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Self-construals as the locus of paradoxical consumer empowerment in self-service retail technology environments

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Abstract:

While its use has expanded considerably, self-service retail technology (SSRT) continues to face mixed customer evaluations. This paper introduces an SSRT paradoxes approach, drawing on the theory of psychological empowerment that incorporates self-construals to address the various entities that SSRT users enlist to gain control over their environment. Based on consumer narratives, this study provides an extensive description of the positive and negative manifestations of SSRT-based customer empowerment, and gives credence to customer relational and collective selves as major loci of enabling or disabling agency. Additionally, a similarity analysis of 200 data points identifies SSRT users across four communities sharing similar cognitive schemas, while revealing a paradoxical nexus between political forms of disempowerment, including dehumanization and inequitable exchange, and a sense of ubiquitous autonomy. The implications of these findings are significant for research on consumer empowerment and SSRT acceptance, as well as for retailers.

Keywords: Self-service retail technology; Psychological empowerment; Paradox; Self-construal; Narratives; Similarity analysis

1. Introduction

Retail environments have dramatically changed due to the proliferation of self-service retail technology (SSRT), that is, technological interfaces that enable customers in retail environments to produce a service independent of direct service employees' involvement. While self-checkout and self-scanning are prominent store self-services, SSRT also encompasses interactive kiosks such as vending machines, interactive catalogues, and virtual fitting rooms (Pantano & Vannucci, 2019). As SSRT implementation is thought to bring substantial benefits for retailers, such as lower labor costs and increased efficiency, it is also expected to provide greater convenience, accessibility, transaction speed, and autonomy for customers (Wang, Harris, & Patterson, 2013). In line with heavy SSRT investments by retailers in the last two decades, the use of self-checkouts and hand-held scanners has undeniably expanded despite initially being poorly received by customers (Bulmer, Elms, & Moore, 2018). However, SSRT continues to face substantial resistance among customers (Collier et al., 2015; Leng & Wee, 2017), or at least it continues to receive paradoxical customer evaluations (Johnson, Bardhi, & Dunn, 2008) whilst also fueling societal criticism of its contribution to dehumanization and job elimination (Larson, 2019). Further, due to an insufficient level of adoption as well as the higher customer theft rate they induce, self-checkouts have recently been removed by several retailers that instead choose to differentiate their stores through higher personal service (Larson, 2019).

As evidenced by Blut, Wang, and Schoefer's (2016) meta-analysis, the marketing research on self-service technology has provided an appreciable body of work about the factors influencing attitudes toward SSRT and its subsequent degree of acceptance. However, the empirical findings reported above suggest that shoppers' engagement with SSRT may be embedded in a set of contrasted or ambivalent cognitions that involve relational and societal aspects of a retail environment, in addition to strictly functional ones. Currently, little is

known about the nature of the paradoxical cognitions associated with SSRT and the mechanisms by which these cognitions integrate entities related to the customer retail environment. In addition to retail artifacts, previous marketing literature suggests that these entities may include the local community whose preservation can be perceived as being threatened by technology proliferation (Larson, 2019), the retailer as a source of possible equitable exchange (Mattila, Cho, & Ro, 2011), as well as employees or other customers at the point-of-sale as other significant resources that a given SSRT user is or not able to control (Collier et al., 2015; Wang et al., 2013). Therefore, failure to identify SSRT paradoxes and understand their formation dynamics deters managers from designing retail policies that address customers' expectations appropriately regarding self-service technologies.

Against this backdrop, this paper introduces an approach of SSRT paradoxes drawing on the psychology of individual empowerment (Zimmerman, 1995, 2000) that incorporates self-construals (Brewer & Gardner, 1996) as a theoretical means to address the various entities that customers target in their quest for power through the artefact. In recent marketing research, the discussion of consumer power in the digital age and its counterpart in terms of psychological empowerment has emerged as an important topic, which translates at the level of every digital artefact as far as the artefact involves a particular pattern of consumer resources and social relationships or dependencies (Hanson & Yuan, 2018; Labrecque et al., 2013). Psychological empowerment describes an internal state of enabling an individual's agency to reach his or her self-defined goals in relation to a focal behavior or a larger part of the individual's life (Spreitzer, 1995; Zimmerman, 1995). The concept implies the psychological processes by which people exert efforts to gain control, access resources and autonomy, participate in decision-making, and develop critical awareness of their sociopolitical environments (Christens, 2012; Zimmerman, 2000), and thus it is described as a multidimensional construct by empowerment theorists (Zimmerman, 2000).

Considering the case of individuals performing a particular behavior, such as product co-creation, social media use or even citizen participation, previous research on psychological empowerment indicates that the individual's perception of autonomy as being able to carry out the focal behavior based on their competence constitutes an important dimension of the construct (Fuchs, Prandelli, & Schreier, 2010; Wang, Chen, & Chen, 2011). This dimension has been extensively studied in the literature on self-service technology outside of the psychological empowerment framework, using intertwined constructs such as perceived ease of use, self-efficacy or perceived behavioral control (Blut et al., 2016; Wang et al., 2013; Weijters et al., 2007). However, consistent with the seminal work of Spreitzer (1995) on work roles, psychological empowerment studies demonstrate that consumers, as the empowered performers of a focal behavior, may elaborate other types of cognitions which address the meanings associated with the quest for power specifically (Cova & Pace, 2006), the belief of having an impact on desired outcomes (Fuchs et al., 2010; Hanson & Yuan, 2018) and a sense of choice in the initiation, participation in, and regulation of the focal behavior (Füller et al., 2009; Prentice, Han, & Li, 2016). As such cognitive dimensions have received little attention in the context of SSRT use, an examination of their manifestations is needed to understand the whole scope of customer power logics associated with retail artefacts.

Irrespective of the cognitive dimensions under consideration, psychological empowerment may be conceptually related to the quest of two separate, even diverging forms of power: social power as agency over people, or personal power as freedom to act from other people (Lammers, Stoker, & Stapel, 2009; Magee & Galinsky, 2008; Zimmerman, 1995). This article contends that the duality of both forms of power may be reconsidered in light of social cognitions theory (Fiske, Cuddy, & Glick, 2007), in which individuals pursuing empowerment strategies tend to consider the agentic traits exhibited by other entities, as long as the latter covet the same resources, targets or goals as themselves (Abele & Wojciszke,

2007). For instance, in a retail context, customers may infer that retailers attempt to leave them with no alternative other than self-services for cost-oriented motives (Larson, 2019). In contrast, extant marketing research on self-service technology conceptualizes user agency as fundamentally motivated by the quest for personal autonomy with sparse regard for the objectives pursued by other entities (Blut et al., 2016). In light of this, this research proposes to formally extend the locus of customers' agency from their individual self-construal, which involves their subjective uniqueness, to their interdependent self-construal, which reflects both dyadic connections and identification with social structures (Brewer & Gardner, 1996; Markus & Kitayama, 1991).

Overall, by multiplying the angles by which SSRT users perceive and characterize their own agency in relation to their retail environment, this research intends to explore the potentially paradoxical nature of empowerment derived from the use of the artefact. Specifically, the objective of this paper is to propose and empirically investigate a multidimensional conceptualization of psychological empowerment that includes customer self-construals in the perspective to enrich the understanding of SSRT paradoxes. The methodological approach is exploratory, and consists of a qualitative study based on consumer narratives followed by a lexicometric exploration of 200 data points to identify structural paradoxes. On the whole, this article makes four contributions to the research on customer empowerment and SSRT paradoxes. First, it provides an extensive description of the positive and negative manifestations of psychological empowerment in the context of SSRT use, in accordance with the proposed conceptualization. Second, it gives credence to the role of the interdependent self as a major locus of SSRT users' enabling or disabling agency. Third, it identifies SSRT users across four communities that share similar cognitive schemas related to the potential of empowerment associated with retail artifacts. Finally, it advances the understanding of empowerment paradoxes by revealing a structural nexus

between contrary manifestations of customer empowerment in the context of SSRT. These insights into uncovered facets of customer empowerment can help retailers make informed decisions to improve the servicescape surrounding SSRT and to adapt their communication accordingly. Additionally, this research provides a basis for the development of retail tactics involving the participative engagement of SSRT users at the point of sale.

2. Conceptual background and development of research questions

2.1 Psychological empowerment as an outcome of individual agency

Human agency refers to the behavioral processes by which people shape their personal lives through their ongoing interaction with their environment (Crockett, 2002). From an evolutionary or functionalist perspective, people are interested in pursuing their goals effectively, which includes the quest for power (Abele & Wojciszke, 2007). Thus, agency “arises from strivings to individuate and expand the self and involves such qualities like instrumentality, ambition, dominance, competence, and efficiency in goal attainment” (Abele & Wojciszke, 2007, p. 751). Consistent with this conceptualization, a large body of psychological research associates individual agency with the power motive, which results in various internal states of individual empowerment (Abele & Wojciszke, 2014). Specifically, psychological empowerment is defined as an individual’s internal state of enabling himself or herself to act on his or her own to reach his or her self-defined goals (Menon, 2001; Spreitzer, 1995; Zimmerman, 1995). Fundamentally, the construct integrates “perceptions of personal control, a proactive approach to life, and a critical understanding of the sociopolitical environment” (Zimmerman, 1995, p. 581). It relies on a cognitive core that encompasses the beliefs that individuals have regarding their competence, autonomy, and the outcomes that their activities have on themselves and their community (Menon, 2001). On this ground, psychological empowerment can be considered a motivational construct that involves an

active orientation toward a focal behavior, an organizational role, or a larger part of the individuals' life (Sharma & Kirkman, 2015). In terms of consequences, psychological empowerment has been found to enhance individuals' well-being and reinforce positive attitudes toward themselves and the community or organization with which they are engaged (Harris et al., 2014; Spreitzer, 2008). In marketing research, the empowered consumer is found to be more drawn toward using brand products or services (Hanson & Yuan, 2018; Hartmann et al., 2018).

