008). Family identity: A framework of identity interplay in consumption practices. *Journal of Consumer Research*, 35(1), 50–70. <https://doi.org/10.1086/529535>
- Epp, A. M., & Velagaleti, S. R. (2014). Outsourcing parenthood? How families manage care assemblages using paid commercial services. *Journal of Consumer Research*, 41(4), 911–935. <https://doi.org/10.1086/677892>
- Eriksson, P., & Kovalainen, A. (2016). *Qualitative methods in business research: A practical guide to social research* (2nd ed.). SAGE Publications.
- Foedermayr, E. K., & Diamantopoulos, A. (2008). Market segmentation in practice: Review of empirical studies, methodological assessment, and agenda for future research. *Journal of Strategic Marketing*, 16(3), 223–265. <https://doi.org/10.1080/09652540802117140>
- Franco, P., Canniford, R., & Phipps, M. (2022). Object-oriented marketing theory. *Marketing Theory*, 22(3), 401–420. <https://doi.org/10.1177/14705931221079407>
- Giacalone, D., & Jaeger, S. R. (2016). Better the devil you know? How product familiarity affects usage versatility of foods and beverages. *Journal of Economic Psychology*, 55, 120–138. <https://doi.org/10.1016/j.joep.2016.02.005>
- Hill, T., Canniford, R., & Mol, J. (2014). Non-representational marketing theory. *Marketing Theory*, 14(4), 377–394. <https://doi.org/10.1177/1470593114533232>
- Hoffman, D. L., & Novak, T. P. (2018). Consumer and object experience in the Internet of Things: An assemblage theory approach. *Journal of Consumer Research*, 44(6), 1178–1204. <https://doi.org/10.1093/jcr/ucx105>
- Howe, N., & Strauss, W. (2000). *Millennials rising: The next great generation*. Vintage.
- Jenkinson, A. (2009). What happened to strategic segmentation? *Journal of Direct, Data and Digital Marketing Practice*, 11(2), 124–139. <https://doi.org/10.1057/dddmp.2009.27>
- Kjellberg, H., & Helgesson, C. F. (2007). The mode of exchange and shaping of markets: Distributor influence in the Swedish post-war food industry. *Industrial Marketing Management*, 36(7), 861–878.
- Kjellberg, H., & Olson, D. (2017). Joint markets: How adjacent markets influence the formation of regulated markets. *Marketing Theory*, 17(1), 95–123. <https://doi.org/10.1177/1470593116658203>
- Kotler, P., & Armstrong, G. (2014). *Principles of marketing*. Pearson.
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.
- Lien, M. E. (2004). The virtual consumer: Constructions of uncertainty in marketing discourse. In C. Garsten, & M. Lindh de Montoya (Eds.), *Market Matters; Exploring Cultural Processes in the Global Marketplace* (pp. 46–69). Palgrave Macmillan.
- Lucarelli, A., Shahriar, H., Ulver, S., & Egan-Wyer, C. (2023). Research contributions in interpretivist marketing and consumer research studies: A kaleidoscopic framework. *Marketing Theory*. <https://doi.org/10.1177/14705931231202430>
- Martin, D. M., & Schouten, J. W. (2014). Consumption-driven market emergence. *Journal of Consumer Research*, 40(5), 855–870. <https://doi.org/10.1086/673196>
- Meier, B. P., Noll, S. W., & Molokwu, O. J. (2017). The sweet life: The effect of mindful chocolate consumption on mood. *Appetite*, 108, 21–27. <https://doi.org/10.1016/j.appet.2016.09.018>
- Merlino, V. M., Mota-Gutierrez, J., Borra, D., Brun, F., Coccolin, L., Blanc, S., & Massaglia, S. (2021). Chocolate culture: Preferences, emotional implications and awareness of Italian consumers. *International Journal of Gastronomy and Food Science*, 25, Article 100374. <https://doi.org/10.1016/j.ijgfs.2021.100374>
- Miaskiewicz, T., & Kozar, K. A. (2011). Personas and user-centered design: How can personas benefit product design processes? *Design Studies*, 32(5), 417–430. <https://doi.org/10.1016/j.destud.2011.03.003>
- Moisander, J., & Valtonen, A. E. (2006). *Qualitative marketing research: A cultural approach*. SAGE Publications.
