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Control Mechanisms, Management Orientations, and the Creativity of Service Employees: Symmetric and Asymmetric Modeling

Customer needs in service settings are idiosyncratic. Responding to these unique needs requires frontline employees to be creative. Little research looks at the drivers of service employee creativity. We aim to fill that void by assessing two potential key creativity drivers, control mechanisms and management orientations. We collected data from frontline employees and their managers and used multilevel mediation modeling, configurational modeling and analysis of necessary conditions. Multilevel analysis revealed that the influence of process and social controls on employee creativity are fully mediated by self-control, whereas the effects of cultural control are partially mediated. The effect of the service orientation of management on employee creativity is partially mediated by self-control, whereas the effect of profit orientation is fully mediated. Causal models from employee control mechanisms and management orientation configurations provide a deeper insight of sufficient conditions leading to employee creativity. Necessary employee control mechanisms and management orientations are identified.

Keywords: creativity, control mechanisms, management orientations, service industries, frontline employees

1. Introduction

Creativity has been defined as an individual's ability to generate novel and useful ideas concerning new products or practices while performing daily activities (Gong et al., 2013). It is a key requirement for organizational success, as a firm's innovation depends largely on having creative employees (Hirst et al., 2015). Therefore, researchers have given increased attention to exploring the antecedents of employee creativity.

Service characteristics, in particular heterogeneity and simultaneous production and consumption of services, create a number of unique challenges for service delivery. Not surprisingly, service managers are devoting increasing attention to the management of frontline employees. Service jobs frequently involve tasks such as identifying heterogeneous customer needs, negotiating with customers, co-creating a value proposition, and developing relationships with customers during the customer lifecycle (e.g., Agnihotri et al., 2014). Moreover, as frontline service employees have a boundary spanning role, they interact with many and heterogeneous customers, and have to manage conflict (Coelho et al., 2018). This context suggests that being creative is an important requirement to be able to satisfy the unique needs of customers (Sousa & Coelho, 2011). Given the unstructured nature of service tasks, service employee creativity will likely play a key role in generating better outcomes for service firms (Agnihotri et al., 2014). In summary, a creative frontline employee is more likely to be effective at uncovering the real needs of customers, and to use this knowledge to devise a service bundle that addresses the specific needs of customers (Coelho et al., 2018).

The literature highlights two major research streams in the antecedents of employee creativity (e.g., Shalley et al., 2004). Past research has consistently linked individual difference variables with employee creativity (e.g., Dong et al., 2017). In addition, past studies also indicate that

managerial actions or, more broadly, contextual factors or interventions, such as leadership styles, job characteristics, and peer support have an impact on employee creativity (Liu et al., 2016). Csikszentmihalyi (1996) contended that changing the organizational context to promote the creativity of individuals should be easier than attempting to change individuals to make them more creative. In line with this, the current study further explores how managerial interventions can affect the creativity of frontline service employees. Influencing employees to adopt the behaviors that are instrumental to the effective implementation of a strategy is a hallmark of employee management (Bowen & Ostroff, 2004). A key issue is, therefore, which managerial interventions will work best (Hartline & Ferrell, 1996). In this context, we seek to overcome two gaps in the (service) creativity literature by considering the explanatory role of two closely related constructs, specifically control mechanisms and management service/profit orientations, which have not yet been related to service employee creativity, but that are key to employee performance in service settings (e.g., Hartline & Ferrell, 1996; Karpen et al., 2015; Taheri et al., 2019).

Most organizations rely on some forms of controls to ensure that the efforts of their employees are channeled to activities that enhance organizational performance (Agarwal & Ramaswami, 1993). A control system concerns the procedures an organization implements to monitor, direct, evaluate and reward its employees (Anderson & Oliver, 1987). Hence, control mechanisms influence how employees perform their jobs (Jaworski, 1988). Management controls have long been deemed important drivers of customer outcomes in services (e.g., Hartline & Ferrel, 1996). Accordingly, this study examines both formal and informal control mechanisms. Formal controls are written, management-initiated mechanisms that guide employee action toward the attainment of a company's goals. Informal controls, on the other hand, are unwritten, employee-initiated mechanisms with the aim of influencing behavior (Jaworski, 1988). Moreover, this study extends

current research by examining the important role played by self-control (an informal control mechanism) as a mediator between the other control mechanisms and employee creativity.

However, the adoption of management controls and specific management orientations must be developed in tandem (see Hartline et al., 2000; Parasuraman, 1987). Management orientation involves the focus of management concerns, practices, and procedures (Borucki & Burke, 1999; Lytle et al., 1998). These orientations impact customer service experiences (Hartline & Ferrell, 1996) and store's financial performance (Homburg et al., 2002; Karpen, Bove et al., 2015). We therefore considered service and profit orientations of management, which are indicative of a firm's external vs. internal orientation (Bowen et al., 1989), as key influencers of the creative behavior of employees. The characteristics of services highlight the importance of the interaction between employees and customers (who frequently participate in service production), of the integration of human resource management, operations management and marketing, and the stress perceived by frontline employees as a result of the competing demands they have to address (Schneider et al., 1993). In this context, Schneider and Bowen (1993, p. 40) argue that, because employees and consumers work with each other, the work environment of employees is conveyed to consumers. Hence, a concern with total customer experience requires an integrated focus on service quality, for which an organization's leaders are particularly responsible (Schneider et al., 1993). Management orientations are key for the creation of the right environment across the organization, as employees translate such environment into service delivery (Schneider & Bowen, 1993).

This study contributes to the literature in three ways. *First*, it extends previous research on the antecedents of employee creativity by examining the role of formal and informal control mechanisms. While it has been shown that control mechanisms and employee creativity affect the

firm's ability to achieve its objectives, the relationship that may exist between control mechanisms and creativity has been largely ignored. To address this gap, this study considers five control mechanisms, namely process and output control (formal), and cultural, social, and self-control (informal), examining their impact on creativity. In addition, this study is the first to explore how self-control serves as a mediator of the relationship between management orientations and the other control mechanisms with employee creativity.

Second, by examining the direct and indirect effects of service and profit orientations of management on employee creativity in a multilevel approach, it enhances our understanding of the relationship between contextual factors and important employee-level outcomes. Several studies have shown that management orientations are key to the delivery of quality service, but their relationship with creativity has not been explored. Moreover, the multi-level approach is key for frontline settings, because the complexity of the sales-service interface suggests that unitary-level approaches are not suitable to capture the dynamics found in coordination efforts (Rapp et al., 2017). In the life of an organization the practices and concerns of management coexist with employees' perceptions of the organizational context (Bowen & Ostroff, 2004), and we considered this duality.

Third, to the best of our knowledge, this is the first empirical study that explores causal models and necessary predictors of creativity of frontline employees using fuzzy-set Qualitative Comparative Analysis (fsQCA). fsQCA and analysis of necessary conditions are used as complementary methods along with the multilevel approach, each providing differentiated insight into employee creativity. While multilevel analysis looks into the net effects of individual variables (a symmetrical approach), fsQCA looks at the combinations of variables that yield a certain outcome (an asymmetrical approach), employee creativity in our case. In a symmetric approach, a

high level of a predictor variable relates with a high level of an outcome variable, whereas in an asymmetric approach a low level of a predictor variable, in a given configuration, may also be associated with a high level of the outcome variable. Hence, fsQCA is a set theoretical approach that generates new knowledge (Kan et al., 2016) by using an exploratory approach to predict configurations (i.e., recipes) that lead to an outcome. Therefore, with the usage of a multilevel approach in combination with fsQCA, we are uniquely positioned to explain how individual (employee) level variables interplay with higher level (manager/superior) variables to jointly impact creativity, while at the same time explore configurations of management orientations and control mechanisms. In summary, the study of these relationships enlightens the literature on services marketing by shedding light on how management orientations and controls can be used to influence the creativity of service employees, which appears key to the delivery of quality services; and the creativity literature by exploring novel antecedents of employee creativity.