2.2 Psychological empowerment and consumer power theories

Psychological empowerment as a subjective state of being in control is intrinsically related to the notion of power. However, various and diverging definitions of power have been formulated in the social sciences depending of the school of thought (Denegri-Knott, Zwick, & Schroeder, 2006). As outlined by Lammers et al. (2009, p. 1543), two competing views of power prevail in social psychology. On one hand, so-called personal power denotes "the ability to ignore the influence of others, to control one's own outcomes, and to be personally independent." On the other hand, social power refers to the ability of a person to exercise control over other people. In an organizational context, social power implies an asymmetric control over valued resources, and captures the relative state of dependence between two or more parties (Magee & Galinski, 2008). Recent marketing research highlights the role that customer participation in the creation of a brand offering can play in shifting social power away from the firm to its users (Auh et al., 2019; Fuchs & Schreier, 2011).

While such analytical traditions drawing on social psychology frameworks aim to measure consumer power through its cognitive or behavioral manifestations, other schools of thought are less concerned with the objectivation of power based on classic research instruments. As advanced by Denegri-Knott et al. (2006), these traditions encompass the cultural and discursive approaches of power. The cultural model theorizes the market as a

politically oppressive force and views consumers as agentic users inventing tactics to resist brand strategies (Firat & Venkatesh, 1995). Taking a less critical view of the exchanges between brands and their customers, the discursive model conceptualizes consumer power as the ability to produce discursive strategies that counteract institutional discourses designed to control consumers and justify new consumption practices (Holt, 2002). The operationalization of power through the concept of psychological empowerment escapes the logic of power invoked by the promoters of the cultural and discursive approaches, and so the present research can be situated outside both streams of research. However, some of the theoretical objects that these traditions put forward are of significant importance for this research. Such theoretical objects are the meaning that customers associate with gaining control through the use of technology, their understanding of the brand-consumer exchange occurring in this context, and the way that they decipher, internalize, and resent institutional discourses about retail technology.

2.3 Core dimensions of consumer psychological empowerment from a focal behavior

Given that psychological empowerment involves different types of cognitions, the construct is best described using a multidimensional approach according to empowerment theorists (Cattaneo & Chapman, 2010; Zimmerman, 2000). Considering situations where consumer agency is engaged in performing a focal behavior, such as the consumption of green electricity (Hartmann et al., 2018), social coupons (Hanson & Yuan, 2018) or the co-creation of a product (Fuchs et al., 2010; Füller et al., 2009), marketing researchers tend to use one or several dimensions of the framework proposed by Spreitzer (1995) to measure psychological empowerment related to a work role. Spreitzer (1995, 2008) defines psychological empowerment as a psychological state of enabling related to a task, or to a work role as a set

of tasks, that manifests in four cognitions: meaning, competence, self-determination, and impact.

- *Meaning* refers to the alignment between activity goals and an individual's beliefs, values, and internalized norms. This dimension relies on the important premise that "empowerment is about whatever is meaningful to a particular person" (Cattaneo & Chapman, 2010, p. 648). However, as outlined by Cattaneo and Chapman (2010), this condition is not sufficient for empowering goals. By nature, the goals pursued by an empowered individual are power oriented as an attempt to increase the individual's influence on agentic sources, which can occur "at any level of human interaction, from dyadic interactions to the interaction between oneself and a system" (Cattaneo & Chapman, 2010, p. 648). In sum, empowerment is motivated by goals that are simultaneously power oriented and personally meaningful.
- *Competence* is an individual's belief in his or her capability to perform activities with skill. This perception is conceptually similar to constructs used in the literature on self-service technology such as self-efficacy (Bandura, 1989), perceived ease of use (Davis et al., 1989), or perceived behavioral control (Ajzen, 1991), which are often used interchangeably. More generally, the literature on self-service technology tends to focus on these three constructs to understand how consumers experience control over their environment through their skills (Blut et al., 2016).
- *Self-determination* reflects an individual's sense of choice regarding the initiation, continuation, and regulation of his or her actions; it produces resiliency and flexibility over the course of actions taken. This perception implies a high internal locus of control, that is, perceiving oneself as the locus of causality for one's behavior (Ajzen, 2002). According to De Charms (1968), the internal locus of control is a fundamental requirement for intrinsically motivated agency. In contrast, an individual's sense that he or

she is controlled by events or other agency sources, that is, an external locus of control, leads to emotional tension and decreased self-esteem.

- *Impact* is an individual's belief that he or she can influence outcomes and processes related to a focal activity. This perception involves the individual's assessment of what happens following his or her actions, that is, the degree to which his or her behavior is seen as "making a difference" in terms of producing the intended effects in his or her task environment (Thomas & Velthouse, 1990).

Following the service customer approach of Prentice et al. (2016, p. 39), we consider customer psychological empowerment from a focal behavior to refer to a sense of gaining control that relies on individual cognitions consisting of the "meaning of consumption, consumption capacity, self-determination, and impact." Such a conceptualization is in accordance with the framework provided by Spreitzer (1995) in a work role context. As outlined by Hanson and Yuan's (2018, p. 770) review of the literature on psychological empowerment in the marketing domain, the concept has received little attention in the research on self-service technology. An adaption of this review completed by an update based on top research journals in marketing is provided in Table 1. This shows that most of the consumer empowerment studies selected in our literature review consider one or two dimensions, as they generally favor impact and/or self-determination in their understanding of psychological empowerment (Auh et al., 2019; Fuchs et al., 2010; Füller et al., 2009; Hanson & Yuan, 2018; Hartmann et al., 2018). Therefore, we formulate the following research question about the cognitive facets underlying SSRT-user psychological empowerment:

RQ1: Is each of the Meaning – Competence – Self-determination – Impact dimensions appropriate to describe the types of cognitions involved in customer psychological empowerment associated with SSRT use?

Insert Table 1

2.4 Locus of empowered consumer agency

2.4.1. Role of self-construal in modeling consumer agency

This article contends that SSRT paradoxes could be better apprehended by considering the locus of consumer agency as being related to different types of self-construal. According to the cultural psychologists Markus and Kitayama (1991), self-construal refers to the degree to which people see themselves as separate from others (i.e., individual self) or as connected with others (i.e., interdependent self). While social cognitions theory supports the idea that agency is “primarily related to the interests of the self” (Abele & Wojciszke, 2007, p. 752), it also recognizes that agency involves envisioning the agency of other people. That is, relation to others is contemplated insofar as a person pursues goals or resources that may also be desirable for other persons, implying assertiveness, social influence, and dominance (Louvet et al., 2019). This means that if “these other people have an influence on one’s own well-being and goal pursuit, then these others’ agentic traits are important as well” (Abele & Wojciszke, 2007, p. 760). In sum, understood as the behavioral processes that sustain an individual’s empowerment, individual agency should be formally viewed as comprising the interdependent self in addition to the individual self.

Specifically, Brewer and Gardner (1996) state that self-construal consists of three fundamental representations: the individual self, which reflects a person’s subjective uniqueness; the relational self, which reflects dyadic connections; and the collective self, which represents membership and identification with social groups. Therefore, the nature of consumer empowerment can be understood as depending on a locus of agency moving from an individual self to another self, depending on the situation (Ashton-James et al., 2007). At the individual level, the individual self exhibits agency that is focused on achieving goals through personal autonomy and task-based competency. At the interpersonal level, the agency emerging from the relational self aims to have an impact on significant others; in a consumer

context, significant others include people such as employees or other consumers, but they also include brands or even technological artifacts. Individuals can have relationships with brands just as they have relationships with humans (Fournier, 1998), and the opportunity to influence brands can be a strong motivating factor for consumers (Simon & Tossan, 2018). The relational self may also involve connections with objects as advanced by assemblage theory and object-oriented ontology (Hoffman & Novak, 2018). Finally, the community level involves the collective self. The agency of the collective self reflects an individual's attempt to signal that they belong to their community, and to influence the community or tribes to which they belong. For instance, when the community sustaining a social identity is threatened, people may take actions to enhance social identity by promoting brands that appropriately address their needs, by avoiding or denigrating brands that fail to do so, or by making public statements that leverage the cultural models that they favor (Fournier & Alvarez, 2019).

2.4.2. Extended conceptualization of consumer psychological empowerment

While several consumer studies have recently examined psychological empowerment in relation to entities such as brands, other customers, employees, or even communities as outlined in our literature review included in Table 1, marketing research to date has still not elaborated a formal and integrative framework to systematically address the entities that consumers envision to gain more power through a given behavior. Besides, self-service technology literature tends to favor the users' individual self-construal, as evidenced by Blut et al.'s (2016) meta-analysis of the factors influencing customer acceptance of self-service technologies. Specifically, technology acceptance theories use perceived usefulness and ease of use as key mediators (Davis et al., 1989), and these are strictly defined under the prism of individual self-construal. In light of this, the proposed extended model of consumer psychological empowerment from a focal behavior (see Fig. 1) implies that each cognitive

facet of perceived empowerment is likely to emerge from one of the selves that a consumer situationally enlists in their quest for empowerment. Regarding the agency of the interdependent self, Riger (1993, p. 282) distinguishes three types of social power: “power over” (dominance, control of other people and their resources), “power to” (freedom to act and share, having a voice or raising a grievance), and “power from” (the ability to resist or separate oneself from the demands of others). Hence, each of the three forms of social power is likely to explain the various ways in which consumers experience becoming more or less capable and autonomous through the activation of dyadic or community-based interactions in commercial environments with SSRT. Therefore, we formulate the following research question:

RQ2: Is each cognitive dimension of psychological empowerment related to the agency of individual, relational, and collective consumer selves, in the context of SSRT use?

