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Employee Relations:
The International Journal

**SERVICE EMPLOYEE ADAPTIVENESS: EXPLORING THE
IMPACT OF ROLE-STRESS AND MANAGERIAL CONTROL
APPROACHES**

Journal:	<i>Employee Relations</i>
Manuscript ID	ER-11-2015-0213.R2
Manuscript Type:	Research Paper
Keywords:	Call centres, managerial control strategies, employee adaptiveness, India

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SERVICE EMPLOYEE ADAPTIVENESS: EXPLORING THE IMPACT OF ROLE-STRESS AND MANAGERIAL CONTROL APPROACHES

Abstract

Purpose –The research aims to explore the relationships between managerial control strategies, role-stress and employee adaptiveness among call centre employees.

Design/methodology/approach – Based on a conceptual model, a questionnaire-based survey methodology is adopted. Data were collected from call centre employees in India and the data were analysed through PLS methodology.

Findings – The study finds that outcome control and activity control increase role-stress while capability control does not have a significant impact. The interaction between outcome control and activity control also tends to impact role -stress of employees. Role-stress felt by employees has a significant negative impact on employee adaptiveness.

Research limitations/implications – The sampling approach was convenience-based affecting the generalizability of the results.

Practical implications – The paper provide guidelines for utilising managerial control approaches in a service setting.

Originality/value –The paper looks at managerial control approaches in a service setting – a topic not researched before.

Keywords: Call centres, managerial control strategies, employee adaptiveness, India

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Introduction

Call centre operations are often considered as the critical components in implementing mass-customisation strategies by firms (Salvador *et al.*, 2009). One of the most important means for achieving customisation in services is through service employee adaptive behaviour (Frenkel 2005). As Gwinner *et al.*, (2005) affirm, though technology can be used to a certain extent in services to achieve customisation, in the end the real task of service customisation is the responsibility of the front-line employees of the firm.

While published studies in this domain acknowledge the importance of employee adaptiveness (e.g., Bettencourt and Gwinner, 1996; de Jong and de Ruyter, 2004; Hartline and Ferrel, 1996; Prentice and King, 2013), extant knowledge regarding the antecedents of service-employee adaptiveness remains limited in scope (Gwinner *et al.*, 2005; Leischnig and Kasper-Brauer, 2015). Much of the extant knowledge is limited to exploring the impact of the employee's personality traits on adaptive behaviour (e.g., Gwinner, *et al.*, 2005, Prentice and King, 2013). The impact of organisational and contextual variables on service-employee adaptiveness remains inadequate (Leischnig and Kasper-Brauer, 2015). This is despite the fact that in the extant literature several contextual variables have been considered as determinants of constructs closely identified with employee adaptiveness like customer orientation (e.g., Coelho *et al.*, 2010), creativity (Coelho *et al.*, 2011) and service performance (Liao and Chuang, 2007).

According to Gwinner *et al.* (2005) the lack of research on contextual antecedents of service employee adaptiveness constitutes an important area for future research. In this study, we

attempt to fill this gap by looking at the impact of an important contextual variable – managerial control strategies on service employee adaptiveness among Indian call centre employees. A context characterised by high levels of control and bureaucratisation yet requiring high task/role-adaptiveness by employees (Thite and Russell, 2010a; D’Cruz and Noronha, 2013). We use Bagozzi’s (1992) attitude theory to develop our hypotheses and then validate the same through an empirical study. In the literature review, we first discuss the context of control strategies in Indian call centres as well as the other constructs considered – employee adaptiveness and role-stress - with a view to illustrate the contribution of the study. Subsequent sections discuss the conceptual model and hypotheses based on Bagozzi’s (1992) attitude theory.

While the context of Indian call centre employees has received significant research attention over the years, given the unique business models used (Thite and Russell, 2010a) and the dynamic nature of the industry (Taylor *et al.*, 2014), important issues like the impact of managerial control strategies or the antecedents of employee adaptiveness still require a deeper analysis and exploration. The Indian call centre business model is quite unique (Thite and Russell, 2010a) in that their strategy is based on a “concomitant pursuit of mass production as well as customer orientation” (Noronha and D’Cruz, 2009, p. 219) and the extensive use of managerial control to achieve these dual – often conflicting – goals. We argue that managerial control efforts, through which this strategy is implemented at the employee level, could thus be construed as mutually incompatible thereby creating stress and consequent erosion in the employee’s capacity to adapt. The study, therefore, contributes to the growing literature on managing the human resources in Indian call centres especially related to use of control strategies and employee behaviour. Previous studies in the India call centre sector that focused on employees have focussed excessively on constructs like turnover intentions (e.g., Deery *et al.*, 2013; Das, 2012; Thite and Russell, 2010b; Guchait

and Cho, 2010; Das *et al.*, 2013 etc.), performance (e.g., Combs *et al.*, 2010) and satisfaction (e.g., Sengupta, 2011), etc. Empirical studies on managerial control strategies in the Indian call centre sector has been rare though inappropriate choice or excessive use of managerial control mechanisms have been cited in several studies as an important drawback of Indian call centres (e.g., D'Cruz and Noronha, 2013; Taylor *et al.*, 2014). The present study contributes to this discourse by considering the impact of three types of managerial control strategies on employee role-stress as well as adaptiveness.

Managerial control mechanisms

According to Tannenbaum's (1968) classic conceptualisation of control, control is defined as any process that helps align the actions of individuals with the interest of their employing firm. In practice, organisations employ a variety of strategies to achieve control. Ouchi (1979) identified three types of control strategies: (i) market, (ii) bureaucratic, and (iii) clan. Within most organisations internal control predominantly involves either bureaucratic mechanisms or clan mechanisms as the conditions required for market-based controls are very difficult to find (Ouchi 1979). Accordingly, a bureaucratic mechanism involves heavy monitoring of the output as well as behaviour of the employees and the resulting nature of commitment from the employees is actually a form of compliance. A 'clan' based form of control, on the other hand, is entirely based on shared skills and values and the employee commitment is in the nature of identification. The type of control strategy employed is based on a host of factors like product market variation, work flow integration, firm size (Snell, 1992); task programmability, outcome measurability (Ouchi, 1979) and cost of information system uncertainty (Eisenhardt, 1985). According to Eisenhardt's (1985) conceptualisation, an organisation's activities can be categorised in terms of whether its main tasks can be perfectly programmed or imperfectly programmed. A clan-based social control strategy is preferable only when the tasks cannot be perfectly programmed or outcomes can be easily

measured. Under other circumstances, ie., when outcomes can be easily measured and/or tasks can be perfectly programmed, organisations prefer to adopt bureaucratic control mechanisms. A bureaucratic control mechanism, itself, is divided into two different types – (i) outcome control and (ii) behaviour control. Outcome control involves measuring the outcome performance alone without considering how the outcomes were achieved while behavioural control involves monitoring the behaviour of employees as it leads to the outcomes. According to Eisenhardt’s (1985) conceptual framework behavioural control is employed when task programmability of employee’s activities in an organisation is high no matter whether it is easy or difficult to measure the outcomes while outcome control strategies are used when the outcomes can easily be measured no matter whether task programmability is high or low.