2. Theoretical background and model development

2.1. Creativity and self-control

Employee creativity is a function of the employee's personal characteristics and of the characteristics of the organizational context in which the employee works, depending as well on the interaction between these two characteristics (Shalley et al., 2004). A myriad of personal characteristics have been related with employee creativity, such as personality (e.g., Liu et al., 2016), personal values (Sousa & Coelho, 2011), mindfulness (e.g., Baas, Nevicka, & Velden, 2014), emotional intelligence (e.g., Parke et al., 2015), and cognitive style (e.g., Oldham & Cummings, 1996). Contextual factors concern dimensions of the work environment that impact an employee's creativity, and which are not part of the individual (Shalley et al., 2004). Numerous

contextual antecedents of employee creativity have been identified, including job characteristics (e.g., Wang et al., 2014), manager support (e.g., Agnihotri et al., 2014), time pressure and job control (Ohly & Fritz, 2010), role stress (e.g., Coelho et al., 2011), reward for creativity (Chen et al., 2015), high-commitment work systems, team cohesion and team task complexity (Chang et al., 2014).

Our model considers the relationship between contextual factors and employee creativity. In particular, the model predicts that self-control, an informal control mechanism in Jaworski's (1988) typology, operates as a mediator of the relationship between (service and profit) management orientations, the other control mechanisms (output, process, social and cultural), and employee creativity. Self-control takes place when the employee sets his or her own goals, tracks performance, and introduces corrections when deviations take place (Jaworski, 1988). Similarly, Sauers et al. (1990) notes that it entails the implementation of specific procedures to control one's behavior. In particular, self-control relies on the use of feedback to assure goal attainment (Klein, 1989). In a related way, and more broadly, self-control has been defined in the psychology literature as the control the one exerts over oneself, with the individual changing the way he or she would otherwise feel, think, or behave (Muraven & Baumeister, 2000).

The self-control process in frontline settings is well documented in the literature (e.g., Klein, 1989; Sauers et al., 1990). Self-control draws on control theory, which contains two major components: a cognitive one, comprising internal goals, information processing concerning one's current state, and the comparison of the latter with the goals; and an affective one, emerging from discrepancies between the desired and the current state, with action being initiated as a result of an individual's desire to overcome such discrepancy (Carver & Scheier, 1981). Accordingly, the control of one's behavior involves several activities, including employee self-monitoring

behaviors, goal-setting, self-evaluation of performance, and the self-administration of rewards and punishments (Agarwal, 1996; Sauers et al., 1990)

Self-control should play a key role in frontline settings, where employees face complex, non-structured service situations, having to deal with many customers who have heterogeneous needs and where outcomes frequently occur in the long-term, namely in the form of customer loyalty. This means that it is more difficult to evaluate the performance of frontline employees, and to establish role requirements (see Agarwal, 1996; Palmer & Pickett, 1999). Under such task uncertainty, supervisors may find it harder to direct the effort of their subordinates, who have more information about their customers. Thus, once frontline employees are encouraged to take control of part of their behavior, i.e., to decide how to approach customers and to realign goals and behaviors, employee motivation should increase, as they take interest in the content of their jobs, which drives their performance (Agarwal & Ramaswami, 1993; Sauers et al.,1990).

Our model predicts that self-control mediates the relationship between creativity and the remaining exogenous variables. The deployment of self-control is partly determined by an individual's motivation (Lian et al., 2014), which draws on personal and contextual factors (e.g., Klein, 1989; Lian et al., 2014; Muraven & Slessareva, 2003; Sauers et al., 1990). The management orientations along with the remaining control mechanisms we consider have motivating characteristics (Hartline et al., 2000), thereby potentially influencing self-control.

The intrinsic motivation principle from the creativity literature also helps to understand the mediating role of self-control. Such principle argues that contextual factors influence creativity by affecting ones' intrinsic motivation (Shalley et al., 2004). Intrinsic motivation concerns the extent to which individuals perform an activity out of interest or enjoyment (Chirkov et al., 2003), which fuels creative behavior (Oldham & Cummings, 1996). When employees perceive that contextual

factors support their autonomy, they end up fostering an internal locus of control, which is conducive to intrinsic motivation (Koestner et al., 1984). Hence, as management orientations and the other control mechanisms concern the environment in which employees work, they should affect creativity through intrinsic motivation. Lusch and Jaworski (1991, p. 400) argue that "the idea of self-control can be traced principally to intrinsic motivation … Viewed from this perspective, intrinsic motivation is the force or causal agent that drives self-control". Therefore, as contextual factors should affect creativity through intrinsic motivation, which is the driving force of self-control, the latter should mediate the effects of management orientations and of the remaining controls.

2.2 Research Model

The literature considers both formal and informal control mechanisms. Two types of formal controls are usually addressed: output and process control. Jaworski (1988) further distinguishes input controls, but because these refer to actions taken before the implementation of activities (i.e. ex-ante), including strategic plans, training programs, and selection criteria, they are seldom used in the frontline and in other settings (cf. Cravens et al., 2004; Evans et al., 2007; Jaworski et al., 1993; Mellewigt et al., 2011).

Three types of informal controls are typically considered: social control, self-control and cultural control (Jaworski, 1988). Our model considers employee perceptions of control mechanisms, because employee behavior depends (at least partially) on their perceptions of organizational practices (Schneider et al., 1980), and this is in line with other studies (e.g., Ahearne et al., 2010; Atuahene-Gima & Li, 2006). Concerning frontline settings, control mechanisms have been related with important outcomes, including perceived role conflict and employee adaptability

(Hartline & Ferrell, 1996), employee goal orientations (Rodrigues, Coelho, & Sousa, 2015), job performance and organizational commitment (Panagopoulos & Dimitriadis, 2009), and perceived service quality and trust in the frontline employee (Paul et al., 2015). Control mechanisms have also been related to important outcomes in other settings, e.g. in new product development processes (Rijsdijk & Van Den Ende, 2011) and channel cooperation (Luo et al., 2011).

With regard to management orientations, Heskett et al. (1994) note that top-level executives of service-oriented firms spend little time establishing profit goals or market share that they see as the result of customer satisfaction which, in turn, is the result of service quality. Similarly, Zeithaml et al. (1988) also acknowledge that managers' commitment to service quality, versus the emphasis on other objectives such as short-term profit, are two very different orientations that shape the extent to which service employees focus their efforts on addressing customers' unique needs or are more concerned with the immediate bottom-line effects of their behaviors.

Service orientation, which signals an external focus (Bowen et al., 1989; Homburg et al., 2002), is crucial for the creation of higher customer value (Lytle et al., 1998). This focus on serving customers constitutes an important organization-level factor with a likely impact on service employee creativity, given that the needs of service customers tend to be heterogeneous (Agnihotri et al., 2014). The profit orientation of management is the extent to which profitability is emphasized in the company's day to day business (Gupta & Sulaiman, 1996). Different from service orientation, it signals employees that internal goals such as profitability are more important than external, customer-focused goals (Baum & Oliver, 1991; Zeithaml et al., 1988). Borucki and Burke (1999) determined that the importance of service for management was related to service climate variables, which in turn were related to the service performance of sales personnel, which subsequently predicted the financial performance of stores. Relatedly, Antioco et al. (2008)

observed that top management's commitment to and visionary leadership of services contributed to the creation of service volume. **Figure 1** summarizes the links of our two-level model as well as the proposed configurational model.