Insert Fig. 1

2.5 Paradoxes of SSRT users' empowerment

Research on consumer paradoxes may be classified as a part of the research on attitudinal ambivalence and mixed emotions (Johnson et al., 2008). This research indicates that individuals may experience conflicting positive and negative evaluations of different components of an object or phenomenon simultaneously (Ruth, Brunel, & Otnes, 2002). Consequently, a paradoxical object is both liked and disliked or advantageous and disadvantageous simultaneously (Johnson et al., 2008). Unlike a simple dilemma where one alternative must be chosen over the other, a paradox involves unresolvable tensions that persist over time (Sheep, Fairhurst, & Khazanchi, 2017). The degree of conflict between these opposing evaluations is conceptualized as attitude ambivalence (Priester & Petty, 1996) and is associated with psychological discomfort and lower levels of satisfaction (Olsen, Wilcox, & Olsson, 2005). Existing research on paradoxes postulates that individuals tend to adopt two

distinct types of coping behavior to reduce the anxiety and frustration generated by various paradoxical objects (Miron-Spektor et al., 2018). First, in accordance with the cognitive dissonance theory (Festinger, 1962), individuals may choose one given alternative and strive to remain committed to it by polarizing their evaluations. Second, they may develop an acceptance of paradoxes as “persistent and unsolvable puzzles” (Smith & Lewis, 2011, p.385) and try to manage them effectively.

Prior marketing research has addressed the paradoxical nature of consumer experiences when engaging with technology. As evidenced by Mick and Fournier (1998), technological product users shift between antithetical positive experiences and negative experiences. Applied to the context of self-service technology, paradoxes such as control/chaos, fulfilling needs/creating needs, and freedom/enslavement are found to negatively affect customer satisfaction (Johnson et al., 2008). Presumably because this stream of research aims to capture the essence of what consumers experience through interacting with technology, it may overlook significant aspects of consumer empowerment depending on the agency of the interdependent self. By contrast, considering the plurality of self-construals would increase the chances of identifying the tensions at work in the empowerment process of self-service technology users. Specifically, contrary perceptions of empowerment and disempowerment might occur simultaneously within each cognitive dimension along the various entities that an SSRT user envisions through his or her quest for power. Conversely, when a customer enlists a particular entity to achieve power, mixed cognitions may emerge about the control over, from or to this entity, in the words of Riger (1993). Additionally, structural paradoxes may emerge in which one self-construal is predominantly associated with customer disempowerment whereas one another is associated with evident empowerment. Similarly, two distinct cognitive dimensions may provide globally contrasting empowerment perceptions. Should such paradoxical configurations exist, they would possibly have a strong

repercussion on the overall customer ambivalence toward SSRT. Therefore, we formulate the following research questions:

RQ3: Do customer perceptions of empowerment and disempowerment occur simultaneously within the same cognitive dimension, and at a particular level of self-construal, in the context of SSRT use?

RQ4: Do one or more structural paradoxes of empowerment emerge from SSRT use?

3. Methodology

3.1 Research design overview

Given the exploratory nature of this research, a qualitative methodology was employed based on consumers' narratives of their SSRT use to investigate research questions RQ1 and RQ2, and to validate the extended conceptualization of consumer psychological empowerment proposed in Fig. 1. Further, to examine research questions RQ3 and RQ4 about SSRT paradoxes, we carried out a lexicometric exploration of survey data targeting the empowerment themes previously identified in the verbatim narratives. Forming part of inductive quantitative methods, lexicometric approaches applied to interview data are useful to provide key insight into linkages between textual variable categories that might not be identified using manual coding (Haynes et al., 2019), but might explain paradoxical relationships. All informants throughout the overall research design were selected within the same geographical area, that is, a major European region in terms of population size and economic vitality.

3.2 Narrative data collection and analysis

Open-ended in-depth interviews were employed to collect consumers' narratives about their use of self-scanning and self-checking devices. These two prominent instances of SSRTs were checked as prototypical in a preliminary study, and were then systematically assigned the main object of consumer narratives. Previous qualitative research has generally

investigated self-service contexts through focus groups or semi-structured interviews to understand user motivations and the role of situational factors (Essén et al., 2015). In contrast, consumer narratives are decentered methods that consider the consumer an active producer of his or her experience (Holt, 2002). To the extent to which they help individuals develop a reflexive view of their consumption, narratives allow researchers to understand how individuals derive meaning and negotiate their self-construction from consuming artifacts or brands (Holt, 2002). Therefore, this method seems appropriate for understanding how consumers create a sense of empowerment across their multiple self-construals when using SSRTs.

The interviews ranged between 40 and 60 minutes in length. The interview protocol began by asking the participants to relate stories about their use of self-service technologies in retail environments, such as self-checking or self-scanning, and how they felt about using these devices. Additionally, we used projective visuals that described retail settings including self-checking and self-scanning to help the respondents project themselves into past SSRT-based situations (see Appendix A). Projective methods are used in qualitative research to capture individual “ways of operating or doing things in what might look like a passive form of social activity” (De Certeau, 2011, p. 11). As an everyday life practice, the use of retail devices may require minimal attention to be accomplished. Therefore, a projective approach is useful to allow individuals to envision aspects of the phenomenon that are not easily accessible. Our projective visuals comprised pictures of self-scanning devices near the store entrance and self-checkouts at the exit of a supermarket. To avoid gender bias, pictures alternated between male and female consumers using self-scanning or self-checking terminals.

In line with the methodological approach of Weinberger, Zavisca, and Silva (2017), the recruitment of participants involved a combination of two sets of in-depths interviews.

Following Pelletier and Collier (2018), our primary data set purposefully obtained a diverse representation of SSRT experiences through a convenience sample based on a selection criterion. Six respondents were selected using the criterion of their attitude valence toward SSRT (i.e., positive, neutral, negative). From the first data set analysis, a core theoretical construct of empowerment themes emerged. To achieve thematic saturation, a second dataset of seven additional respondents was recruited through snowball sampling, using the stopping criterion approach (Francis et al., 2010) to determine the adequate sample size. In the case of qualitative studies aimed at populating pre-specified theoretical constructs, such as the extended empowerment framework, the stopping criterion targets three consecutive interviews in which no new themes emerge, for deciding the saturation point. Two investigators participated in the coding process and analyzed the data through a constant comparison method. The verbatim transcripts consisting of 95 pages were subjected to a theory-driven thematic analysis from a deductive approach described by Braun and Clarke (2006, p.12). While our extended model of consumer psychological empowerment was largely expected to inform the coding matrix, the qualitative data interpretation remained open to new categories or subcategories inferred from consumer narratives throughout the overall analysis. Based on the stopping criterion, both the investigators agreed that the thematic saturation was achieved in the second dataset after seven additional interviews, with no new empowerment themes emerging in the last three ones. The final sample, which exhibits a size similar to the other theory-driven qualitative studies, investigating consumer contexts (Francis, 2010; Saunders et al., 2018), consisted of four males and nine females aged between 19 and 62 years (see Table 2).

Insert Table 2

3.3 Lexicometric study

Following the thematic analysis, a survey approach was employed to determine the extent to which consumers shared the empowerment themes associated with the use of SSRT. Data were drawn from an opt-in online panel, supplied by the market research agency, Toluna. The sample was balanced on all major demographics (gender, age, education, and occupation) to mirror the adult population under investigation. After being exposed to the same projective visuals used for the narrative collection, respondents were asked to read the definition of each SSRT-based psychological empowerment theme and to indicate on a 2-point scale (yes/no) whether it corresponded to their own perceptions. Our final sample consists of 201 respondents and is described in Table 3.

Based on the sample's dichotomous responses, we then conducted a lexicometric analysis (LoMonaco et al., 2017) consisting of a correspondence factor analysis (CFA) (Hoffman & Franke, 1986) and a structural analysis of similarity (Flament, 1986) using the software Iramuteq (Ratinaud, 2009). Both methods intend to provide a graphical representation of the structuration of empowerment themes. Applied to the contingency table that distributes the empowerment themes along each respondent, CFA locates each theme as a point in a low-dimensional Euclidean space using the chi-square metric as a distance measure between each theme. While points located around the origin represent the mean, points away from the origin represent deviation from the mean. The overall spatial variation in the points set, called *total inertia*, can be decomposed along the obtained factors through their eigenvalue indicator, each point being associated with a proportion of inertia (Hoffman & Franke, 1986).

Additionally, a similarity analysis was applied to the sample's dichotomous responses. Introduced by Flament (1986), similarity analysis relies on the fundamental assumption that the relative position of textual elements within a graphical representation of a phenomenon is reflected in the degree of agreement that individuals display with respect to these themes.