Bureaucratic control (whether outcome or behavioural) has, however, been heavily criticised for being very prescriptive and overbearing on the employees. As Ouchi (1979, p. 841) argues “a control mode which depends heavily upon monitoring, evaluating, and correcting in an explicit manner is likely to offend people's sense of autonomy and of self-control and, as a result, will probably result in an unenthusiastic, purely compliant response”.

Managerial control mechanisms in the Indian call centre sector

A control orientation is heavily ingrained in call-centre management. According to Houlihan (2002, p. 71) an “underlying ethos of control is discernible” in all call centres. She views that call centres have to rely on control to deliver productivity and the emotional labour of the employees to achieve service quality. Extant literature on the Indian call centre industry overwhelmingly points to the excessively rigorous control mechanisms embraced by firms (e.g., Batt *et al.*, 2005; Noronha and D’cruz 2006; D’cruz and Noronha, 2014; Thite and Russell, 2010b) even to control the routine tasks and behaviour of the call centre employees. The two dominant control approaches, techno-bureaucratic control (a form of bureaucratic

control that heavily relies on technological monitoring) and socio-ideological control (clan-based control) strategies are both used in the Indian call centre context. Techno-bureaucratic control, carried out through rules, procedures and formal incentives, include extensive monitoring, target setting and feedback mechanisms. As D’cruz and Noronha (2014) describe, in most call centres service level agreements (SLAs) entered into between the client and the call centre operator create, for the employees, a range of performance targets both quantitative and qualitative in nature that spans the entire domain of work activity like average call times, wrap-up times, customer interaction measures linked to sensitivity, politeness, addressing customer needs, etc. Conversely, socio-ideological control involves appealing to the social identity of the employee and controlling their behaviour through highlighting the norms attached to the said social identity like professionalism (D’cruz and Noronha, 2006). Though socio ideological control is equally as important in Indian call centres as techno-bureaucratic control, the present study limits its scope to the effects of techno-bureaucratic control.

Though existing studies widely recognise the predominance of control mechanisms in Indian call centres (e.g., Noronha and D’Cruz, 2009; Thite and Russell, 2010a) empirical studies that look at the consequences of control strategies are rare. Many studies highlight the existence of control as a means of resolving the inherent conflict between cost efficiency and customer satisfaction (e.g., Taylor and Bain, 2005); others (e.g., Noronha and D’cruz, 2009) consider the impact of control strategies in reducing the inclination for union formation or other forms of collective grievance redress. However, in the broader services management literature, several studies (e.g., Hartline and Ferrell, 1996; Hartline *et al.*, 2000; Chebat and Kollias, 2000; Liao and Chuang, 2004) support the view that managerial actions and strategies strongly influence service employee behaviour. Further, considering the problems faced in

the Indian call centres in terms of employee turnover (Taylor and Bain 2005) and reduced customer satisfaction it is, therefore, important to look into this aspect.

Operationalising Managerial control approaches in the service sector

Studies focusing on managerial control strategies in the service sector have predominantly looked at bureaucratic control approaches and, specifically, limited their attention to behavioural control (e.g., Hartline and Ferrell, 1996; Hartline *et al.*, 2000; Chenet, *et al.*, 2000; Coelho and Augusto, 2008). Hartline *et al.*, (2000, p. 38) highlight “Behaviour-based evaluation is particularly suited to customer contact employees in that their performance in serving customers’ needs is directly related to customer-oriented behaviours (e.g., courtesy, friendliness, problem solving) rather than specific work related outcomes (e.g., quota, sales volume)”. However, in many service contexts like call centres, measurements of customer-centric outcomes are common. For instance, customer satisfaction, as well as customer loyalty, is often measured (D’Cruz and Noronha, 2007). Outcome controls, therefore, can be equally applicable to service settings such as sales. Singh (2000), for instance, explains how in the case of front-line employees performance productivity is assessed by comparing quantifiable output with behavioural standards for both the customer contact (e.g., number of calls handled) and backroom functions (e.g., completing paperwork). Considering the context of this study – Indian call centres – where outcome measurement is constituent of the control mechanism, we also look at the influence of outcome control on employee attitudes and behaviour.

Another issue related to studies on managerial control strategies in service settings concerns the operationalisation of behaviour-based control strategies. Most of the extant studies measure behaviour-based control strategies as a single construct. However, recent studies in sales control strategies show that behaviour-based control strategies comprise two different control types – activity control and capability control (Challagalla and Shervani, 1996).

Activity control involves monitoring and controlling activities of the employee that directly or indirectly contribute to the outcome. For example, in a services organisation, customer service activities like entering details of each service encounter accurately in a log or keeping the service desk clean are activities that can be monitored and controlled. Conversely, capability control involves controlling the skill levels and capabilities of the employees. This could involve monitoring and coaching the employee in different types of customer greeting techniques, developing exposure to different types of cultures, etc. Past research in sales-force control systems have shown that activity control and capability control may have different and sometimes even opposite effects (Fang *et al.*, 2005). Further, extant studies report numerous examples of how both activity control and capability control methods (e.g., D'Cruz and Noronha, 2007) are implemented in Indian call centres.

Employee Adaptiveness

Working in Indian call centres calls for high levels of adaptiveness from employees. Call centre agents catering to western clients have to adapt their language, names, values, etc., to converge with the background of their customers. Moreover, due to the restrictions posed by the medium of exchange (i.e., telephone) employees are required to display high levels of 'synchronicity' whereby individuals have to think on their feet and maintain their act throughout (Raghuram, 2013). The significance of employee adaptiveness in Indian call centres has been highlighted within the larger concept of offshoring by several authors (e.g., Cohen and El-Sawad, 2007; Mirchandani 2004; McMilan 2006, etc.). These studies present instances of how employees adapt their cultural orientation, attitudes and language in order to service their customers.

According to Hartline and Ferrell (1996), employee adaptiveness is the ability of customer contact employees to adjust their behaviour to the interpersonal demands of the service encounter. Solomon *et al.* (1985), in fact, consider employee adaptiveness to fall in a continuum, ranging from a rigid conformity of an established script characterised by an approach where employees treat each customer the same way, to service personalisation in which employees must adapt to serve customers' individually. As Hartline and Ferrell (1996) aver: contact employees, who adapt their behaviours during customer interactions, are more likely to fulfil the needs and requests of their customers and thereby increase customers' perceptions of service quality. Previous studies consider service employee adaptiveness as a construct comparable to constructs like functional flexibility and employee innovativeness from the organisational behaviour literature or similar to adaptive selling behaviour in the personal selling literature (Hartline and Ferrell, 1996; Bettencourt and Gwinner, 1996). However, this view fails to recognise the differences in the orientations, goals and different types of task environments encountered by different categories of boundary spanning personnel. A sales person and a hospital nurse would be required, for instance, to exhibit completely different types of adaptive behaviour with their customers.