INSERT FIGURE 1 ABOUT HERE

3. Hypotheses development

3.1 Individual-level effects of control mechanisms and the mediating role of self-control

Self-control and employee creativity. The exercise of self-control enables individuals to resist short-term temptations and control their behavior in a way that delays gratification to receive better rewards (Baumeister, 2002). Creativity requires employees to take time to examine the current situation and problems, search for additional information, and spend time and effort looking for new ways of solving problems. The outcome of this process is, however, uncertain and, when successful, it occurs in the future through internally-rewarding feelings and, eventually, organizational rewards. In the presence of high self-control, such future rewards should be positively assessed, thus enhancing creative efforts. Self-control further enables individuals to develop better interpersonal relationships, since it curtails impulses to manifest socially inappropriate behavior (Tangney et al., 2004). This should help frontline employees gather information on the unique needs of customers, which is key for developing creative solutions to meet customers' idiosyncratic needs.

Hypothesis 1*:* Self-control is positively related to employee creativity.

Process control and employee creativity. A process control system assesses employees on their customer-oriented behavior, including the extent to which they are courteous and friendly, presentation quality, and effectiveness at solving customer problems (Anderson & Oliver, 1987). In this context, Piercy et al. (2006) determined that process control contributes to in-role behavior performance and leads to superior customer relationships. Moreover, Cravens Ingram, La Forge, and Young (1993) determined that process control leads employees to develop higher company and product knowledge, and greater professional competence, leading employees to devise novel combinations within existing knowledge, thus creating original solutions for customer needs (Agnihotri et al., 2014).

We anticipate, however, that self-control mediates the association between process control and service employee creativity. Process control is geared towards enhancing the motivation of individuals (Anderson & Oliver, 1987), which should ignite the deployment of self-control. Specifically, process control leads individuals to gain a heightened interest in job tasks, which should lead them to build positive assessments of the long-term outcomes of their current dedication to work. A heightened subjective utility associated with goal attainment builds commitment to goals (Klein, 1989), sustaining effortful behavior, such as those required by creativity. Likewise, a higher utility precludes withdrawal responses (cf. Klein, 1989), driving employees not to surrender to immediate temptations (cf. Van Dyne et al., 2002), and should encourage employees to keep emotional distractions from interfering with their work (Tangney et al., 2004), thus minimizing the foregoing of creativity efforts.

Hypothesis 2a: Self-control mediates the positive relationship between process control and employee creativity.

Output control and employee creativity. Organizations that implement output controls reward their employees according to the results achieved, such as profit or sales targets (Joshi & Randall, 2001). Thus, they signal to employees that it is important for the organization to achieve end results. Oliver and Anderson (1994) note that employees functioning under this system consider the time to learn as time away from the field (with a high opportunity cost), thus being reluctant to experiment new approaches, which may adversely affect the attainment of goals, at least in the short-term. This is detrimental, given that willingness to experiment is the basis for creativity.

The effect of output control on service employee creativity should be mediated by self-control. Output control evaluates employees according to factors over which they do not have total control, as is the case of sales outcomes, which are partly determined by environmental factors (Cravens et al., 1993), and this should reduce their motivation to realign their behavior if they are off track. The existence of objectives whose attainment employees do not fully control is likely to result in withdrawal, namely cognitive, which results in giving up and disengagement from the situation (Klein, 1989). Hence, output control reduces the deployment of self-control efforts, which are resource demanding. Moreover, output control encourages employees to focus their attention on activities that yield immediate results and to neglect those with long-term benefits (Anderson & Oliver, 1987), thus reducing the motivation to exercise self-control (cf. Trope & Fishbach, 2000):

Hypothesis 2b: Self-control mediates the negative relationship between output control and employee creativity.

Cultural control and employee creativity. Cultural control refers to individuals internalizing the values and norms of the organization, which influences employee behavior (Jaworski, 1988). This

learning process starts on an employee's first day at work (Lusch et al., 1996). Lusch et al. (1996) add that the socialization phenomena are partly captured by the concept of organizational identification, which occurs when an employee adopts a behavior that facilitates the development of a self-defining relationship with the organization. They conclude that workers have bonded with their organization when they identify with it. Hence, cultural control is a broad guide to employee behavior, being "more implicit and informal rather than explicit and formal." (Baliga & Jaeger, 1984, p. 27). Not surprisingly, Baliga and Jaeger (1984) argue that cultural control, relying on employees' moral commitment to the firm, following the indoctrination process, ends up promoting risk taking, which is more difficult under a formal control system that relies on formal rule compliance. Hence, in ambiguous situations such as those faced by service employees when serving customers, controlling employees on the basis of their internalized values demonstrates acceptance of significant differences in performance styles across individuals, thereby encouraging experimentation (Ouchi, 1979). In addition, O'Reilly and Chatman (1996) argue that this control conveys a feeling of autonomy, which leads to creative thinking.

The effect of cultural control should be mediated by self-control. Individuals who have internalized the values of the organization and identify with it should have their minds free from extraneous concerns, enhancing the focus on job tasks and, thereby, the exertion of self-control. Hence, the mechanisms that contribute to organizational identity encourage employees to perform effectively in longer-term and broader goals (Turner & Makhija, 2006), incentivizing the exercise of self-control. Moreover, individuals who have internalized the values of the organization should perceive less emotional distress, which likely results in procrastination (Baumeister, 2002).

Hypothesis 2c: Self-control mediates the positive relationship between cultural control and employee creativity.

Social control and employee creativity. Social control involves cooperation and information-sharing amongst peers in the work unit (Cravens et al., 2004). In this case, peers control employees through collegial discussion, developing and enforcing group norms, monitoring conformity and taking corrective action when deviations occur (Jaworski, 1988). Rijsdijk and van den Ende (2011) note that social control involves greater information exchange, resulting in more flexibility in applying knowledge, which should contribute positively to service employee creativity. Moreover, useful feedback from peers indicates that they appreciate change, likely to drive employees to believing that peers support the search for novel ways of carrying out work activities (Zhou & George, 2001).

The influence of social control on employee creativity should also be mediated by self-control. Collegial discussions fuel shared interpretations and help clarify members' goals and tasks, thus reducing role ambiguity (Rijsdijk & van Ende, 2011) and promoting job satisfaction (Agarwal & Ramaswami, 1993). In addition, by fostering greater understanding of each other's roles, peer interaction helps to lower job tension (Lusch & Jaworski, 1991). Finally, the development of common values leads to social cohesion (Rijsdijk & van den Ende, 2011). Hence, social control should enhance the interest of frontline employees in job tasks, thereby fueling self-control efforts. Relatedly, role ambiguity, job satisfaction, job tension and social cohesion affect an individual's emotional distress, which is a cause for breakdowns in self-control (Baumeister, 2002). Hence, we offer the following:

Hypothesis 2d: Self-control mediates the positive relationship between social control and employee creativity.

3.2 Organization-level effects of management orientations and the mediating role of self-control

Management's service orientation and employee creativity. By being an example of service excellence, managers make it clear to employees how important service quality and customer satisfaction are to the organization (Lytle et al., 1998). Frontline employees are likely to replicate such managerial behavior, thereby also focusing on customer satisfaction, because individuals tend to mimic the behavior of interaction partners (Tanner et al., 2008). In addition, from a subjective norm perspective, frontline employees are likely to engage in those behaviors that they believe others think they should engage in, particularly when they have the ability to punish or reward the adopted behaviors (Venkatesh & Davis, 2000). Hence, employees that follow their leaders' focus on customer satisfaction should engage in creative endeavors, which helps deal with heterogeneous customer needs (Agnihotri et al., 2014).