That is, the more frequently individuals use the themes together to characterize a phenomenon, the closer those themes will be in its graphical representation. This form of agreement, therefore, is operationalized as the co-occurrence of themes across individuals. Specifically, for ordered dichotomous variables such a yes/no response relating to a theme, the Jaccard coefficient is considered an appropriate co-occurrence index. In the context of this study, the Jaccard coefficient relating two themes reflects the number of interviews in which both themes have been approved simultaneously by respondents, denoting similarity between them (Pawlowski, Kaganer, & Cater, 2007; Real & Vargas, 1996).

The similarity analysis involved three steps. First, the inter-theme similarity matrix consisting of pairwise Jaccard coefficients was elaborated. Second, significant links among the empowerment themes were identified by constructing the ‘maximum tree’ from the similarity matrix. Proposed by Flament (1986), the maximum tree searches for the shortest without-cycle path to connect all nodes within a graph in such a way that there is only one link between any two nodes. It is constructed by the nearest neighbor algorithm (Doise, Clémence, & Lorenzi-Cioldi, 1993). That is, the former theme included in the tree exhibits the largest frequency value. Then, among the other themes, the one with the highest Jaccard coefficient to the former theme is selected and connected to it. If there are multiple themes with the same similarity index, the one with the highest frequency value would be picked. Consequently, in the final graph, the edges uniting the empowerment themes as nodes reveal the strength of the relations of similarity measured by the Jaccard coefficient, thus providing a pattern of significant paths among empowerment themes. In this pattern, a theme is considered a major node within the maximum tree depending on its connectivity, i.e., the number of total links with other elements and the strength of such relations.

As a third step, thematic communities were identified within the maximum tree, using the edge-betweenness algorithm (Newman & Girvan, 2004), operated by the software

Iramuteq. This optimization algorithm identifies communities within a given network structure by finding and sequentially removing edges with the highest betweenness, where betweenness is a quantity that favors edges that lie between communities and disfavors those that lie inside communities. In the final iteration of the algorithm, themes belonging to the same community are highly interconnected while being weakly connected to other thematic communities (Blondel et al., 2008). While CFA reveals categorical groupings along a few conceptual dimensions, similarity analysis provides a complementary perspective on how thematic communities tend to structure interview data. By construction, in this study, thematic communities correspond to consumer segments characterized by the same cognitive patterns related to empowerment themes.

Insert Table 3

4. Findings

For clarity, narrative themes supporting the improvement of consumer empowerment using SSRT are presented first, followed by themes reflecting empowerment reduction. All themes are described in Appendix B. Then, the results from lexicometric analysis are depicted to provide a better understanding of empowerment paradoxes. All names mentioned in the following sections are pseudonyms.

4.1 Increased empowerment

As revealed by consumer narratives, **meaning** as a dimension of increased empowerment mainly involves *machine-based augmented performance* cognitions that link humans and machines at the relational-self level. That is, SSRTs are symbolically endowed with unlimited capacities: “Personally, I don’t see any limits to their capacities” (Marija, 44 years old); SSRTs are meant to allow consumers to assume new functional roles while keeping up with trends: “We must evolve; brands propose new things (...), I think it is

fashionable at the moment, more and more possibilities and roles are given to the customer” (Claudio, 32 years). Previous literature on self-service technology has viewed technology performance as exerting a positive influence on customer perceptions of service quality (Weijters et al., 2007), and the narratives reveal its possible extension to human performance through symbolic appropriation of machine attributes.

At the individual level, the strengthening of empowerment through **competence** refers to the ability to use self-scanning/self-checkout technologies and exploit all related functionalities with ease. In this case, terminals become an opportunity to reinforce a sense of *self-efficacy*, as previously defined by Bandura (1989), which is psychologically self-rewarding: “Scans are very easy to use (...) I think everyone can manage to use them (...) It is really easy and intuitive (...) Everyone could use it for sure” (Elsa, 19 years). At a relational level, a sense of *dominance* may emerge over the machine, placing customers in an overarching situation of mastery and even conception improvement—“I consider myself as an application designer when I scan again and again. I would have suggestions for improving the systems” (Emmanuel, 34 years)—but also over employees or even other customers through a psychological mechanism of ability comparison (Wood, 1989): “The cashier doesn’t mean much to most consumers because they think they can do it better than her, maybe quicker because she is quite slow (...). They play the game of the fastest, to see which one would scan their products quicker, and tell themselves they are the fastest, the best, constantly competing” (Elsa, 19 years). Feelings of dominance over employees go hand in hand with previous poor-quality service experiences: “It’s fine when there is a smile, a true service. (...) It’s an accumulation of bad experiences when interacting with front-office employees” (Emmanuel, 34 years).

Additionally, a sense of improved *ubiquitous autonomy* contributes to **self-determination** as a form of consumer empowerment at the individual level. We define

ubiquitous autonomy as the consumer choice to use self-service terminals at any time to fulfill a variety of goals, such as avoiding queues at the checkout, completing tasks on their own or attempting to save time: “I appreciate this kind of autonomy (...). Actually, I look for self-checkouts, so when I go to the retail shop, I manage to self-scan most of my articles” (Nicolas, 35 years). At a relational level, consumers may also experience *relational autonomy*, which relates to the freedom of bypassing front-office employees: “I appreciate not having to rely on the checkout employee (...) there are some clients who want to do things by themselves and some are somehow... not good at that, not like us (...). In that case, considering what I intended to do, I didn’t need any employee” (Marija, 43 years).

Through the use of SSRT, consumers may also experience a higher capability in optimizing their shopping as a form of increased **impact** at the individual-self level. Here, *Shopping optimization* refers to the effective control that customers exert over shopping aspects such as shopping duration, the accurate determination of the shopping basket value, or saving money: “It also permits you to be more aware of what you buy, to make fewer mistakes, to track the amount of your items. Sometimes, I will think that it is ok, the amount is only 20 or 30€ so I can fall for this one. At other times, I will think that my limited amount is already reached, so this item or product I will buy next time (...). You can check the amount of stuff because thanks to self-scanning, the price is available immediately” (Claudio, 32 years).

Overall, most of our respondents expressed feelings of increased psychological empowerment, which could be related to one or more of the four dimensions—meaning, competence, self-determination and impact—identified in the literature (Spreitzer, 1995). However, these dimensions are not distributed evenly throughout individual and relational self-construals and are not associated with collective self-construal at all in the case of increased empowerment (see Appendix B).

4.2 Empowerment reduction

Dehumanization, inequitable exchange, and status demotion constitute the important facets of empowerment reduction conveyed through **meaning** for consumers who use or are exposed to devices such as self-checking or self-scanning. Regarding the *dehumanization* theme, our respondents strongly blamed retail devices for reducing the potential of interactions with employees and thus damaging the nature of service activities at the relational-self level. Our respondents also viewed these devices as a threat to consumer social identity at a collective-self level because of the job destruction and human desertion they are likely to entail, especially in the local community: “It is more fun to have a cashier; it is a lot nicer anyway. On the whole, I like to see the cashier, for no particular reason...It is more human, definitely yes. Look, you don’t speak in front of a machine. I mean, there is this spirit, quite human (...). Employees create jobs. It’s about jobs after all; I mean, more or less, everyone needs to work” (Catherine, 54 years).

In addition to dehumanization, the narratives reveal a sense of *inequitable exchange* at the relational-self level. Our consumers negatively evaluate the delivery of the potential promises of technology in view of the efforts actually exerted by consumers. That is, consumers expect much more than what they receive from retailers considering they are performing a task in place of retailer employees: “The customer does the job that was previously done by service employees. The retailer won’t pay that person anymore, so why not attribute more points on the loyalty card, or vouchers?” (Emmanuel, 34 years).

As a third theme of disempowerment meaning that emerges at the collective-self level, *status demotion* concerns relate to possible status degradation derived from the new role assigned to consumers, as they are required to act like employees and fulfill activities they may evaluate as being unrewarding: “Hum, there is no pride in the possibility of shopping alone, I don’t think so” (Catherine, 54 years) and, “I’m not a person who would like to do the

work of the cashier employee” (Marija, 43 years). Because endorsing employee status is likely to render customers unable to develop Bourdieusian strategies of distinction, some of them tend to reject a symbolic universe that is perceived as being grounded in humbling tasks.

The need to *request the assistance of employees* when using SSRT reduces consumer psychological empowerment through the dimension of **competence**: “We had to wait for the cashier to come and troubleshoot the problems. The cashier had to unlock the system to finally scan the article manually (...) It is of no use if you have to wait every time for the cashier to help” (Aurelia, 36 years). Being dependent on the employee is even more poorly perceived if consumers are confident in their self-efficacy and thus lament not being trusted to do the whole task on their own: “There is always an employee, but you could do it on your own. It is of disconcerting simplicity” (Emmanuel, 34 years). By contrast, consumers who feel the need to be supported or who resent feeling pressure from other customers when there are large crowds tend to welcome assistance: “When you use something for the first time, you always have a little bit of stress because there are lot of people around” (Karen, 43 years). In accordance with the previous work of Simon and Usunier (2007), respondents preferred human service delivery when they perceived service as complex. Therefore, buying a high number of products or being confronted with challenging payment methods (due to discount coupons for instance) seem to be the decisive factors in the formation of customers’ judgment of their own inability to use a given self-service retail technology.