Gwinner *et al.* (2005), in their seminal paper, distinguish two strains of employee adaptiveness: (1) Interpersonal adaptive behaviour, and (2) service offer adaptive behaviour. Interpersonal adaptive behaviour is defined as: "the ability of contact employees to adjust their behaviour to the interpersonal demands of the service encounter" (Hartline and Ferrell, 1996, p. 55). Service offering adaptive behaviour is defined, based on conceptualisation developed by Kelley (1993) and Surprenant and Solomon (1987) as: "employee behaviour that influences the final form of the service offering rather than merely the alternate ways of delivering the same service" (Gwinner *et al.*, 2005, p. 134). This two-dimensional

conceptualisation is, in fact, very appropriate in the case of Indian call centres. Call centre agents have to first adjust their language, style of talking, culture, mood, etc., to that of their clients which can be considered as a form of interpersonal adaptive behaviour. Further, as D'Cruz and Noronha (2007, p. 61) found, while interacting with customers, the agents felt "customers who tried to engage the agent in conversations unrelated to the technical service or who tried to flirt had to be managed such that they were not annoyed or rebutted but treated with courtesy and yet brought to the issue of concern". Call centre agents were also asked to show sensitivity as well as tact in handling irate customers – typical examples of interpersonal adaptive behaviour.

Simultaneously, call centre agents need to solve client problems within a specified time in a way that satisfies the client – an example of service adaptive behaviour.

According to Gwinner *et al.* (2005), previous studies have measured only the interpersonal aspect of employee adaptiveness and highlight a number of deficiencies in using this method in a service setting. They argue that, while interpersonal adaptive behaviour is important, often this tends to become non-task oriented conversation, which might actually prove to be counterproductive in a service setting. Gwinner *et al.* (2005) thus conclude that, in the case of service interactions, it is actually possible for employees to substantially alter the service offering itself beyond mere interpersonal adaptation to meet an individual customer's expectations. The Gwinner *et al.* (2005) framework has been used in several service sector studies recently (e.g., Leischnig and Kasper-Brauer, 2014; Wilder *et al.*, 2014). Since the Indian call centre context clearly displays the existence of both interpersonal adaptiveness and service adaptiveness, we adopt the Gwinner *et al.* (2005) framework in the present study.

Role-stress

Numerous studies highlight the critical nature of role-stress in service/front-line employees (e.g., Babin and Boles, 1996; Schneider and Bowen, 1985; de Ruyter *et al.*, 2001; Chung and

Schneider, 2002). In fact, high levels of employee role-stress have been considered as one of the striking features of Indian call centres. Thite and Russell (2010b, p. 10) found a substantial proportion of agents experiencing ‘intense, stress-producing work-conditions’. Past studies, which looked at service employee adoption, discuss the importance of two antecedent contextual variables: (i) Evaluation/control strategies used by the management (Hartline and Ferrell, 1996), and (ii) role-stress (Hartline and Ferrell, 1996; Chebat and Kollias, 2000). According to Varca (2006), service encounters are innately stressful for employees. It is suggested that employees exposed to role-stressors face increased demand on individual cognitive and emotional resources as they have to expend greater effort to evaluate and enact appropriate coping responses to minimise the effects of the stressor (Lankau *et al.*, 2006). Further, if stressors are present in the employee’s work situation over prolonged periods of time there is increased decline in the employee’s capacity to work and performance eventually decreases (Tuten & Neidermeyer, 2004). Role-stress has been considered as an important variable in several studies looking at work conditions of call centre employees (e.g., de Ruyter *et al.*, 2001; Dean and Rainnie, 2009; Sprigg and Jackson, 2006; Singh, 2000). Dean and Rainnie (2009) conceptualise role-stress in the call centre context comprising of four elements: role-conflict, role-ambiguity, role-demand, and performance monitoring. However, Dean and Rainnie’s (2009) conceptualisation has not been empirically tested and several authors in subsequent studies have looked at role stress in terms of role-conflict and role-ambiguity (e.g., Ashill *et al.*, 2009). Role-ambiguity refers to employees’ perceptions of lack of clear and salient information that may be needed to perform their job adequately; role-conflict, alternatively, occurs when an employee perceives that the demands and expectations of two or more members of their role-set are incompatible or incongruent (Ackfeldt and Malhotra, 2013).

According to Chung and Schneider (2002), role-conflict is an important variable of study with regard to service employees because of the complex environment in which they work. de Ruyter *et al.* (2001) emphasise two important factors that lead to role-conflict in call centre work: (i) expectations of the organisation or supervisor clashing with the demands of customers, and (ii) electronic performance monitoring. Role-ambiguity is caused due to poor communication with regard to the individual's duties, authority and allocation of time to tasks (Lankau *et al.*, 2006). Dean and Rainnie (2009) found that role-stress among call centre workers affects their interaction with customers.

Conceptual Model

We base the conceptual model on Bagozzi's (1992) attitude theory. The conceptual model, shown in figure 1, positions the three managerial control approaches, namely, output control, activity control and capability control and their three interactive effects as the antecedents of the two role-stress constructs: role-conflict and role-ambiguity. The role-stress constructs, in turn, negatively impact the two employee adoption constructs, namely, interpersonal adoption and service adoption.

Bagozzi's (1992) attitude theory has been extensively used in explaining service employee behaviour in the past (e.g., Babakus *et al.*, 2003; *et al.*, 2005; Paulin *et al.*, 2006; Alexandrov *et al.*, 2007, etc.). According to this theory, individual behaviour is the outcome of self-regulating processes, embodied in distinct sequences of monitoring and evaluation, emotional reactions, and coping responses. Hence, when an individual appraises various past, present, and future outcomes, these outcomes produce specific emotions and, subsequently, lead to various coping responses.

We argue that due to the primary need for balancing the requirements of their clients (who tie them with strict customer-oriented clauses in the SLAs) on the one hand and the need for achieving cost efficiency on the other, Indian call centres ultimately adopt a host of excessive and conflicting monitoring and control approaches. This, in turn, leads to employee confusion and stress, which then leads to erosion in their adaptiveness. This phenomenon is captured in the conceptual model.

<Take in figure1 here>

Direct impact of managerial control strategies on employee role-stress

According to Blau and Scott (1962, p. 29-30) “A social agreement to suspend judgment about orders from superiors and to simply follow orders is fundamental to bureaucratic control”. Bureaucratic control that emphasises the need for compliance inherently creates stress in employees. Similarly, as Ouchi (1979, p. 841) explains: “it is not possible for an organization to measure or otherwise control its employees without somehow affecting them through the very process that it uses to measure them”.

Outcome control involves monitoring and controlling the job-related outcomes of the employee. Outcome control also involves minimal interactions between the manager and the employees and a ‘light monitoring’ mechanism (Onymah and Anderson, 2009). A small portfolio of easily observable outcomes is used to monitor performance and to control deviance.