We expect the effects of management's service orientation to be mediated by self-control. Concern about customer service entails giving freedom to employees so that they promptly, effectively, and enthusiastically address customer problems (Lytle et al., 1998), which leads employees to develop an internal locus of control (Koestner et al., 1984). This enhances an employee's motivation to change behavior if that furthers customer satisfaction. Moreover, service orientation values promote the development of relationships with customers, and this is a signal that employees should also value long-term goals. The concern with customers (Lytle et al., 1998) frees employees' minds to focus on job tasks, also signaling that management intends to retain the workforce. This, in turn, should motivate employees to strive to achieve long-term goals:

Hypothesis 3a: Self-control mediates the positive relationship between service orientation of management and employee creativity.

Profit orientation of management and employee creativity. The focus on profit is likely to drive firms to short term decision-making at the expense of the long term (Armstrong & Collopy, 1996). Moreover, profit orientation can lead to the perception that profit is pursued at the expense of employees and customers (Baum & Oliver, 1991), resulting in a sense of low managerial support and employee satisfaction undermining (e.g., Borucki & Burke, 1999). By conveying the idea of minimizing costs to enhance profit, the focus of management on profit should drive employees to minimize interactions with customers, limiting the opportunity to devise creative offers that more accurately meet unique customer needs. Furthermore, as profit orientation increases, ends can be seen as justifying the means, leading to unethical behavior (Gupta & Sulaiman, 1996). This is particularly problematic since frontline employees, as boundary spanners, are expected to address the goals of both customers and their employer. As Heskett et al. (1994) stated, managers at exceptional service organizations do not spend much time establishing profit or market share goals. Accordingly, such orientation should limit feelings of self-determination and adversely affect frontline employees' engagement in the creative process.

The above discussion suggests that profit orientation brings extraneous concerns to employees' minds, which diminishes the focus on tasks and the excitement they get from their job (cf. Lian et al., 2014). Hence, the work environment with a strong focus on profit possibly weakens individuals' motivation to discipline their behavior and, thus, the deployment of self-control efforts.

Hypothesis 3b: Self-control mediates the negative relationship between profit orientation of management and employee creativity.

4. Method

4.1 Sampling

We conducted our study in a hotel setting, since this is a complex service context that provides many opportunities for employees to interact with customers, and managers frequently work side by side with employees, thus having many opportunities to influence the behavior of their subordinates (Hartline et al., 2000). We collected multi-level data from full-time frontline employees and duty managers at six hotels (one 3*, three 4* and two 5*) in a major city in the north of Iran using paper-based questionnaires. Anonymity of responses was guaranteed as all the employees and duty managers were asked to complete the questionnaires and place them in envelopes. Such a procedure reduces respondent biases (Podsakoff et al., 2003). We submitted a total of 600 employee questionnaires (level 1) and 60 duty manager questionnaires (level 2) to the hotels' central management, who distributed them for us. Of the 600 employee and 60 manager questionnaires sent out, 382 employees and 32 duty managers replied, yielding a response rate of over 50%. In the case of employees, 23.3% were over 46 years old, 57.2% between 26-45 years old and 19.5% between 18-25 years old. Men accounted for 47.1% of all employees.

4.2 Measures, reliability and validity

All multi-item reflective constructs were borrowed from existing studies. At level 1 (employee data), we measured process-control with a scale from Hartline et al. (2000). We measured output-control and social-control with scales adapted from Jaworski and MacInnis (1989), and cultural-

control with a scale borrowed from Jaworski et al. (1993). Self-control was based on the scales of Jaworski and MacInnis (1989) and Lodahl and Kejner (1965). Finally, service employee creativity was based on Wang and Netemeyer (2004). We further included three level 1 control variables, gender (1= 'male' and 2 = 'female'), age and tenure of the employee.

At level 2, management data, we measured profit orientation with three items from Narver and Slater (1990), whereas service orientation is from Dienhart et al. (1992). We collected this information from duty managers, who are line managers whose practices and orientations are regarded by subordinates as indicative of the organization's outlook (Kuvaas & Dysvik, 2010). Participants rated each statement for the above on a Likert-scale ranging from 1 to 7, with 1 indicating *strongly disagree* and 7 *strongly agree*.

The goodness-of-fit indices reveal an adequate model (i.e., RMSEA < 0.08; CFI > 0.92; TLI > 0.92) (Hair et al., 2010). All items revealed the highest loadings on their intended constructs, and all factor loadings were greater than 0.6. Cronbach's Alpha and Composite Reliability (CR) for all model constructs reached the suggested threshold of 0.70, thus the constructs are internally consistent (Hair et al., 2010; Prayag et al., 2020). The average variances extracted were larger than 0.50. Moreover, que squared correlations are lower than the corresponding average variances extracted (Hair et al., 2010; Taheri et al., 2017), the exception occurring for process and social-control, whose squared correlation (0.56) slightly exceeds the average variance extracted of process-control (0.52), and this fails to meet the Fornell and Larcker (1981) criterion for discriminant validity. Accordingly, we also assessed discriminant validity with the widely used *chi*-square difference test and found that a model with a free correlation between the two constructs (*chi*-square=165.942; df=34) performs significantly better than a model in which the correlation is constrained (*chi*-square=356.500; df=35). Overall, confirmatory factor analyses showed that all

scales were reliable and valid (**Table 1** and **Table 2**). Subsequently, we created scale means for all constructs for our main analyses.

Participants were informed that their answers remained anonymous. Moreover, the independent and dependent variables were placed in different parts of the questionnaire. In addition to these procedural remedies, we also conducted a number of statistical tests to ascertain the magnitude of common method variance (CMV). A Harman one-factor test was conducted on all constructs and the respective items for employees and duty manager samples separately. The highest portion of variance explained by a single factor was 35.85% for employees and 47.05% for duty managers (Podsakoff et al., 2003). The unmeasured method factor approach suggested by Min et al. (2016) and Liang et al. (2007) was further used to examine CMV. Accordingly, a common method factor was considered for employee and duty manager data, separately. The average variance for constructs' indicators and method factor were calculated. The results for employee data indicated that the average variance associated with scales' indicators was 57%, whereas the average method-based variance was 1.5%, resulting in a ratio of 38:1. For the duty managers' data, the average variance explained by scales' indicators was 52%, whereas for the method-based variance it was 1.3%, resulting in a ratio of 40:1. Hence, CMV was not a concern.

INSERT TABLE 1 & 2 ABOUT HERE

4.3 Analytical Approach

We specify our conceptual model as a multilevel mediation model[1]. Using a symmetrical approach, we modeled the main and mediating effects of four control mechanisms in the within-level (level 1), cross-level intercept effects of the level 2 variables on the mediator (self-control) and on the dependent variable (employee creativity), as well as cross-level mediation. To estimate the multilevel model we used the Mplus (version 7) software package. To implement multilevel mediation we followed Preacher et al. (2010). Figure 1 shows the multilevel analytical model. It names all relevant paths for ease of interpretation. In particular, we estimated the mediating role of self-control in the link between service orientation (1), profit orientation (2) and employee creativity; the respective paths are AD_1 and AD_2. We also modeled the mediation of the effects of the four control mechanisms (1-4) on employee creativity via self-control; the four resulting paths are AB_1, AB_2, AB_3, and AB_4. Apart from these mediation analyses, we modeled all level 1 main effects (four control mechanisms on self-control (b_{1-4}) and on employee creativity (c_{1-4})), as well as all level 2 intercept effects (service orientation and profit orientation on the average level of self-control ($d_{1,2}$) and on the average level of employee creativity ($e_{1,2}$)).