Empowerment degradation in the context of SSRT also results from a lack of **self-determination** at the relational- and collective-self levels. At a relational level, consumers may feel that the possibility to choose is reduced by retailer *normative injunctions* to use self-service technology: “Now you know that if you do the check-out by yourself with EasyJet, you’ll earn 10€, or I don’t know how much, and then you are induced to do even more than this type of self-service. I mean, we are kind of forced to do so; sometimes you even have no

other choice” (Marija, 43 years). In such situations, customers feel that they do not act of their own free will by using self-service. As advanced by reactance theory (Brehm & Brehm, 1981), this form of self-production is likely to induce varying degrees of customer anger (e.g., irritation, annoyance, and aggression). At a collective level, the narratives suggest that a severe threat to self-determination is conveyed by what is internalized by consumers as a “system above,” which can be likened to the concept of “macrostructures” proposed by Humphreys & Thompson (2014) to describe a set of institutions that discipline customer practices through the underlying work of conventions and norms legitimation. Consumers perceive that a *macrostructure takes precedence* and reduces their collective possibilities because they are not offered any possibility of participating in the decision process related to SSRT implementation. Instead, consumers experience confusion while feeling trapped in a form of passivity: “I have the feeling I’m not free to choose and do what I like, but at the same time, I could also say no, but I kind of don’t refuse this fate... I wouldn’t say ‘a fate’ but almost (...). It would be an obligation rather than a choice to switch to self-checking (...) If I could have the choice, I would stay with a cashier” (Elsa, 19 years).

Regarding the decrease in consumer **impact** as a dimension of disempowerment through SSRT use, the narratives reflect a significant loss of agentic capacities at the three levels of self-construal. At the individual level, a *functional agentic loss* emerges as a consequence of the limited number of functions provided by SSRT, which denotes the standardized service strategy referred to as “McService Strategy” deployed by retailers (Huang & Rust, 2017). Therefore, SSRT is perceived as a service that comprises fewer options and functionalities than a service delivered by an employee: “I had a discount ticket. The cashier, hearing me complaining, told me that the self-checking didn’t accept any types of discount tickets. Also, it sometimes happens that a few products cannot be scanned if there is a label or a fold on them. There are things that the machine can’t do; there are always

situations for which a problem occurs” (Catherine, 54 years). At a relational-self level, *voice agentic loss* describes the lack of consumer power resulting from being unable to ask questions or complain directly to employees to obtain a service recovery: “When you use the traditional checkout with an employee, you can use different payment methods because an employee is here to check them out. But, when using self-checking devices, you have no guarantee it will be accepted. Because you have no one to verify if the retailer is ok with your payment option (e.g., vouchers). An employee, on the contrary, would be able to confirm their validity” (Karen, 44 years). This is consistent with the self-service technology literature, which has demonstrated that technology acceptance is reinforced when customers are aware that they can still complain to an employee (Reinders, Dabholkar, & Frambach, 2008). Because consuming through SSRT does not translate into the direct capability of customers to preserve local employment, our respondents also express a sense of *community agentic loss* at the collective-self level: “With automatic self-checking in retail, we are no longer in direct contact with the jobs that are created; it’s not a good thing” (Elsa, 19 years).

While revealing diverse sources of increased empowerment at the individual and relational levels, the narratives of SSRT use paradoxically evoke the various and extensive faces of a disempowered customer that follow the four dimensions of psychological empowerment described by Spreitzer (1995). A sense of disempowerment affects all self-construals, but the interdependent self stands out as the locus of significant threats regarding the meaning of consumption, in addition to consumers’ autonomy and impact (see Appendix B). These results suggest that each of the Spreitzer’s four dimensions of empowerment is appropriate to describe the type of cognition involved in the use of SSRT, in response to RQ1. Regarding RQ2, two dimensions - self-determination and impact - are related to the agency of the three types of self-construals, whereas the other two dimensions are related to two out of the three self-construals; the meaning dimension is not related to the individual self, and the

competence dimension is not concerned with the collective self. In response to RQ3, customer perceptions of empowerment and disempowerment are found to occur within each cognitive dimension. However, there is no extension of this pattern when considering the self-construal level. While customer perceptions of empowerment and disempowerment are found to occur at the relational level, the collective and individual selves exhibit an inverted configuration: the collective self is the locus of customer disempowerment only, and the individual level is mainly a source of empowerment.

4.3 Empowerment paradoxes through lexicometric analysis

Reflecting the coexistence of mixed cognitions, the lexical statistics drawn from the panel data (see Appendix D) show that the more frequent themes alternate between customer disempowerment (Dehumanization - Macrostructure precedence - Inequitable exchange) and empowerment (Self-efficacy - Ubiquitous autonomy). Accordingly, the CFA (see Fig. 2) exhibits one major factor that explains 26.1% of the total inertia and reveals two opposite poles in terms of psychological empowerment (empowerment versus disempowerment). The second factor, which explains 12.4% of the total inertia, denotes the social targets of the agency that consumers intend to exert in coherence with the self-construal they enlist situationally. Namely, it contrasts against the servicescape, as an assemblage embracing machines and employees, with the figure of the retailer while including the individual self and the community as two other targets. At the center of the map, four themes, including community agentic loss, dehumanization, and macrostructure precedence as forms of disempowerment and self-efficacy as a form of empowerment reinforcement, reflect mean characterizations that involve the three types of self-construal. By contrast, dominance, status demotion, and assistance requested are positioned at the extremities of the map, as they exhibit the higher levels of chi-square distance from the average theme profile (see Appendix

D). All the theme coordinates and the corresponding levels of inertia are presented in Appendix D.

Insert Fig. 2

As evidenced by the maximum tree depicted in Fig. 3, a limited number of linkages are identified among the pair-wise Jaccard coefficients presented in the inter-theme similarity matrix (see Appendix C). They outline four major nodes in terms of connectivity, in descending order: dehumanization, ubiquitous autonomy, relational autonomy, and voice agentic loss. Based on the edge-betweenness algorithm, each major node is found to generate a thematic community. Entitled “*Political disempowerment*,” the first community in terms of theme occurrence fundamentally denotes a lack of power vis-à-vis retailers and other macrostructures, as it is organized around the dehumanization theme. Structured around the voice agentic loss theme, a second community, referred to as “*Functional and interactional service degradation*,” reflects additional themes of disempowerment in relation to service functionalities and employees. In contrast, the third community, labeled “*Individual self-based service improvement*,” is organized around the ubiquitous autonomy theme and expresses clear characterizations of empowerment at the individual-self level, leading to perceptions of service improvement. Generated by the relational autonomy theme, a fourth community, entitled “*Servicescape domination*,” denotes a sense of dominance over the retailer servicescape specifically. While representing homogeneous segments of customers sharing similar views on SSRT, thematic communities also improve the understanding of paradoxical empowerment representations in this study. The “Political disempowerment” and “Individual self-based service improvement” communities are united through a strong linkage (i.e. plain line) corresponding to a high Jaccard coefficient of 0.68 between the dehumanization and self-efficacy themes (see Appendix C). In response to RQ4, such a paradoxical similarity structure illustrates that consumers may derive great benefit from the

ubiquitous autonomy allowed by SSRT, whilst still resenting retailers and macrostructures for the inequitable and dehumanizing treatment that also results from SSRT.

Insert Fig. 3

5. Conclusion

5.1. Summary of results

By applying the Spreitzer's four-dimension model of psychological empowerment from a focal behavior to the use of SSRT, and by formally extending it to the relational and collective levels of consumer self-construal, this research provides a far-reaching – but unfinished – lens through which to examine the paradoxes of consumer empowerment in the context of SSRT.

Based on consumer narratives, content analysis exhibits mixed empowerment themes that tackle each level of self-construal. In light of the collective and relational selves as the loci of consumer agency, a variety of disempowerment manifestations emerge that have not been systematically addressed by the self-service technology literature to date. Most notably, customer perceptions of a lack of power highlight the roles of macrostructures and retailers in undermining their self-determination through normative injunctions to use technology. The customer perception of a lack of power arises in response to a reduction in their capability to exert an influence, not only on the service offer either in terms of conception or recovery, but also on the digitalization process at a societal level; and by conveying a symbolic threat on their social identity through dehumanization. By contrast, SSRT may also be associated with empowerment perceptions, which emerge both at the individual level, mostly through a sense of ubiquitous autonomy, and at the relational level through feelings of domination over the servicescape and the symbolic appropriation of the machine capabilities.

Consistently, similarity analysis identifies four types of categorical communities. While two communities clearly associate SSRT with increased empowerment at the

individual and relational levels, the other two communities reflect customer disempowerment, either in resenting macrostructures or retailers as major sources of empowerment seizure at a political level, or by missing traditional service functionalities and employee interactions. Nevertheless, a high similarity index links the community grounded in representations of political disempowerment and the community perceiving service improvement through ubiquitous autonomy. Overall, empowerment paradoxes are powerfully illustrated by the mixed cognitions governing this structural nexus, as each of the customers belonging to the two communities is deemed to simultaneously experience contrary manifestations of psychological empowerment derived from the use of SSRT.

5.2 Theoretical implications

Most notably, this work presents convergent evidence that psychological empowerment from a focal behavior should be formally investigated in light of the self-construal levels that consumers experience when performing a consumption-related activity. Grounded in social cognitions theory, this assumption reconciles the two separate views of individuals' power as being either social or personal, which are both common in social psychology (Lammers, Stoker, & Stapel, 2009) and have infused into consumer research.