Operating as they are within the ambit of an offshoring model, Indian call centres survive by steadfastly complying with Service Level Agreements (SLAs) signed with the client organisations. These SLAs incorporate outcome and process requirements to be achieved by

the call centre through their employees (Noronha and D'Cruz, 2009) thereby linking employees directly with the call centre organisation's operational targets. These targets typically include outcome measures like call waiting times, call abandonment rates, etc. – outcomes on which the employee does not have a major influence. D'Cruz and Noronha (2007) report how the procedure for measuring customer satisfaction creates confusion and leads to employee stress. Previous research on the impact of outcome-based control strategies in salesforce management domains point to both positive and negative results. While outcome-based control strategies could lead to such positive outcomes as creative problem solving and customer orientation (Wang *et al.*, 2012), due to the emphasis on rigid output goals, it can also lead to job pressure and resultant stress (Stathakopoulos, 1996). Further, in a system of outcome-based controls, due to lack of close monitoring, bi-directional communication between employees and managers is relatively low. In a service setting, bi-directional communication is very important for employees to infer expectations with regard to interactions with each customer (Rigopoulou *et al.*, 2012). Fewer opportunities to share information with managers could, therefore, lead to ambiguity concerning performance requirements and the general strategy towards customers (Babin and Boles, 1996). It can also lead to confusion about responsibilities and goals. For instance, Thite and Russell (2010a) report how managerial expectations concerning call wrap-up, conducted during the call, lead to intense confusion among agents. Thus, under a system predominated by outcome control, due to lack of adequate communication, employees might not obtain advice about which job-behaviours are more appropriate in a given situation, leading to role-ambiguity.

H1: Higher levels of outcome controls lead to higher levels of role-ambiguity among service employees

Outcome control can also cause stress, when the management assesses outcomes without considering the requisite inputs. This could, inevitably, lead to situations where, given the large role-set that the boundary spanning elements have to cater to (Goolsby, 1992), achieving the outcomes, in the roles whose outcomes are measured takes predominance over satisfying other roles (Babin and Boles, 1996). For instance, broad performance outcome measures like average call handling time may create conflict when the employee has to allocate time in complex, lengthy customer calls versus simple routine calls. Dean and Rainnie’s (2009) study, indeed, found that key performance indicators – quite common with outcome control procedures – cause stress in employees that, in fact, reduces the likelihood of employees being friendly with customers. Such a situation will naturally lead to role-conflict. Hence:

H2: Higher levels of outcome controls lead to higher levels of role-conflict among service employees.

Activity control is a component of behavioural control and involves the monitoring and evaluation of routine daily activities (Kohli *et al.*, 1998). Higher levels of activity control restrict employees to performing certain routine activities and limit the autonomy to perform necessary customer services when difficulties or problems arise that call for flexible and creative solutions (Wang *et al.*, 2012). Research among sales people shows that activity control signals distrust in sales people (Deci *et al.*, 1999) and, therefore, may lead to reactance (Wang *et al.*, 2012). Higher levels of activity control can therefore restrict a service employee’s motivation to actively share information with managers and reduce any confusion regarding roles and responsibilities. Employees may simply perform an activity that is monitored without putting their mind to it. This is particularly true in the case of Indian call

centres where a plethora of activities are monitored. Along with this through 'call barging' monitoring is carried out even when the agent is actually interacting with the customer. As Wang *et al.* (2012) argue, employees might shirk the quality dimension and perform the required quantity of the activities that are being measured. Some of these activities could also be interpreted as contradictory. For instance, call centre employees are often required to find a solution to a customer complaint in one single call, but are also monitored for the duration of the call. This can also cause ambiguity in the minds of the employees. Moreover, activity control does not require the supervisor to give diagnostic feedback to employees (Mallin and Pullins, 2009). Such a mode of participation leads to greater role-ambiguity since employees are not required to understand their roles and contribution to the performance of the firm. Hence:

H3: Higher levels of activity control lead to greater role-ambiguity

Since activity control focuses on monitoring a limited set of activities without providing flexibility or feedback to the employee, service employees, who have to satisfy the demands of a variety of customers would consider their supervisors to be lacking in a facilitative attitude. According to Babin and Boles (1996), perceived lack of facilitation is one of the major causes of role-conflict. In the same vein, Dean and Rainnie's (2009) study shows that, in call centres, among other factors, employees perceive higher levels of role-stress when there is limited scope for de-briefing with managers, and lack of modelling of high quality services – typical behaviours associated with an activity control approach that limits the control behaviour to a limited number of activities. Hence:

H4: Higher levels of activity control lead to greater role-conflict.

Capability control emphasises building the capability and skills of employees (Challagalla and Shervani 1996). Capability control involves high levels of information sharing and coaching on the part of the supervisor. The skills and capabilities required for a particular job are initially identified and the service employee is closely monitored in the process of achieving these skills and capabilities. A capability control approach also incorporates high-levels of diagnostic feedback (Miao and Evans, 2013). Capability control is expected, therefore, to increase role-clarity among employees that, in turn, can reduce role-stress. Due to the emphasis on information sharing and close supervision, unlike activity control it can be hypothesised that:

H5: Capability control reduces role-ambiguity and

H6: Capability control reduces role-conflict.

Interactive Impact of Managerial Control Strategies on Service Employee Role-stress

Recent research in salesforce control strategies emphasises the interactive effect of the three control strategies. Wang *et al.* (2012) highlight that, more typically, firms employ more than one type of control strategy to influence their employees. In fact, as Onyemah and Anderson (2009) argue, outcome control and behaviour control are only extremes of a continuum. Very rarely do firms employ a pure outcome based control strategy or a pure behaviour based control strategy. In support of this argument, Miao and Evans (2012, 2013 and 2014) and Wang *et al.* (2012) affirm that control strategies are never implemented individually, but in combination, and hence interact with each other to produce different effects in employees. Research on the interactive effects of control strategies is very recent and mostly focuses on salespersons.

Outcome control focuses only on a selected portfolio of outcomes without giving any importance to the inputs or the way it is achieved. In a pure outcome control strategy, there is little emphasis on information sharing and monitoring of activities by the supervisor. Activity control, though not focused on outcomes, also does not place much emphasis on bilateral information sharing. Both outcome control and activity control are approaches which place little emphasis on information sharing with employees. An employee subject to high levels of both outcome control and activity control would therefore face situations where he/she is asked to achieve certain outcomes as well as conduct activities in a certain way without actually being informed about why or how. This could lead to a situation where employees lack salient information to effectively enact his or her role (Singh, 1993) which could increase role-ambiguity and role-conflict. Further, as Miao and Evans (2012) argue, a combination of outcome control and activity control can reduce role-clarity among salespersons, as they are cognitively inconsistent. Extant research on the interactive effect of outcome control and activity control among sales persons show that the interactive effect could increase role-ambiguity, though no effect was shown for role-conflict (Miao and Evans, 2013). In the same vein Wang *et al.* (2012) show that a combination of activity control and outcome control reduces the problem solving motivation of salespeople. In Indian call centres both outcomes like customer satisfaction or call abandonment rates as well as activities (through call barging) are measured. Together, they are intended to achieve targets in cost efficiency as well as customer satisfaction, which often become difficult to achieve simultaneously. In many cases the outcomes are based on SLAs signed by the employer within the larger offshoring model and which might therefore directly contradict the cost efficiency objectives of the employer. Based on the discussion above, it is therefore possible that:

H7: The interactive effect of outcome control and activity control increases role-conflict of service employees.

H8: The interactive effect of outcome control and activity control increases role-ambiguity of service employees.