We applied an asymmetrical approach to estimate causal models for two configurations of control mechanisms and management orientations using fsQCA (www.fsqca.com). The three steps of fsQCA include calibration (transforming crispy data into fuzzy set values), truth table generation (calculation of all possible configurations leading to the outcome), and counterfactual analysis (refining all possible configurations to the sufficient and consistent models). fsQCA uses Boolean algebra to calculate the models that explain the conditions where high creativity is

[1] Multilevel modelling was necessary as the ICC ranged from about 10% to 19%, translating into a design effect between 2.3 and 3.2 – well above the threshold suggested by Muthen and Satorra (1995, p. 289). We also assessed whether the hotel-level might be a sensible grouping. We find very small ICCs between hotels (around 1%), and design effects are well below 2.

achieved (Gannon et al., 2019; Olya & Al-ansi, 2018; Ragin, 2008). Two probabilistic measures of coverage and consistency are used to select sufficient causal models leading to employee creativity (Ragin, 2008). Necessary conditions for achieving creativity were identified through the analysis of necessary conditions. Necessity of predictors can be assessed based on their kind and degree. This study focuses on 'in kind' type of necessary conditions analysis that identifies which predictor is necessary to attain the outcome (Gannon et al., 2019; Olya & Han, 2020).

5. Results

5.1. Results of symmetrical modeling

5.1.1 Main findings

At level 1 (**Table 3**), we find that process control (b_1=.129, p<0.01), cultural control (b_3=0.113, p<0.01), and social control (b_4=0.235, p<0.01) have significant and positive effects on self-control, while output control does not seem to impact self-control. We also find that control mechanisms do not seem to influence employee creativity directly, with only cultural control displaying a significant and positive main effect (c_3=0.227, p<0.01). Finally, and as expected, we find that self-control has a strong and positive impact on employee creativity (a=*0*.773, p<0.01). As for the co-variables, we note that self-control is only impacted by gender (0.046, p<0.01), while employee creativity is impacted by gender (0.215, p<0.01) and age (0.133, p<0.01). Tenure has no relationship with employee creativity (the results associated with the control variables were omitted from the Table for parsimony reasons). These links are researched further in the mediation analysis that follows.

INSERT TABLE 3 ABOUT HERE

We find some cross-level intercept effects: The level 2 variable service orientation directly influences the average level of self-control (d_1=0.661, p<0.01), and (marginally) the average level of service employee creativity (e_1=0.591, p<0.10). That means that frontline employees supervised by a manager high in-service orientation have significantly higher levels of self-control and employee creativity. Further, we find that the profit orientation of a manager negatively affects the self-control of their supervisees (d_2=-0.397, p<0.05), but seems to be unrelated to average levels of employee creativity.

Turning to mediation analysis, we uncovered some interesting effects. First, we looked at the level 1 mediation effect and found that the effect of process-control on employee creativity is fully mediated by self-control (direct effect: n.s.; AB_1=0.100, p<0.05). Similarly, self-control fully mediates the effect of social control on employee creativity (direct effect: n.s.; AB_4=0.181, p<0.01). We also see a partial mediation of cultural control in employee creativity via self-control (direct effect: 0.227, p<0.01; AB_3= 0.087, p<0.01). At level 1, we find no effect of output control on employee creativity (direct and mediation effect (AB_2): n.s.).

We also assessed two cross-level mediations. As noted above, we find that the direct effects of the two level 2 variables on the mediator are significant while only the effect of service orientation on the dependent variable is significant. Furthermore, as both mediating effects are also significant (service orientation: AD_1=0.511, p<0.01; profit orientation: AD_2=-0.307, p<0.05), we conclude that partial mediation is at work for service orientation, and a full mediation for profit orientation. More precisely, there is a positive effect of service orientation on employee creativity via self-control and a negative effect of profit orientation on employee creativity via self-control.

5.1.2 Robustness Checks

To assess the robustness of our regression results, we estimated a model that considers only the direct effects of the five management controls and of the two management orientations on employee creativity. The results of this model show that self-control and cultural control have positive level-1 main effects on creativity; the level-2 effects remain pretty much the same as in the original model, with only service orientation relating positively with creativity. Hence, the proposed model provides a theory-driven, more nuanced view of the relationships between the constructs in the model[2].

Finally, given that subordinates provided the data for both control mechanisms and employee creativity, CMV might be a rival explanation for the findings. To further explore the quality of our self-reported measure of employee creativity, we collected additional data from 125 hotel employees in a different Iranian city, who provided information on control mechanisms, and we also obtained ratings of employee creativity from their managers (n=28). We ran the model at level 1 and observed that the results mirror those of the main sample/analysis. More specifically, we find that self-control predicts the creativity levels of employees even when creativity is evaluated by line managers instead of being self-reported. Moreover, behavioral, process, cultural and social control relate in the expected way to self-control, whereas output control does not relate to self-control. Hence, the empirical results using two data sources confirmed the quality of the self-reported measure and thereby the findings from the original model.

5.2. Results from asymmetrical modeling

[2] In terms of formal model comparison, both models display nearly identical fit values based on information criterion, with the model that includes only direct effects slightly outperforming the mediation model (AIC: 2438 vs. 2441; BIC 2497 vs. 2519).

The fsQCA results suggest that three recipes explain the conditions for predicting high service employee creativity among hotel employees (coverage: 0.951, consistency: 0.760). Model 1 indicates that a combination of process and social controls is a sufficient condition leading to employee creativity. Alternatively, a high level of social control along with a low level of output and cultural controls is sufficient to achieve creativity (model 2). According to model 3, a high level of output, cultural, and social controls and low level of self-control describe a condition of high employee creativity among employees. In level 2, one model explains the condition to attain employee creativity (coverage: .860, consistency: 0.820): creativity can be obtained in employees through high scores of service and profit orientations and self-control (**Table 4**).

INSERT TABLE 4 ABOUT HERE

The necessary conditions to achieve employee creativity are outlined in **Table 5**. In level 1, process control and social control are two necessary factors for ensuring employee creativity. In level 2, both service and profit orientations emerged as necessary conditions for fostering creativity among frontline employees. The results reveal that the factors that are sufficient might not be necessary to predict creativity. For example, cultural control serves as sufficient factor, but it is unnecessary to predict the creativity of employees.

INSERT TABLE 5 ABOUT HERE

6. Discussion and implications

6.1 General discussion

This research contributes to the literature on employee creativity and service marketing by shedding light on how two contextual variables, control mechanisms and management orientations, relate to the creativity of frontline service employees, topics that have thus far received little attention in the literature. Overall, the results support our propositions that we can rely on management orientations and control mechanisms to guide the creativity of frontline service employees. Hence, the study highlights new consequences for control mechanisms, as well as for management orientations.

Guided by previous research, this study contributes to extant knowledge in several areas. First, the study highlights the importance of multi-level studies, denoting that variables at different levels interplay in how they relate to employee creativity. Second, the results of symmetrical analysis reveal that both formal and informal controls relate with employee creativity, with self-control emerging with an important mediating role. Third, the results of this analysis also stress that at level two, management orientations, specifically service and profit orientation, relate with employee creativity through self-control, with the former orientation also relating with the outcome in a direct way. Fourth, the results of asymmetrical analysis provided further insights by revealing combinations of first and second level variables that associate with employee creativity. Although the results of symmetrical and asymmetrical analyses might appear contradictory at first glance, in fact they appear to complement each other. These major implications are discussed in more detail in the next section.