As this unified perspective is at the heart of the extended model of psychological empowerment, conceptual concerns that are supported by critical power theories (Denegri-Knott et al., 2006) involving political forces, norms internalization or consumer resistance can be merged with functional aspects related to customer competencies and service customization. A substantial part of marketing research devoted to the empowered customer could benefit from this approach. This applies to the co-creation or co-selection of a brand offering, which has been recognized as a major source of consumer psychological empowerment (Auh et al., 2019). As this stream of research is focused on brand-consumer exchange at a relational level, the examination of the collective self permits the apprehension

of how customers, as active partners of new product development, tend to leverage the cultural model they favor, or resist the institutional discourses they resent. To some extent, this approach echoes recent works on the vicarious consumption of user-design products (Fuchs & Schreier, 2011) where customers who do not participate may prefer these products to company-designed ones, depending on their tolerance to power distance in society (Paharia & Swaminathan, 2019).

Even more so, the assumption of the agentic role of consumer self-construals has important implications for research on self-service technology, which has so far considered the autonomous customer mainly through the prism of his or her individual self. As much as the use of the Spreitzer's four-dimension framework was instrumental in determining a significant set of empowerment manifestations, it is worth noting that the introduction of the meaning dimension in an SSRT context introduced a crucial view on the agency of the relational and collective selves by revealing the dehumanization theme, which constitutes the major node of the political disempowerment thematic community in the similarity tree. Accordingly, this research presents a strong impetus to consider the political dimensions that support SSRT representations, which requires tackling the role of macrostructures. While the notion of macrostructures in the context of SSRT needs conceptual refinement and a more accurate delineation, the notion could be extended to retailers as a commercial form of macrostructure, given their overarching role in producing norm injunctions at the point-of-sale, as evidenced by this study. More generally, our work suggests that macrostructures associated with SSRT should be apprehended in view of two intertwined phenomena: the social acceptability of digitalization-based organization models (Panico & Vidal, 2020) and dehumanization threats.

Specifically, dehumanization perceptions seem to become more prevalent among individuals as artificial intelligence and robots gain traction in consumer environments

(Mende et al., 2019). Human-robot interaction research generally assumes that anthropomorphized robots elicit social responses, such as trust and perceived competency (Gong, 2008; Waytz, Heafner, & Epley, 2014). However, initial marketing research shows that anthropomorphizing robots tends to reduce robot acceptance (Mende et al., 2019) by increasing consumer psychological discomfort, which includes experiencing feelings of eeriness and human identity threats. This corresponds to the phenomenon known as the “uncanny valley” in robotics (Mori, MacDorman, & Kageki, 2012). As endowing SSRTs with human attributes (Grewal et al., 2020) may possibly fall into the uncanny valley, it could be counterproductive in the management of threats to involve the consumer collective self. Further research should closely examine this issue and investigate the boundary conditions associated with machine humanization by targeting the machine features and the context in which it is employed (Mende et al., 2019). Moreover, due to retailer awareness, consumers are more likely to cognitively associate dehumanization with retailer agency than with a less well-identified macrostructure entity. Therefore, the way that consumers elaborate causal attributions regarding a retailer’s social responsibility in terms of dehumanizing local communities constitutes an area worthy of investigation in SSRT research.

Consumers most commonly evaluate their use of SSRT as pertaining to an inequitable customer-retailer exchange, while they relate this evaluation closely to the dehumanization theme in the similarity tree. Therefore, the empowerment paradox in the context of SSRT could also be interpreted through the prism of a customer’s compensation regarding their participation in service delivery. According to the theory of perceived justice (Colquitt et al., 2001), people in exchange situations aspire for a fair distribution of outcomes, for appropriate procedures to implement decisions, adequate explanations about them as a form of informational justice, and consideration in their interpersonal treatment. From this perspective, SSRT use may be considered an exchange in which customers seek to maximize

their enabling agency, or offset their loss of empowerment, while being fairly compensated for their participation. Specifically, customer participation is likely to be costly in terms of physical or cognitive expenses. In addition, customer participation may be burdensome either at the relational level, by experiencing reactance feelings due to the normative pressure exerted by retailers, or at the collective-self level, given that several customers associate the completion of SSRT-associated tasks with status demotion. In this respect, compensating for status demotion with ubiquitous autonomy as a form of functional empowerment can be perceived as unsatisfactory by the targeted customers. Consequently, the present work elucidates that the compensation mechanism that retailers should cultivate to mitigate customers' perceptions of inequitable exchange requires considering the significant themes of psychological empowerment that particular customer segments favor. Further research is needed to explain how compensation mechanisms derived from multiple sources of consumer empowerment may transform into perceived justice. In any case, the fact remains that SSRT users are generally left ignorant of retailer compensation rules, assuming that they exist, which denotes a breach of informational justice. Investigating the effects of the retailer's communication about such rules also seems to be worthwhile for future marketing research.

While our findings point out the servicescape prominence in a given retail experience, they also provide new insights into how consumers derive power agency from it. Most notably, a sense of dominance over the servicescape involving employees as well as machines may emerge when customers use SSRT. Specifically, the representations of dominance over employees seem to be ingrained in a technical ability-based social comparison process that reinforce SSRT users' self-esteem. Additionally, as employees are recipients for complaints as well as serviceable entities that can help solve problems, they reinforce consumer "power over" or "power to," as referred to by Riger (1993), in the context of SSRT use. Conversely, their absence may generate perceptions of voice agentic loss, as evidenced by this research.

In other words, the potential value of SSRT in terms of consumer empowerment raises the question of the explicit copresence of employees within the retailer servicescape. This issue is rendered even more critical as cashierless stores expand. Being exposed to employees' attendance could constitute a perceptual boundary condition to generate social comparison mechanisms and reinforce voice agentic impact in favor of customers. According to assemblage theory (Hoffman & Novak, 2018), a servicescape can be broached as a so-called assemblage, that is, a composite of heterogeneous entities (physical objects, intelligent artifacts, human entities, events or signs) that have the capacity to interact, thus making the assemblage inherently unstable due to their fluctuating interactivity. In light of this, the coexistence of employees, SSRT, and customers within the same servicescape can be understood as being part of a territorialization process that stabilizes the assemblage by making it more homogenous in terms of entity identities and agency practices. Conversely, removing employees from the retail environment may destabilize the overall assemblage by making identities less clear and reducing the fit, capabilities, and power of entities.

5.3. Managerial implications

In addition to advancing research through its theoretical contributions, this article provides essential insights for retailers. First, retailers may benefit from a better understanding of the forms of political disempowerment that a substantial portion of their customers associate with SSRT use. Consequently, retailers should communicate in a way that preserves consumers' collective identity. In particular, they should systematically associate the promotion of SSRTs—such as delivering waiting time information messages during peak hours when traditional checkout queues are long—with a spotlight on the organization's altruistic actions in favor of local communities, as well as the active promotion of their employees at the level of each point of sale. By relying on the principles of classical conditioning, this type of communication would reduce customer perceptions of

dehumanization through the creation of more favorably conditioned attitudes toward SSRT (Olson & Fazio, 2001). Consistent with such communication angles, retailers could engage in buying technological artifacts designed or produced locally, because customers ascribe symbolic features to local products, and this targets their positive contribution to natural environment preservation, community building, and human rights preservation (Hartmann et al., 2018). In the same vein, retailers should be aware that consumers generally decipher retailer policy as aimed at pushing customers toward SSRT under various pretexts. To assuage consumer reactance, retailers could instead place notice boards close to SSRTs that inform consumers about time slots without queue counters.

Second, our findings reveal that perceptions of inequitable exchange generally underlie SSRT representations for most consumers. From this perspective, retailers should work to mitigate the effects of the detrimental meaning that emerges from the relational self by compensating customers symmetrically at the relational level. Such a result could be achieved through dominance over peers as a renewed form of dominance and through increased voice agency. As retailers are not able to align employees systematically within their sight during SSRT-based customer transactions, they could try to trigger customers' self-esteem through a technical, ability-based social comparison process involving other shoppers rather than employees. For instance, retailers could facilitate idea contests for SSRT improvements at the point of sale. Additionally, the participative suggestions offered by customers could be displayed on virtual walls as a way of reinforcing the perception of a social presence in amongst technological innovation. Accordingly, customers' voice agency could be improved by encouraging customers' participation in solving SSRT inadequacies by using virtual platforms that are accessible through retail support kiosks placed close to SSRTs. These platforms could consist of public forums and chatbots on which customers would be able to help each other when using SSRT and find didactic resources from the

retailer. According to assemblage theory, such retail support kiosks would be part of a novel retail assemblage, ascribing roles and providing power configurations that would be more favorable to customers.

Third, our findings suggest that the perceptions of increased autonomy and shopping optimization triggered by SSRT are not sufficient to match disempowerment threats invariably. Therefore, by alternately considering the level of customers' individual self-construal, retailers should try to provide a better balance and greater value by allowing SSRT to help customers achieve service customization, as advocated by Huang and Rust (2017) in their technologically driven service strategy recommendations. For instance, self-checking devices could allow customers to select their permanent preferences in terms of payment methods, reward points use, or privacy requirements, including facial recognition acceptance. As artificial intelligence should facilitate the provision of such personalized options (Kumar et al., 2019), it is likely to encourage empowerment compensation at a relational level by favoring customers' symbolic appropriation of the augmented performance exhibited by such smart SSRTs. However, retailers should control the level of anthropomorphization displayed by smart SSRTs closely to prevent the uncanny valley phenomenon. A balanced way for retailers to implement cutting-edge technological artifacts would be to deploy smart supermarket trolleys equipped with cameras and the capacity to play the checkout role whilst being pushed or remotely monitored by the customers themselves. As far as the integration of some human feature may increase customer trust in the machine, the use of the humanized trolley should be cautiously tested in real retail settings and its impact in terms of consumer psychological discomfort and causal attributions of dehumanization should be evaluated.