According to Simon *et al.* (2004) outcome control and capability control provide complementary information and are, hence, cognitively coherent. Further, as Miao and Evans (2012) contend, outcome control and capability control are expected to have a positive interactive effect on task enjoyment. This is because, when they act together, capability control could enhance an employee’s perceived competence and strengthens the bond between the employee and their supervisor while outcome control renders autonomy during customer interactions. Previous research in sales management shows that the interactive effect of outcome control and capability control reduces role-conflict but has no effect on role-ambiguity (Miao and Evans, 2013). The intensive coaching and mentoring provided under capability control – which reduces role-stress – can therefore positively blend with the autonomy provided by outcome control to reduce role-stress. Hence:

H9: The interactive effect of outcome control and capability control reduces role-conflict.

H10: The interactive effect of outcome control and capability control reduces role-ambiguity.

Activity control and capability control are the two distinct components of the behavioural control approach. Though previous studies (e.g., Zeithaml *et al.*, 1988; Hartline and Ferrell, 1996) highlight the importance of behaviour-based control systems in service organisations, empirical evidence linking behaviour-based control on service employee role-stress is rare. In one of the few empirical studies, Hartline and Ferrell (1996) found a significant negative

relationship between behaviour-based control and role-ambiguity, but not for role-conflict. However, extant literature in services management does not report any relationship between the interactive effects of the components of behaviour-based control and role-stress in service employees. In the sales management literature, Miao and Evans (2013) report a significant negative impact for interactive effects in the case of role-ambiguity, but not in the case of role-conflict – a result quite similar to that of Hartline and Ferrell (1996). Though activity control could increase role-stress, if capability control is also involved, employees can expect to receive adequate coaching about performing their activities in an effective manner as well as greater information about their roles in the organisation. Capability control also involves receiving better feedback and diagnostics (Miao and Evans, 2013). The combined effect of activity control and capability control could therefore reduce role-stress. Hence:

H11: The interactive effect of capability control and activity control reduces role-ambiguity; and,

H12: The interactive effect of capability control and activity control reduces role-conflict.

Effect of Role-Stress on Employee Adaptive Behaviour

As Kahn *et al.* (1964) report, role-stress can be psychologically uncomfortable for employees. According to Singh (2000), role-stress induces coping and self-regulatory mechanisms in employees. Based on Bagozzi's (1992) attitude theory, it is argued that service employees, faced with role-stressors, restrict their adaptive behaviour as a coping mechanism. Hence, higher levels of role-stress can reduce an employee's adaptive behaviour. In a recent study, Leischnig and Kasper-Brauer (2014) show that work enjoyment experienced by employees could actually lead to higher levels of interpersonal adaptive behaviour as well as service offering adaptive behaviour. Wilder *et al.* (2014) show that a

positive service climate could indirectly influence service-offering adaptive behaviour. Although the connection between role-stress and adaptability is quite important in the context of services management, few studies in services management explore this relationship. However, these studies have produced mixed results. Hartline and Ferrel (1996) found a negative association between role-ambiguity and adaptive behaviour, but no significant relationship between role-conflict and adaptive behaviour. Similarly, Chebat and Kollias (2000) also found that only role-ambiguity had a significant relationship with employee adaptiveness with no significant relationship found between role-conflict and adaptiveness. However, in both the studies, adaptability was measured as a single construct rather than as comprising of two sub-constructs. Hence:

H13: Role-ambiguity has a negative impact on the interpersonal adaptive behaviour of employees.

H14: Role-ambiguity has a negative impact on the service adaptive behaviour of employees.

H15: Role-conflict has a negative impact on the interpersonal adaptive behaviour of employees.

H16: Role-conflict has a negative impact on the service adaptive behaviour of employees.

Empirical Study

A questionnaire survey was conducted among frontline employees who interacted with customers as part of their job. The respondents were drawn from two different call centres operating in India. The respondents were from five different cities: Chennai, Mumbai,

Bangalore, Coimbatore and Kochi in India. All respondents interacted with customers (mostly from financial services and telecom industries) directly on a real-time basis and were involved in inbound customer care services. They were third-party call centres, particularly dealing with offshore clients based in the USA, Ireland, UK and Australia. They had elaborate SLAs demanding process documentation and adherence metrics. Thus, job design was formally documented and quite strictly adhered to. Work organisation allowed close supervision of employee control – both activity metrics and outcome metrics. The larger objectives of the organisations were to provide quality care through effective customer experience, increase customer satisfaction, leading to increased customer loyalty and increase revenues by efficient understanding and fulfilment of customer needs.

Since the call centre employees were required to interact with their customers in English, and were therefore quite adept in the language, the questionnaire was developed in English. A total of 367 employees participated in the study. Of this, 239 call centre employees belonged to the first organisation and the remaining 128 employees were contacted from the second firm. In the first organisation, the survey was administered with the help of the management.

Copies of the questionnaire were sent across to the organisation, which was administered to employees by the management. The employees filled in the questionnaire during their work hours. One of the researchers coordinated the questionnaire administration process. In the second organisation, employees who participated in management training in a well-known management institute in India administered the questionnaire during the programme. One of the researchers supervised the questionnaire administration in this instance. In both instances, the questionnaire was administered in a paper and pencil format. The questionnaire was handed out in person and complete confidentiality was assured to the respondents. As a result, the questionnaire administration did not pose any problems. All those who were approached for providing responses were happy to participate. In the second organisation the

questionnaire was administered by the firm. Comparing the two groups, t-tests between the groups across the main constructs showed no significant differences for the major constructs except for activity control and role-conflict. The F-values ranged from 0.284 to 6.071. Given the similarity in the work profile of the participants, as well as the similarities in the activities of the organisations, the data from the two sources were aggregated.

Of 367 front-line employees who participated in the study, 135 (37%) were females and the remaining 232 (63%) were males. The average age of the total sample was 24.8 years with a standard deviation of 4.42 years. The respondents had an average experience of 15 months in the organisation.

Construct Measurement

Activity control, capability control and outcome control were measured by modified scale based on Miao *et al.* (2007). Role-conflict and role-ambiguity were measured using the scale developed by Rizzo *et al.* (1970) while interpersonal and service adaptiveness were measured using the scale items developed by Gwinner *et al.* (2005). The scale items were suitably modified to suit the service context. The initial PLS model included all the scale items prescribed by the original study. However, some of the items did not load properly and had to be dropped in the subsequent analysis. One item each was dropped for activity control and outcome control and two items were dropped from the capability control scale. Hence, in the final analysis, activity control was measured using four items from the original scale; capability control was measured using three items; and, outcome control was measured using four items. Four items were dropped from the original role-conflict scale and one item was dropped from the role-ambiguity scale; thus, in the final analysis, role-ambiguity was measured using six items and role-conflict was measured using three items. For the final analysis interpersonal adaptiveness was measured using three items while service

adaptiveness was measured using four items after dropping three items from the interpersonal adaptiveness and the service adaptiveness scale respectively. The items used for measuring the constructs in the empirical study are provided in table.1. Being reflective scales, the face validity of the scales was not influenced by the dropped items. Moreover, Cronbach's alpha and the composite reliability values for the retained items was much above the requirements.