6.2 Theoretical implications

This study makes the following specific contributions to theory. First, most work on employee creativity is characterized by single-level studies (Gong et al., 2013). However, employee creativity is likely to be influenced by factors at different levels. Thus, responding to a recent call for cross-level research on employee creativity (Chang et al., 2014), this study developed and tested a number of hypotheses under a multilevel mediation model by assessing employee-level and organizational-level effects on employee creativity simultaneously. Specifically, the study conducted a cross-level analysis by incorporating a mediating factor, self-control, as the mechanism through which control mechanisms and management orientations stimulate employee creativity. The use of cross-level analysis combined with mediating factors can more comprehensively and extensively investigate complex phenomena at different levels (Mathieu & Taylor, 2007), facilitating the accurate measurement of cross-level relationships between duty managers and employees, which enhances the overall contribution of the research.

Second, this study contributes to the literature by looking into the effectiveness of both formal and informal control mechanisms in employee creativity. Our findings suggest that self-control plays a mediating role in explaining the relationship between the different control mechanisms and employee creativity, as well as the effects of management orientations on creativity. Rather than suggesting a direct link, the results emphasize the mediating role of self-control, which is consistent with the intrinsic motivation principle that contextual factors should affect employee creativity through intrinsic motivation. In the case of process and social control, this impact is fully mediated by self-control, while in the case of cultural control this effect is partially mediated. This supports the view that, under certain circumstances, individuals want to be able to set their own goals and take responsibility for the work produced (Jaworski & MacInnis, 1989), which will be

the case when employees perceive that they are assessed based on their commitment to customer satisfaction and when peers help each other.

It is worth noting that the relationship between cultural control and employee creativity was only partially mediated by self-control. A possible explanation is that culture is a more pervasive and long-lasting control, entailing learning of explicit regulations and norms, as well as subtler, implicit values (Baliga & Jaeger, 1984). Moreover, Parasuraman (1987) argues that the characteristics of services, which render customer satisfaction highly dependent on the customer-employee interaction, makes organizational culture critical for the success of service firms, by driving employees to take pride in their work and feel comfortable in their organization, thus boosting morale and service quality. He further argues that organizational culture centers attention on the informal forces within a firm, which may have a more significant impact on the performance of employees than do formal, written guidelines.

Unexpectedly, output control does not relate (directly or indirectly) to service employee creativity. An explanation is that the negative effects on creativity we predicted could be offset by some positive effects that output control might exert on the outcome variable. Under an output-control system, employees are given less direction (Miao & Evans, 2013). Not surprisingly, output control has been characterized as a market type of control mechanism (Ouchi, 1979), under which the employee is like an entrepreneur with responsibility for his/her performance and autonomy to choose the methods for achieving such performance (Anderson & Oliver, 1987). As a result, the job may be more challenging, which fosters employee creativity (Oldham & Cummings 1996). Hence, the conflicting effects associated with output control deserve to be further explored.

Third, this study has explored the effects of management orientations on employee creativity. Although past research indicates that management orientations have a significant influence on the

behavior and attitudes of subordinates (Borucki & Burke, 1999; Kuvaas & Dysvik, 2010), their impact on employee creativity has been ignored. While service orientation appears to have a positive influence on employee creativity, profit orientation seems to hinder it. Moreover, the results indicate that the effect of service orientation is partly mediated by self-control, while in the case of profit orientation the effect on employee creativity is fully mediated. As with cultural control, service orientation is more long-term oriented than profit (cf. Armstrong & Collopy, 1996; Zeithaml et al., 1988), and this may indicate a more pervasive role for the former, thus its partially mediated effect. Relatedly, Parasuraman (1987) argues that the interactive nature of services implies that excellence in the process of delivering services requires the organization to be truly committed to customer satisfaction, which enables some departure from written policies at the employee-customer transaction level.

Overall, the results tend to be consistent with the full mediation of self-control, though cultural orientation and service orientation also exhibited direct effects. These findings are in line with other studies, which have shown that contextual variables can also have direct effects on employee creativity (Coelho et al., 2011). The results of configurational modeling add further knowledge on the combinations of management orientations and control mechanisms that can consistently explain sufficient conditions leading to service employee creativity. This study determined three configurations of control mechanisms (level 1) that explain employee creativity. First, a combination of process control and social control is sufficient to predict employee creativity. Second, if employees have a low level of output control and cultural control, social control may contribute to employee creativity. Apparently, group norms imposed by peers, who are involved in service delivery, appear to be an important driving force for employees to deliver creative behavior. Third, if self-control is low, improving output control, cultural control and social control

may increase employee creativity. This finding adds to the results of symmetric modeling, which revealed that self-control had a key mediating role and that output control had a non-significant effect. An explanation for this is that although we may have employees that for some reason do not feel very motivated to exercise self-control in their jobs, the remaining factors provide some creativity stimuli. Such employees might denote some creative behavior, because the presence of output control, which renders some decision-making latitude to employees serving customers, as well as cultural control, which signals concern about the organization, and social control that should help employees target their job efforts, namely through the enforcement of group norms, end up providing the means (decision-latitude) and pressure to denote some creativity at serving customers.

Hence, output control and cultural control can play both negative (model 2) and positive (model 3) roles, depending on the attributes of other predictors in the causal recipes of employee creativity (**Table 4**). Moreover, whereas symmetric modeling denotes a negative relationship between profit orientation and creativity, asymmetrical modeling denotes that it can have a positive effect when considered together with service orientation and self-control. Hence, profit-orientation appears not to be totally incompatible with creativity, as long as it is accompanied by other conditions. It is possible that the exposure to somewhat conflicting orientations might drive employees to combine knowledge in new ways so as to address such management demands and perform effectively (cf. Coelho et al., 2011). Hence, the results underscore the relevance of using fsQCA, which looks at combinations of variables, rather than at the net effect of each, as HLM does.

According to the results of necessary conditions, in level 1 two (process and social controls) out of five control mechanisms and in level 2 both service and profit orientation emerged as necessary conditions for ensuring employee creativity. The results of multilevel modelling show

that profit orientation negatively relates with employee creativity, whereas those from fsQCA indicated that its combination with service orientation and self-control positively drive creativity. Similarly, the analysis of necessary conditions showed that high profit orientation is necessary for inducing employee creativity. Such results extend our understanding of sufficient combinations and necessary conditions associated with the predictors of creativity in frontline service settings.

6.3 Managerial implications

This study provides interesting and important implications for practitioners and managers within service settings. Our results suggest that both formal and informal control mechanisms influence service employee creativity. Hence, companies should rely on process, social, and cultural control to enhance employees' self-control and, subsequently, their creativity. Accordingly, and considering process control, service managers should evaluate the friendliness of their frontline employees towards customers, their effectiveness at finding solutions for customers' problems, and the knowledge they develop of sales techniques and the company's services. In addition, social control can be promoted by designing incentive systems for group performance, by cross-training employees, who therefore gain knowledge of different tasks and can then help co-workers, and through team-building activities. Moreover, service firms should have clear plans for communicating organizational values to employees throughout their organizational tenure (Harris & Ogbonna, 2011). The role of self-control in employee creativity in service environments also appears undeniable. Therefore, service organizations such as hotels should provide the conditions that sustain their employees' self-determination during service delivery.

Moreover, multilevel modeling indicated that high service quality orientation enhances employees' self-control and creativity. Hence, service organizations that value the creativity of frontline employees should develop customer service values, and hire and train their managers to be service-oriented, since such individuals are themselves likely to develop creative solutions to cope with the unique needs of customers, and subsequently to be copied by subordinates. The display of profit orientation by management is insufficient to increase employee creativity, as this orientation appears to remove the focus of frontline employees on the unique needs of customers which, in turn, is likely to diminish employee creativity. However, if combined with service orientation and self-control, profit orientation contributes positively to employee creativity.