5.4 Limitations and future research

This study has some limitations, which suggest opportunities for future research. First, this research was exploratory in nature and requires more systematic investigation through

quantitative generalization. Experiments could be conducted in the context of SSRT use, in which self-construal types would be manipulated through priming instruction (Mandel, 2003) to establish their influence on customer psychological empowerment along all the concept's dimensions. Experimental designs could also investigate boundary conditions. Specifically, they could target human-like versus machine-like retail technology; the visible presence versus absence of employees near retail artefacts; voluntary versus forced use of SSRT; or no-compensation versus compensation for using SSRT, as these conditions are likely to affect customer perceptions of dehumanization, dominance over the servicescape, self-determination, and inequitable exchange, respectively. Additionally, the extended model of consumer empowerment may benefit from the operationalization of empowerment themes in the form of psychometric scales. These would facilitate the estimation of SSRT adoption models that integrate the perspective of customer psychological empowerment. Such structural models could integrate causal attribution variables to assess the respective roles of distinct macrostructures (governmental institutions, retailers, etc.) in the perceived dehumanization process that affects retail environments. This would permit establishing a possible relationship between an SSRT-based retailer policy and its customer-based brand equity through the mediation of customer attribution on the matter of his or her environments' dehumanization.

Longitudinal designs are needed to analyze how the paradoxical attitudes toward SSRT, which unite ubiquitous autonomy and political disempowerment perceptions, may evolve over time. Most notably, an interesting future research avenue might be to explore whether the coping behavior types (i.e., alternative choice versus paradox acceptance) play a role in favoring customers' attitudes enabling agency over the ones that disable it. In the same vein, the case of companies having reinforced the implementation of SSRTs or instead, having removed them, should be examined. Existing literature on relationship marketing

supports two contrasting views regarding the consequences of a brand transgression (see Khamitov, Grégoire, & Suri, 2020 for a review); either prior favorable relationships serve as a safety cushion against negative events, or they aggravate them. Therefore, considering SSRT implementation to be a retailer transgression, it would be of prime interest to observe whether one effect takes precedence over another. Inversely, the tactical movement initiated by some retailers in removing SSRT (Larson, 2019) should be studied over time to establish its potentially converging effects on retailer image and customer retention.

Second, the conceptual framework developed in this paper could be transposed into other contexts. As our work targeted a European retail context, it is necessary to evaluate its generalizability in different cultures, including American and Asian retail environments. As suggested by cross-cultural literature, variations in the perceived value of services can be ascribed to self-construals. Typically, Asian cultures tend to possess a more accessible interdependent self-construal, whereas Western cultures usually endorse the independent self-construal (Agrawal & Maheswaran, 2005). Therefore, cultural differences in the accessibility of self-construals could be considered when evaluating consumer psychological empowerment paradoxes toward SSRT. Additionally, future research should examine consumer empowerment in multiple self-service contexts to capture how the characteristics of a self-service technology device may introduce changes into the cognitive patterns that are established in the customer use of retail artefacts. As illustrated by the recent adoption of smart meters in the market (Wilson, Hargreaves, & Hauxwell-Baldwin, 2017) that are used to monitor energy consumption in smart homes, the introduction of artificial intelligence in self-service devices is likely to reinforce customers' paradoxical cognitions, which include a loss of power due to a perceived threat on personal data control, and contrastingly, a sense of reinforced impact on their own consumption, which results from the high level of service customization provided by the device.

Finally, as we conducted this study before the Covid-19 pandemic, some of our conclusions could be challenged on the grounds that the pandemic may modify the paradoxical configuration opposing the customer perceptions of dehumanization and ubiquitous autonomy, one of them possibly taking new precedence in consumers' minds. On one hand, because of the pandemic, institutional discourses have reconsidered the status of frontline employees in a more appreciative way, because so many have kept working, even at risk of their own infection, and have kept so many useful parts of the economy running (Ton, 2020). Accordingly, mainstream media coverage has echoed and, so far, given credence to previous customer concerns related to the insufficient place of human relationships in commercial settings. On the other hand, the potential risk of contamination when in contact with service employees might increase the need for more physical distance and ubiquitous autonomy. Therefore, our lexicometric study should be replicated *ex post* to examine possible changes into the distribution of empowerment themes and the configuration of thematic communities.

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Fig. 1: The extended model of consumer psychological empowerment from a focal behavior

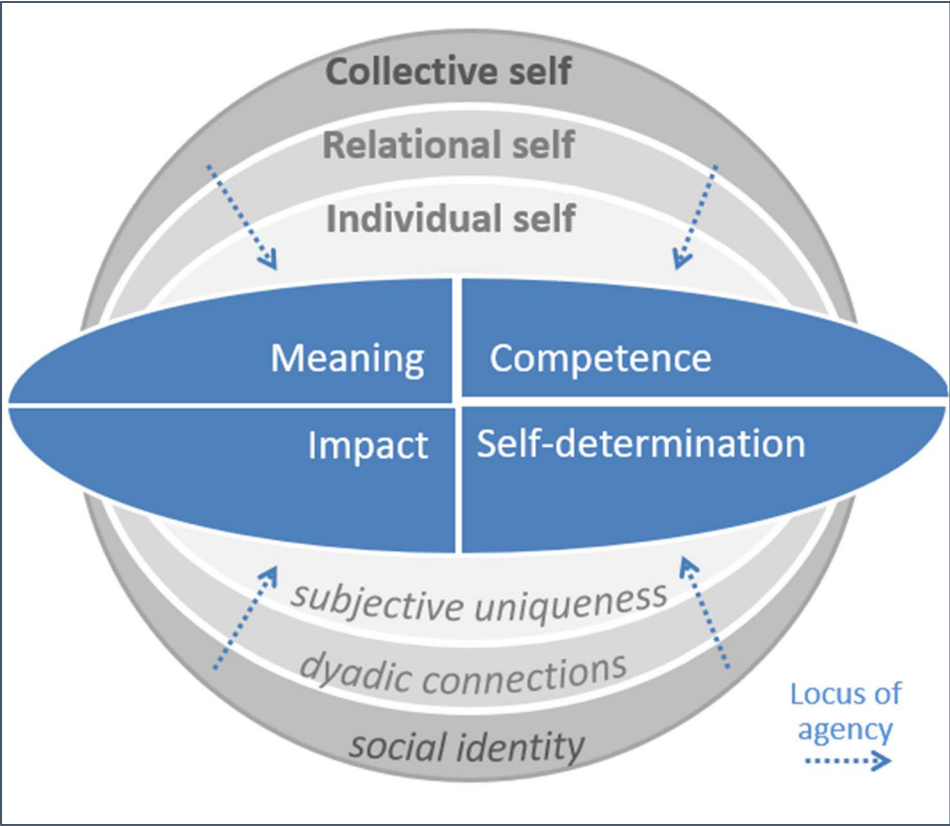


Fig. 2: Graphical representation of the two-dimensional correspondence factor analysis of empowerment themes