Common Method Bias

As the antecedent variables – managerial control strategies and role-stress – and the outcome variables – service adaptiveness – were measured from the same source, potential distortion of the results due to common method bias cannot be ruled out (Podsakoff et al., 2003). Harman's single factor test, in which all the fit indices for a single factor measurement model were compared to the actual measurement model, was applied. The normal measurement model, where each observed variable was related to its latent construct, produced a Chi-square/d.f value of 1.873, while the single factor model was found to have a Chi-square/d.f. value of 6.73. The single factor model was therefore far too poor compared to the actual measurement model in terms of the fit indices thereby showing lack of common method bias.

Analysis

The data were analysed through partial least square methodology implemented through the smartPLS program (Ringle et al., 2005). Partial least square methodology allows for estimation of path coefficients for both the mediating and moderating variables. Chin et al. (2003) show how PLS modelling is superior to covariance based SEM while using a product-indicator approach. According to Bagozzi and Yi (2012) interaction effects in covariance based SEM require complex constraints when specifying the model and a very large sample is needed to give correct parameter and standard error estimates. In our model, a product-indicator approach is used to estimate the interaction between managerial control variables

and, hence, a PLS approach was found to be more suitable. In the first instance, the convergent and discriminant validity of the measurement model was analysed. All the observed variables showed significant loadings to their latent constructs. All the loadings were above 0.5 and the average variance extracted was above 0.5, showing adequate levels of convergent validity. To assess the discriminant validity, the square of the inter-construct correlations were compared to the average variance extracted (AVE). The square of the inter-construct correlations were all found to be lower than the AVEs thereby establishing discriminant validity. Cronbach's alpha and composite reliability scores were all found to be above 0.7, thereby establishing the reliability of the measures. The goodness of fit was found to be 0.635. The inter-construct correlation matrix, AVE values and reliability scores of the constructs are provided in table 2.

<Take in table.2 here>

Results

Empirical support for the proposed hypotheses was assessed based on the values of the path coefficients. The values of the path coefficients are shown in table 3. Overall, 10 of the 16 hypotheses were supported. The significance of the path coefficients were assessed through a bootstrapping procedure. The bootstrapping procedure involved iterating the path model through 1,000 samples. This procedure generates t-values for all the path coefficients. Based on this procedure any path coefficient with a t-value above 1.95 can be considered to be significant at $p < 0.05$ level.

<Take in table.3 here>

From table 3 it is seen that the path from outcome control to both role-conflict and role-ambiguity are positive and significant. However, the path from outcome control to role-conflict is significant only at the $p < 0.07$ level. This result supports hypotheses H1 and H2.

Further, the path from activity control to both role-ambiguity and role-conflict are also both positive and significant. This would imply that higher use of activity control can lead to higher levels of role-conflict and role-ambiguity. This result supports H3 and H4. However, for the paths from capability control, the path to role-ambiguity is not significant, thereby negating H5 and, interestingly, the path to role-conflict is positive and significant, which is against the sign of the relationship proposed in hypothesis H6. Capability control strategy, therefore, has no impact on role-ambiguity but increases role-conflict.

Concerning the results relating to interactive effect, the interactive effect of outcome control and activity control significantly and positively affects both role-conflict and role-ambiguity. This affects both H7 and H8. However, the interactive effects of activity control and capability control, as well as the interactive effect of outcome control and capability control does not significantly affect role-conflict or role-ambiguity. Therefore, this result does not support hypotheses H9 to H12.

Both role-conflict and role-ambiguity are seen to be negatively influencing interpersonal adoption and service adoption. The four paths from role-conflict, role-ambiguity to interpersonal adoption and service adoption are all negative and significant. Hence, hypotheses H13 to H16 are found to be significant. In the next section, the significance of these results is discussed in relation to the empirical results available in the extant literature.

The significant results are shown in figure 2. Table.4 gives a summary of the path analysis results.

<Take in figure. 2 here>

<Take in table.4 here>

Discussion

The present study looks at the impact of different combinations of control strategies on role-stress and employee adaptiveness in a service context. While existing literature on Indian call-centres reports an abundance of managerial control, very few empirical studies have attempted to trace the impact of the overuse of control. Past studies (e.g., Noronha and D’Cruz, 2009; D’Cruz and Noronha, 2007) attest to the use of a variety of control and monitoring approaches including outcome, activity and capability control. The three-component managerial control framework pioneered by Miao and Evans (2012) is, therefore, quite appropriate in the Indian call centre context. Further, though theoretically important, hitherto the impact of the interactive effect of control strategies has only been considered in sales management literature. Exploring the impact of the three dimensions of bureaucratic control in the Indian call centre context, therefore, attempts to direct thinking towards how control approaches can influence the attitudes and performance of service employees, particularly in the Indian call centre context.

The results show that, as predicted, outcome control and activity control increase role-conflict and role-ambiguity. While capability control does not have any impact on role-ambiguity, it increases – rather than decreases – role-conflict. These results endorse the conclusions of Varca (2006) and Dean and -Rainnie (2009) that control and stress are related. Since previous studies have rarely looked at the relationship between outcome-based control and activity-based control in a service setting, these results help to open up new research in this domain. Both outcome-control and activity-control focus on achieving outcomes or performing certain activities without focusing on different ways to accomplish the outcomes or activities. This could lead to lack of proper guidance or bilateral-communication. In a services setting, where the service employee is in the process of constantly servicing customers, such a control strategy may lead to significant role-stress.

The results, which point to a positive influence of capability control on role-conflict, are difficult to explain. One possible explanation involves looking at the macro context of Indian call centres. Several studies have looked at employment conditions in Indian call centres (e.g., Holman *et al.*, 2009; D'Cruz and Noronha, 2006; Jaiswal, 2008; D'Cruz and Noronha, 2009). Holman *et al.* (2009), for instance, report high levels of performance monitoring and low levels of job discretion in Indian call centres. D'Cruz and Noronha (2006), Jaiswal (2008) and D'Cruz and Noronha (2009) describe methods of performance monitoring like 'call barging' and live shadowing of calls by managers. Further, Indian call centre employees are constantly under pressure due to the need to manage difficult customers from western/developed countries and the pressure felt by the management team to adhere to strict quality standards imposed by their overseas clients (Jaiswal, 2008). In fact, D'Cruz and Noronha (2006) describe how these performance monitoring practices are considered to be normal by call agents in India. Capability control involves high levels of bi-lateral communication, performance diagnosis, debriefing and provision for feedback. Under such high pressure working conditions, it is possible that a capability control approach is either misconstrued or results in greater confusion. Therefore, under these circumstances, high levels of capability control may have a positive rather than negative effect on role-conflict. The views expressed by Varca (2006) also support this result. According to Varca (2006), call centre employees spend little time with their supervisors; instead, much of their time is spent with customers, hence control approaches that involve the participation of supervisors (like capability control) could sometimes be construed as an unnecessary intrusion that does not help in dealing with customers. Instead, as Singh (2000) suggests, it would be better to give control over the task to reduce stress.