Finally, service managers must consider the necessary conditions for ensuring employee creativity. At level 1, managers should make sure that employees are guided by process and social control if creativity is a desired behavior. At level 2, managers need to be aware that without an appropriate service and profit orientation, employee creativity is not guaranteed.

6.4 Limitations and future research

Our study has certain limitations that should be addressed in future research. In particular, the constructs of interest were tested in one national context, and cultural traits are known to influence the cognitions and behavior of individuals. Hence, it is possible that management orientations or employee perceptions of control mechanisms might relate differently to employee creativity in different cultural contexts. With regard to mediating effects, it is possible that the influence of control mechanisms on employee creativity could be mediated by other variables. Moreover, Jaworski and Kohli (1991) distinguished positive from negative output and behavioral feedback. Hence, future studies might want to use different conceptualizations of key constructs and concepts

to ensure the robustness of our approach. Control mechanisms might also interact with person-related characteristics, such as personality, cognitive styles, and/or personal values (e.g., Santos et al., 2019) to affect employee creativity, as is supported by the person-environment fit literature. Moreover, the effects of control mechanisms could also be moderated by other contextual variables, and knowledge of this would further help set up a desirable work environment (e.g., Carbonell et al., 2013). Finally, our study was mainly quantitative in nature. Thus, we suggest that a holistic understanding of employee creativity and related concepts would require a longitudinal study using multimodal research designs (including qualitative and quantitative methods).

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Figure 1. Proposed research model

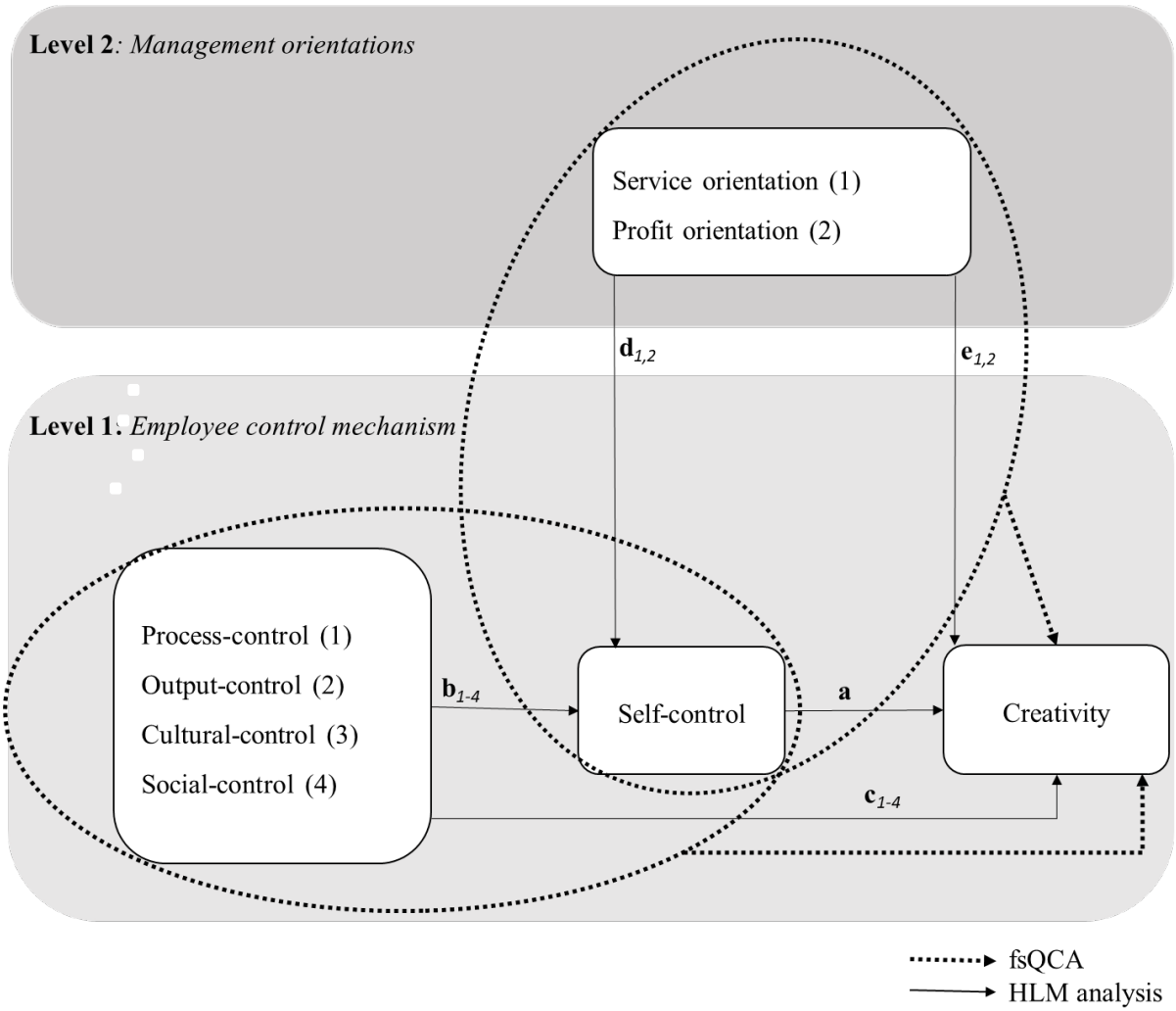

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Table 1. Results of Confirmatory Factor Analysis and Descriptive Statistics.

Scale Items	Loadings
LEVEL 1 MEASURES (RMSEA=0.062; CFI=0.950; TLI=0.947)	
Creativity (Alpha: 0.894; CR: 0.97; AVE:0.62)	
I deal with customers in a creative way	0.748
I serve customers in ways that are resourceful	0.748
I come up with new and useful ideas for satisfying customer needs	0.828
I generate and evaluate multiple alternatives for novel customer problems	0.621
I suggest new and useful ideas for improving the service delivered to customers	0.868
I improvise methods for solving a problem when an answer is not apparent	0.849
I suggest new and useful ways for carrying out the job	0.814
Self-control (Alpha: 0.770; CR: 0.96; AVE:0.55)	
The major satisfactions in my life come from my job	0.756
The work I do on this job is very meaningful to me	0.543
I feel that I should take credit or blame for the results of my work	0.880
The most important things that happen to me involve my work on this job	0.682
I am really a perfectionist about my work	0.746
I live, eat and breath my job	0.788
I am very much personally involved in my work	0.709
Most things in life are more important than work (reverse coded item)	0.744
Process control (Alpha: 0.767; CR: 0.84; AVE:0.52)	
My supervisor evaluates whether I provide a courteous service to customers	0.731
My supervisor evaluates my ability to resolve customer complaints or service problems in an efficient manner	0.678
My supervisor evaluates my ability to deal innovatively with unique situations and/or discover customer needs	0.801
My supervisor evaluates my commitment to customers	0.748
My supervisor evaluates my commitment to the organization	0.637
Output control (Alpha: 0.720; CR: 0.90; AVE:0.65)	
My supervisor establishes specific performance goals for my job	0.758
My supervisor monitors the extent to which I attain my performance goals	0.886
If my performance goals were not met, I would be required to explain why	0.816
I receive feedback from my immediate superior concerning the extent to which I achieve my goals	0.816
My pay increases are based upon how my performance compares with my goals	0.742
Cultural control (r^1: 0.763; CR: 0.91; AVE:0.66)	
The work environment encourages employees to feel a part of this Hotel	0.919
The work environment encourages employees to feel a sense of pride in their work	0.934
Social control (Alpha: 0.896; CR: 0.97; AVE:0.62)	
This hotel encourages cooperation between employees	0.775
Most of the hotel employees in my work area are familiar with each other's productivity	0.814
The hotel fosters an environment where employees respect each other's work	0.874
This hotel encourages job-related discussions between employees	0.821
The majority of the employees in my work area are able to make an accurate appraisal of each other's work	0.772
LEVEL-2 MEASURES	
(Manager) service orientation (CR: 0.78; AVE:0.54)	
I ensure that everyone in my team delivers high service quality.	0.738
I acknowledge if my team delivers high service quality.	0.674
I am a role model to my team when it comes to delivering high service quality.	0.872
(Manager) profit orientation (CR: 0.81; AVE:0.58)	
My team's performance is measured objectively.	0.748
Top management emphasizes our financial performance.	0.742
All we do must be profitable.	0.794

Note:[1] Since cultural control only has two items, Cronbach alpha is not an appropriate measure of reliability, and thus we report the correlation coefficient.