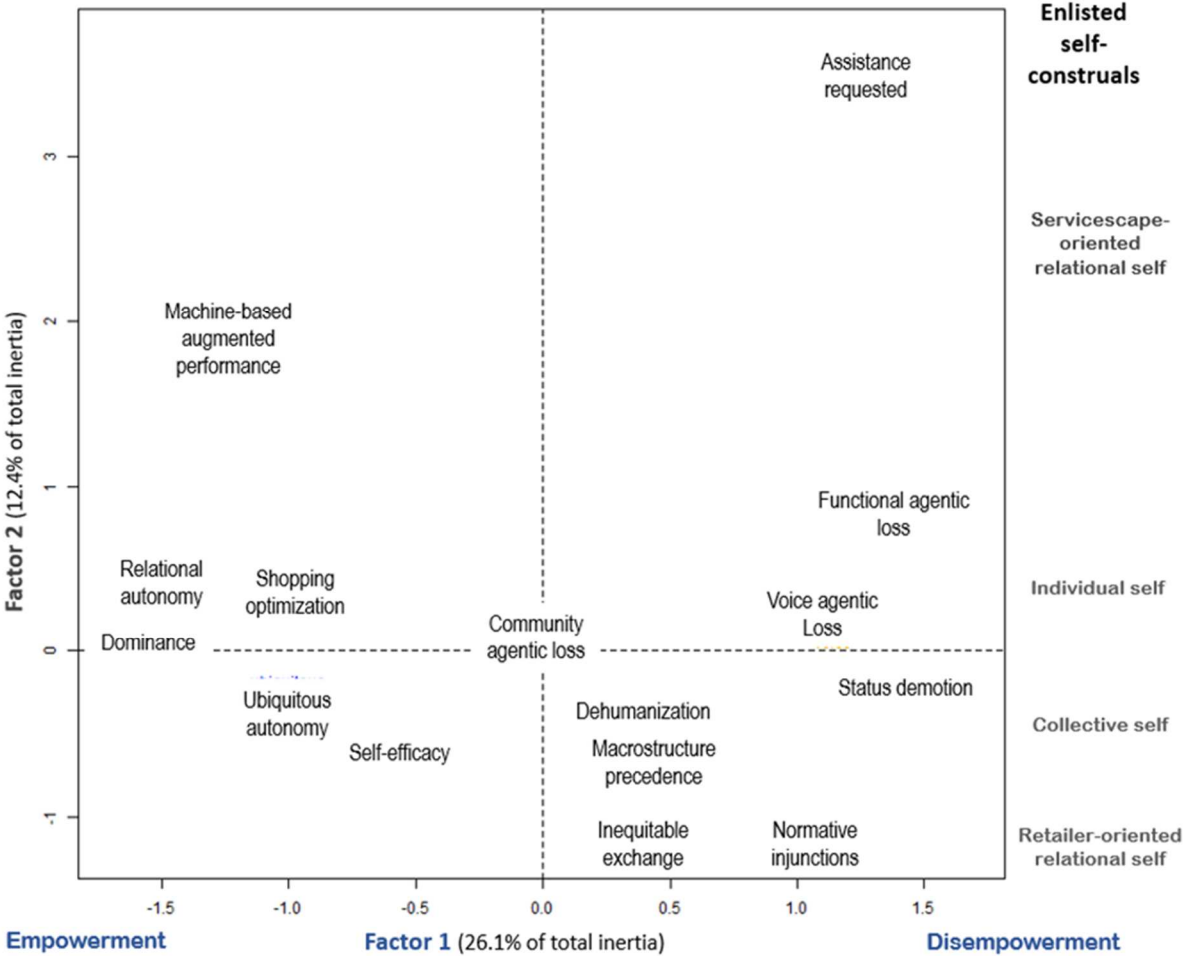


Fig. 3: Similarity graph of empowerment themes as a maximum tree based on Jaccard coefficient

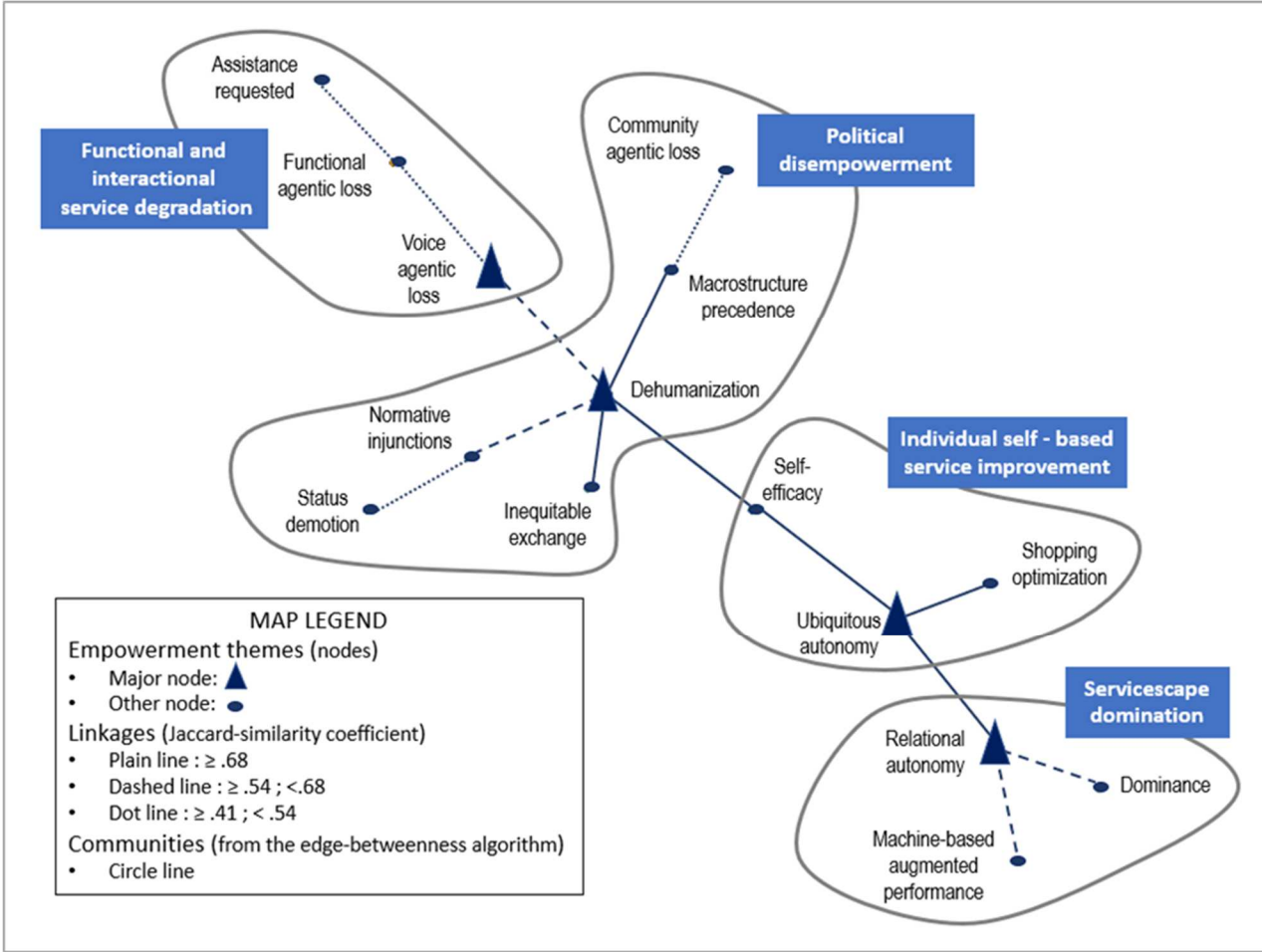


Table 1: Research on psychological empowerment in marketing domain (adapted from Hanson & Yuan, 2018, p.770)

Authors	Year	Context	Definition of consumer psychological empowerment (CPE)	Research type	CPE facets according to Spreitzer's (1995) framework (Concepts or scale labels used by authors in bracket if not referring explicitly to a Spreitzer's dimension)	Levels of self-construal implicitly targeted
Wathieu et al.	2002	Marketing contexts at large	Emphasizes psychological empowerment as a subjective experience	Conceptual	Self-determination (i.e., control of the choice set, progress cues, information on customers' choice, ...)	Individual and relational (other consumers)
Cova & Pace	2006	Brand virtual communities	Consumers take control of variables that are conventionally pre-determined by marketers, as for instance, their identification with a brand.	Empirical/Qualitative method	Meaning (re-appropriation of brand meaning)	Relational (brand) and collective (brand community)
Martin & Bush	2006	Customer-oriented selling	An internal motivation reflecting a person's orientation to his or her role as a sales representative	Empirical/Quantitative methods	Spreitzer's four dimensions	Individual
Füller, Mühlbacher, Matzler & Jawecki	2009	Internet-based tools for co-creation of new products	Consumers' perceived influence on decision making through participation	Empirical/Qualitative and quantitative methods	Self-determination (i.e. consumer participation in decision making)	Individual and relational (company)
Fuchs, Prandelli, & Schreier	2010	Consumer selection of product concepts to be marketed by the firm	A strong feeling of personal accomplishment due to consumer participation to product selection	Empirical/Quantitative methods	Spreitzer's "Impact" and "Competence" dimensions	Individual and relational (company)
Prentice, Han & Li	2016	A general service context	A consumer mental statement of gaining control	Empirical/Qualitative and quantitative methods	Self-determination (i.e. service choice, information attainment), and Impact	Individual and relational (brand; employees)
Hanson & Yuan	2018	Social coupons shared on social networks	A subjective feeling that the individual is empowered and his/her ability increased.	Empirical/Quantitative methods	Spreitzer's "Impact" dimension	Relational (other customers)
Hartmann, Apaolaza & D'Souza	2018	Green electricity use as a way of climate protection	A motivational construct facilitating proactive behavior. Individuals who feel empowered perceive they can influence their environment.	Empirical/Quantitative methods	Spreitzer's "Impact" dimension	Collective (social responsibility)
Auh, Menguc, Katsikeas, & Jung	2019	Customer participation to the definition of a customized offer of private banking	The degree to which customers perceive that their participation has worth and is impactful to organizations.	Empirical/Quantitative methods	Spreitzer's "Impact" dimension and Meaning (i.e. the perceived worth of customer participation in the brand's eyes)	Relational (company)

Table 2: Narrative study participants

Pseudonym	Age	User-type	Activity
Michael (M)	62	Non-User	Engineer (Retired)
Elsa (F)	19	Occasional	Student
Claudio (M)	32	User	Sport Teacher
Marija (F)	43	User	Human Resource Manager
Nicolas (M)	35	User	Commercial
Catherine C. (F)	54	Non-User	Administrative Assistant
Aurelia (F)	36	User	Administrative Assistant
Emmanuel (M)	34	User	Entrepreneur
Catherine M. (F)	52	User	Administrative
Karen (F)	43	Occasional	Commercial and Administrative Assistant
Nadia (F)	55	User	English Teacher
Albertine (F)	29	User	Psychologist
Virginia (F)	32	User	Teacher

Table 3: Survey participants

Sex	Age	Education	Occupation
Women : 54,7 % Men : 45,3 %	< 30 : 15 % 30 to 40 : 14,5 % 41 to 50 : 23,5 % 51 to 60 : 25,6 % Over 60 : 21,4 %	Elementary education : 8 % Apprenticeship/technical school : 21 % High school : 30 % University degree : 28 % Postgraduate degree : 12 %	Employed : 72 % Unemployed : 7 % Student : 4 % Retired : 17 %