- Molander, S., Ostberg, J., & Peñaloza, L. (2023). Brand morphogenesis: The role of heterogeneous consumer sub-assemblages in the change and continuity of a brand. *Journal of Consumer Research*, 49(5), 762–785.
- Morgan-Thomas, A., Dessart, L., & Veloutsou, C. (2020). Digital ecosystem and consumer engagement: A socio-technical perspective. *Journal of Business Research*, 121, 713–723.
- Nayak, A. (2006). Displaced masculinities: Chavs, youth and class in the post-industrial city. *Sociology*, 40(5), 813–831.
- Ng, S. I., Ho, J. A., Lim, X. J., Chong, K. L., & Latiff, K. (2021). Mirror, mirror on the wall, are we ready for Gen-Z in marketplace? A study of smart retailing technology in Malaysia. *Young Consumers*, 22(1), 68–89. <https://doi.org/10.1108/YC-06-2019-1006>
- Orlikowski, W. J., & Scott, S. V. (2015a). Exploring material-discursive practices. *Journal of Management Studies*, 52(5), 697–705. <https://doi.org/10.1111/joms.12114>
- Orlikowski, W. J., & Scott, S. V. (2015b). *The algorithm and the crowd: Considering the materiality of service innovation.*, 39(1), 201–216.
- Parmentier, M. A., & Fischer, E. (2015). Things fall apart: The dynamics of brand audience dissipation. *Journal of Consumer Research*, 41(5), 1228–1251.
- Preece, C., Kerrigan, F., & O'reilly, D. (2019). License to assemble: Theorizing brand longevity. *Journal of Consumer Research*, 46(2), 330–350.
- Pridmore, J., & Zwick, D. (2011). Editorial: Marketing and the rise of commercial consumer surveillance. *Surveillance & Society*, 8(3), 269–277.
- Pruitt, J., & Adlin, T. (2006). *The persona lifecycle*. Elsevier.
- Pruitt, J., & Grudin, J. (2003). Personas. In *Proceedings of the 2003 Conference on Designing for User Experiences* (pp. 1–15), 10.1145/997078.997089.
- Revella, A. (2015). *Buyer personas: How to gain insights into your customer's expectations, align your marketing strategies, and win more business*. Wiley.
- Salminen, J., Mustak, M., Sufyan, M., & Jansen, B. J. (2023). How can algorithms help in segmenting users and customers? A systematic review and research agenda for algorithmic customer segmentation. *Journal of Marketing Analytics*. <https://doi.org/10.1057/s41270-023-00235-5>
- Schatzki, T. R. (2002). *The site of the social*. Penn State University Press. <https://doi.org/10.1515/97802711023717>
- Smith, R. A. (2017). Audience segmentation techniques. *Oxford Research Encyclopedia of Communication*. Oxford University Press, 10.1093/acrefore/9780190228613.013.321.
- Smith, W. R. (1956). Product differentiation and market segmentation as alternative marketing strategies. *Journal of Marketing*, 21(1), 3–8. <https://doi.org/10.1177/002224295602100102>
- Soto-Vásquez, A. D., & Gonzalez, E. (2022). “Not a monolith!” media narratives of the latina/o/x Vote after the 2020 U.S. Election. *Howard Journal of Communications*, 33(5), 452–470. <https://doi.org/10.1080/10646175.2022.2033650>
- Star, S. L. (2010). This is not a boundary object: Reflections on the origin of a concept. *Science, Technology, & Human Values*, 35(5), 601–617. <https://doi.org/10.1177/0162243910377624>
- Steenkamp, J.-B.-E.-M., & Ter Hofstede, F. (2002). International market segmentation: Issues and perspectives. *International Journal of Research in Marketing*, 19(3), 185–213. [https://doi.org/10.1016/S0167-8116\(02\)00076-9](https://doi.org/10.1016/S0167-8116(02)00076-9)
- Stern, B. B. (1995). Consumer myths: frye's taxonomy and the structural analysis of consumption text. *Journal of Consumer Research*, 22(2), 165. <https://doi.org/10.1086/209443>
- Stewart, D. W., & Shamdasani, P. (2017). Online focus groups. *Journal of Advertising*, 46(1), 48–60. <https://doi.org/10.1080/00913367.2016.1252288>
- Sunderland, P. L., & Denny, R. M. (2012). Consumer segmentation in practice: An ethnographic account of slippage. In D. Zwick, & J. Cayla (Eds.), *Inside Marketing: Practices, Ideologies, Devices* (pp. 22–36). Oxford University Press.