The lack of impact on capability control on role-ambiguity partly contradicts the results obtained by Hartline and Ferrell (1996) in which they found a significant negative impact for

behaviour-based control strategy on role-ambiguity. In the present study, capability control is not seen to have any impact on role-ambiguity, while positively impacting role-conflict. Interestingly, in their study, no impact was found for the relationship between behaviour-based control strategy and role-conflict. This result is important as it is one of the first studies that look at the impact of the two components of behavioural control strategies in a service setting.

Interestingly, of the three interactive effects, only the interaction between outcome control and activity control are found to significantly impact the role-stress constructs. This shows that outcome control and activity control can combine to adversely impact role-conflict and role-ambiguity over and above the individual effect. Hence, higher levels of activity control and outcome control may prove to have a multiple effect on role-conflict. This could be easily explained in the context of Indian call centres as both outcome control and activity control involves heavy measurement of processes and outcomes. Often these measures might be construed as either contradictory or not fit for purpose. An interesting example for this is given in the case of measuring customer satisfaction by D’cruz and Noronha (2007). Similarly, Thite and Russell (2010a) shows how measurement of call wrap-up times in a bureaucratic manner could lead to negative results. In this instance since the expectation was that call wrap-up is conducted in parallel with the call in order to reduce call queuing, the agent is unable to attend properly to customers or give adequate attention. The results also highlight that the interactive effect of capability control on both activity control and outcome control have no significant influence on role-stress. What emerges from this result is the inability of the coaching and mentoring elements ingrained in capability control to reduce the negative effects of outcome control and activity control.

Role-conflict and role-ambiguity are both seen to negatively influence interpersonal adaptation and service adaptation. This is a significant result in the services management

context, since the impact of role-stress on the two different dimensions of service employee adaptation has not been studied previously.

Implications and Limitations

Several research and practical implications can be drawn from the results. The study considers three critical aspects of call centre management in India – managerial control approaches, role-stress and employee adaptiveness. As these variables are extremely important in achieving greater employee satisfaction and commitment, the study holds significant theoretical and practical implications for research in Indian call centres. Few studies in the services management literature or in the Indian call centre management have considered the interrelationships between these constructs. This is despite the overwhelming belief that employee adaptiveness is accepted as the way forward for customisation of services (Gwinner et al, 2005).

Firstly, the study emphasises the need to renew focus on the impact of managerial control strategies in services management. It is necessary to consider the different components of managerial control and their interactive effects on different facets of service employee management. Future research can look at other important constructs that might be related to control strategies. Further, by looking at the two components of service adoption, the study provides a more refined examination of the employee adoption construct among service employees. This is an important line for future research studies as the services management domain lacks a comprehensive idea concerning the antecedents of employee adoption.

The study, however, limits its focus to bureaucratic control and does not consider the other component of control extensively used in Indian call centres – socio-ideological control. Future studies can consider this aspect and even explore the interactive impact of bureaucratic control and socio-ideological control in Indian call centres.

In terms of managerial implications, the finding that both outcome control and activity control can increase role-stress which, in turn, leads to lesser levels of employee adoption, is a significant insight that may be used for managing service employees. This has specific implications for Indian call centres as excessive monitoring and control are the norm. Due to the twin goals of customer orientation as well as cost efficiency the monitoring and consequent control activity could actually lead to more conflict and ambiguity rather than clarity. This is an important implication for managers. It is also worth noting that capability control is not effective in reducing role-stress in the study context. It is possible that capability control strategies were ineffective due to the overwhelming levels of outcome control. Several authors (e.g., Robinson and Morley, 2006; Feinberg *et al.*, 2000) have, in fact, commented about the extreme levels of performance monitoring in call centres. Managers in call centres make use of a plethora of performance measures, many of which are not necessarily logically interlinked. Further, compared to other service contexts, call-centre employees deal with a much larger volume of customers often without a break and, under such circumstances, capability control strategies may have limited efficacy. Call centre managers can, therefore, take into account these insights to refine their managerial control strategies. Rather than using capability control as a foil to outcome or activity control, the study seems to point towards a reduction in the level of outcome control and activity control as a means for achieving employee adoption.

The study is also not devoid of limitations. We wish to point out several inherent limitations in the sample design as well as the data analysis. The study was conducted in an Indian call centre and, hence, the generalisability is limited to that context. Call centres in other countries may not be pursuing dual goals and, hence, the conclusions might not be valid in these contexts. The sampling design – cross sectional and convenience – also limits the generalisability as it reduces the ability to generalise the results. Hence, the validity of the

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3 results can only be emphasised in the light of the inadequacy of the sampling design. It is also
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5 important to note that the impact of other variables needs to be explored in this context.
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7 Though it may be difficult to include several other variables in the same study context,
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9 important variables like co-worker support, job satisfaction, personality traits like openness to
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11 experience, learning orientation, etc., may have also impacted the results. The extent of
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13 common method bias cannot be entirely ruled out. A better measurement approach with a
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15 marker variable could help to understand the extent of common method bias. Some of the
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17 issues related to the results also add to the limitations of the study. Many of the variables are
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19 found to be heavily correlated and though the interaction analysis involved standardisation,
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21 some level of multi-collinearity cannot be ruled out. Another limitation is related to the
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23 measurement scales used. Some of the scales finally used in the analysis were shortened from
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25 the original scales. Though the reliability and validity of the final scales used was adequate
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27 and the scales used were all reflective, truncation of the scales although widely followed –
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29 could also be considered as a limitation.
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35 **Conclusion**

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38 The study looks at an important aspect of call centre management which has not received
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40 much attention in the past – effect of employee control strategy. Call centres – especially
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42 those offshore – are bound by specific, strict service level agreements that, in turn, translate
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44 into routine use of control mechanisms. However, control strategies differ in terms of their
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46 focus and instrumentality. The study shows how use of the different types of control
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48 strategies could increase stress levels and, in turn, influence the adaptiveness of employees.
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50 The study therefore attempts to initiate a discourse on employee control mechanisms in the
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52 service sector.
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Fig.1 Conceptual Model