Table 2. Univariate Statistics, Correlations, Composite Reliabilities, and Average Variance Extracted.

	Mean	SD	CR	AVE					
Level 1									
Creativity	4.46	1.37	0.97	0.62					
Self-Control	2.84	0.74	0.96	0.55	0.62				
Process Control	4.88	1.16	0.84	0.52	0.50	0.64			
Output Control	4.55	1.18	0.90	0.65	0.50	0.59	0.71		
Cultural Control	4.43	1.68	0.91	0.66	0.56	0.56	0.59	0.61	
Social Control	4.61	1.43	0.97	0.62	0.50	0.67	0.75	0.740	0.52
Level 2									
Service Orientation	6.53	0.32	0.78	0.54					
Profit Orientation	6.60	0.27	0.81	0.58	0.75				

Table 3. Results of the multilevel mediation model.

			Estimate	Std. Est.	S.E.	Est./S.E.	P-Value
Within-Level (Level 1)							
Process Control	→	Self-Control (b_1)	0.129	0.204	0.049	2.619	0.009
Output Control	→	Self-Control (b_2)	-0.039	-0.062	0.047	-0.833	0.405
Cultural Control	→	Self-Control (b_3)	0.113	0.259	0.018	6.369	0.000
Social Control	→	Self-Control (b_4)	0.235	0.457	0.021	11.221	0.000
Process Control	→	Creativity (c1)	0.031	0.026	0.083	0.380	0.704
Output Control	→	Creativity (c2)	0.066	0.057	0.088	0.748	0.454
Cultural Control	→	Creativity (c3)	0.227	0.279	0.059	3.860	0.000
Social Control	→	Creativity (c4)	0.005	0.005	0.050	0.103	0.918
Mediator							
Self-Control	→	Creativity (a)	0.773	0.415	0.102	7.582	0.000
Cross-Level (Level 2)							
Service Orientation	→	Self-Control (intercept) (d1)	0.661		0.133	4.963	0.000
Profit Orientation	→	Self-Control (intercept) (d2)	-0.397		0.170	-2.343	0.019
Service Orientation	→	Creativity (intercept) (e1)	0.591		0.320	1.848	0.065
Profit Orientation	→	Creativity (intercept) (e2)	-0.079		0.399	-0.199	0.842
Mediation Analysis							
(path)							
AB1		full mediation	0.100		0.044	2.263	0.024
AB2		no effect	-0.030		0.036	-0.840	0.401
AB3		partial mediation	0.087		0.012	7.415	0.000

AB4	full mediation	0.181	0.024	7.448	0.000
AD1	partial cross-level med.	0.511	0.134	3.813	0.000
AD2	full cross-level med.	-0.307	0.141	-2.177	0.029

Table 4. Results from configurational modelling.

Causal recipes for predicting high score of creativity	**Raw coverage**	**unique coverage**	**Consistency**
Level 1: control mechanisms configuration			
Model: Creativity= f(process control, output control, cultural control, social control, self-control)			
M1: process control* social control	0.914	0.432	0.790
M2: ~ output control*~ cultural control* social control	0.432	0.028	0.797
M3: output control* cultural control* social control*~ self-control	0.387	0.004	0.913
solution coverage: 0.951			
solution consistency: 0.760			
Level 2: management orientation configuration			
Model: Creativity = f(service orientation, profit orientation, self-control)			
M1: service orientation* profit orientation* self-control	0.860	0.860	0.820
solution coverage: 0.860			
solution consistency: 0.820			

Note: ~ indicates negation of the factor.

Table 5. Results from analysis of necessary conditions.

Causal condition	**Outcome condition: Creativity**	
	Consistency	Coverage
Level 1		
Process control	**0.915**	**0.790**
~Process control	0.458	0.808
Output control	0.867	0.824
~output control	0.533	0.790
Cultural control	0.829	0.835
~cultural control	0.518	0.707
Social control	**0.996**	**0.620**
~social control	0.121	0.999
Self-control	0.864	0.818
~self-control	0.487	0.725
Level 2		
service orientation	**0.995**	**0.624**
~service orientation	0.132	0.997
profit orientation	**0.996**	**0.620**
~profit orientation	0.121	0.999

Note: Necessary condition is highlighted in bold (consistency >0.9).

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Auhtor's Bio

Filipe Coelho is an Associate Professor in Marketing at Faculdade de Economia da Universidade de Coimbra/CeBER, Portugal. He received his PhD from Manchester Business School. His areas of interest include the attitudes and behaviors of frontline employees, as well as consumer behavior. He has published in journals such as *European Journal of Marketing, Journal of Retailing, Journal of Service Research, International Journal of Contemporary Hospitality Management, Industrial Marketing Management, Journal of Services Marketing, International Journal of Selection and Assessment, the Service Industries Journal*, among others.

Heiner Evanschitzky is Professor and Chair of Marketing at Alliance Manchester Business School (AMBS), University of Manchester. Heiner received his PhD and Habilitation from University of Muenster (Germany). His research investigates interesting and relevant problems with an attempt to develop impactful conclusions. The current focus primarily lies in Retail Marketing/Management where he investigates customer inspiration and store atmospherics, customer participation, relationship marketing, and profit chain models. His work has been published in journals such as *Journal of Marketing, Journal of Management, Journal of the Academy of Marketing Science, Journal of Retailing, Journal of Service Research, International Journal of Research in Marketing, and Journal of Product Innovation Management*. Heiner serves as Associate Editor for the *British Journal of Management*.

Carlos M. P. Sousa is Professor of Marketing and Business Strategy at Molde University College in Norway. He received his Ph.D. from University College Dublin (Ireland). Professor Sousa is an Associate Editor of *International Marketing Review* and is on the Editorial Review Board of the *Journal of International Marketing* and *Industrial Marketing Management*. He has been a Visiting Professor at universities in Australia, Brazil, Chile, Italy, Portugal, Spain, and the UK. His work has been published in journals such as *Research Policy, Journal of Product Innovation Management, Journal of World Business, Journal of International Marketing, British Journal of Management, Global Business Strategy,* among others.

Hossein Olya is an Associate Professor of Consumer Behaviour and Director of Research Development of Marketing and Cultural and Creative Industries at the Sheffield University Management School, University of Sheffield, UK. He currently serves as an Associate Editor for the *International Journal of Consumer Studies*. See more at: www.olyah.com.

Babak Taheri is a Professor of Marketing in Edinburgh Business School at Heriot-Watt University, Edinburgh, UK. His research has a dual focus: 'consumer behavior' and 'marketing management' with particular interest in "tourism, hospitality and cultural consumption". Babak has over 100 academic publications, and currently serves as Senior Editor of *Tourism Management Perspectives* and Associate Editor for *The Service Industries Journal* and *International Journal of Contemporary Hospitality Management*.