- Syrjälä, H. (2016). Turning point of transformation: Consumer communities, identity projects and becoming a serious dog hobbyist. *Journal of Business Research*, 69(1), 177–190. <https://doi.org/10.1016/j.jbusres.2015.07.031>
- Syrjälä, H., Jaskari, M.-M., & Leipämaa-Leskinen, H. (2016). *Object agency of a living/non-living animal entity: The case of horse/horsemeat* (pp. 65–91). Doi: 10.1108/S0885-211120160000018005.
- Syrjälä, H., Luomala, H. T., & Autio, M. (2017). Fluidity of places in everyday food consumption: Introducing snackscape. *International Journal of Consumer Studies*, 41(6), 761–768. <https://doi.org/10.1111/ijcs.12389>
- Thompson, C. J. (2024). Towards an ontology of consumers as distributed networks (or the end of ‘consumer research’ as we know it?): Retrospective insights from the praxemorphism of Russell Belk’s ‘extended self’. *Journal of Marketing Management*, 40(7–8), 555–568.
- Tonks, D. G. (2009). Validity and the design of market segments. *Journal of Marketing Management*, 25(3–4), 341–356. <https://doi.org/10.1362/026725709X429782>
- Tynan, A. C., & Drayton, J. (1987). Market segmentation. *Journal of Marketing Management*, 2(3), 301–335. <https://doi.org/10.1080/0267257X.1987.9964020>
- Venter, P., Wright, A., & Dibb, S. (2015). Performing market segmentation: A performative perspective. *Journal of Marketing Management*, 31(1–2), 62–83. <https://doi.org/10.1080/0267257X.2014.980437>
- Visconti, L. M., Hughes, M.Ü., & Corengia, M. (2020). Re-examining market segmentation. In *Marketing Management* (pp. 287–312). Routledge, 10.4324/9780203710807-23.
- Wedel, M., & Kamakura, W. (2002). Introduction to the special issue on market segmentation. *International Journal of Research in Marketing*, 19(3), 181–183. [https://doi.org/10.1016/S0167-8116\(02\)00075-7](https://doi.org/10.1016/S0167-8116(02)00075-7)
- Wedel, M., & Kamakura, W. A. (2000). *Market Segmentation*. US: Springer, 10.1007/978-1-4615-4651-1.
- Woermann, N., & Rokka, J. (2015). Timeflow: How consumption practices shape consumers’ temporal experiences. *Journal of Consumer Research*, 41(6), 1486–1508. <https://doi.org/10.1086/680668>
- Wunsch, N.-G. (2023, December 8). *Size of the chocolate confectionery market worldwide from 2018 to 2028*. Statista.Com.
- Yankelovich, D., & Meer, D. (2006). Rediscovering market segmentation. *Harvard Business Review*, 84(2), 122–131, 166.
- Zarantonello, L., & Luomala, H. T. (2011). Dear Mr Chocolate: Constructing a typology of chocolate consumption experiences through qualitative diary research. *Qualitative Market Research: An International Journal*, 14(1), 55–82. <https://doi.org/10.1108/1352275111099328>
- Zwick, D., & Dholakia, N. (2004). Whose identity is it anyway? consumer representation in the age of database marketing. *Journal of Macromarketing*, 24(1), 31–43. <https://doi.org/10.1177/0276146704263920>

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