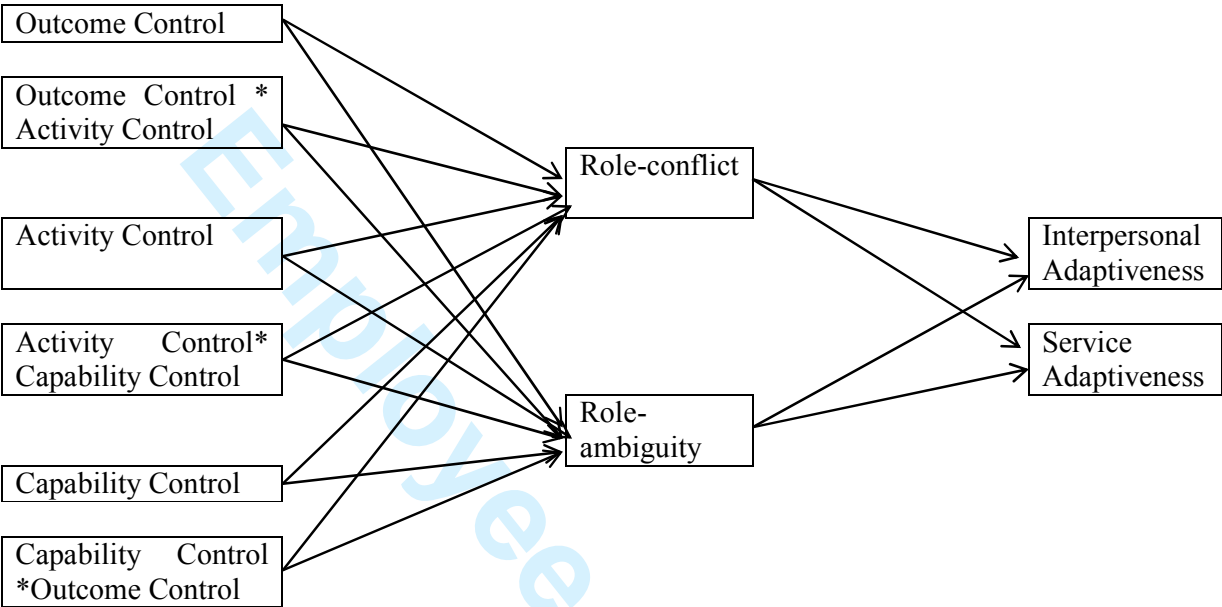


Fig.2 Significant relationships from the analysis

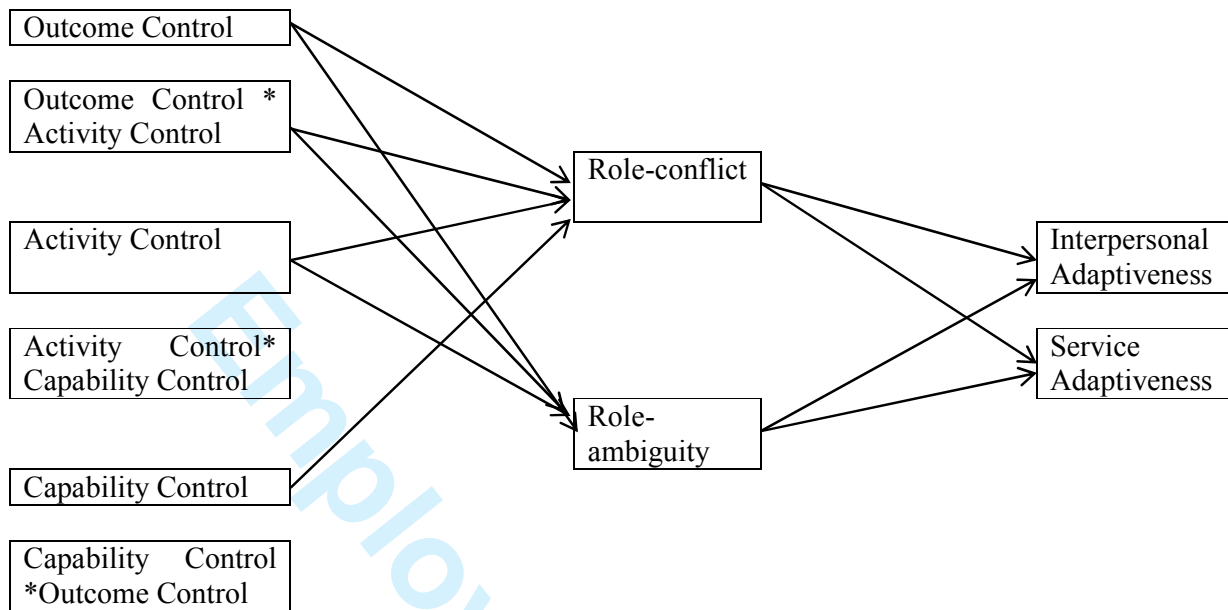


Table.1 Measurement Items

Activity Control – Strongly agree to Strongly disagree
My manager accurately informs me about the customer service related activities I am expected to perform
My manager monitors how I perform the required customer service related activities
My manager informs me on whether I meet his/her expectations on customer service activities
My manager readjusts my customer service activities when necessary
Capability Control – Strongly agree to Strongly disagree
My manager periodically evaluates the customer service skills I use to accomplish a task (e.g., how I communicate)
My manager provides guidance on ways to improve my customer service skills and abilities
My manager evaluates how I communicate with customers
Outcome control – Strongly agree to Strongly disagree
My manager monitors my performance on achieving customer service targets
I receive frequent feedback on whether I am meeting expected achievement on customer service targets
My manager ensures that I am aware of the extent to which I attain customer service targets
I would be recognised by my manager if I perform well on customer service targets
Role-ambiguity -- Strongly agree to Strongly disagree
In this job I know exactly what is expected of me
In this job I know that I have divided my time properly
I have clear planned goals and objectives for my job
In this job explanation is clear for what has to be done
In this job I feel certain about how much authority I have
In this job I know what my responsibilities are
Role-conflict – Strongly agree to Strongly disagree
I work with two or more groups who operate quite differently
I do things that are sometimes accepted by one person and not by another
I have to buck a rule or policy in order to carry out an assignment
Interpersonal Adaptiveness -- Strongly agree to Strongly disagree
I typically adjust the tone of my voice to fit the type of customer I am dealing with
I try to match the level of my vocabulary to that of the customer
If customers sound very happy, I would also try to sound very overjoyed
Service Adaptiveness – Strongly agree to Strongly disagree
I believe that each customer requires a unique approach
I use a wide variety of strategies in attempting to satisfy customers
Deviating from the general guidelines on customer service is very dangerous
Within the set guidelines, I always try to slightly alter services such that each customer feels very unique

Table 2. Square of the Inter-construct Correlation, AVE, Cronbach's Alpha, Composite Reliability and R²

	Mean	S.D	Activity control	Capability Control	interpersonal Adaptiveness	Outcome Control	Role-ambiguity	Role-conflict	AVE	Cronbach's alpha	Composite Reliability
Activity control	2.50	1.08	1.00						0.84	0.94	0.95
Capability Control	2.52	0.97	0.24	1.00					0.68	0.77	0.87
Interpersonal adaptiveness	3.32	1.03	0.44	0.19	1.00				0.77	0.85	0.91
Outcome control	2.38	1.11	0.53	0.27	0.46	1.00			0.79	0.91	0.94
Role-ambiguity	2.52	1.07	0.65	0.21	0.43	0.56	1.00		0.78	0.93	0.95
Role-conflict	2.87	0.944	0.19	0.20	0.27	0.20	0.23	1.00	0.66	0.74	0.85
Service Adaptiveness	3.37	1.06	0.62	0.22	0.59	0.58	0.62	0.30	0.74	0.88	0.92

Table.3 Main Path Analysis Results

From	To	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
Activity control	Role-ambiguity	0.5567*	0.5616	0.0474	0.0474	11.7449
Activity control	Role-conflict	0.1728*	0.1794	0.0635	0.0635	2.7224
Capability Control	Role-ambiguity	0.0084	0.0093	0.0364	0.0364	0.2299
Capability Control	Role-conflict	0.4807*	0.4109	0.2029	0.2029	2.3694
Outcome control	Role-ambiguity	0.3302*	0.3269	0.048	0.048	6.8753
Outcome control	Role-conflict	0.4134**	0.3155	0.2296	0.2296	1.8006
Capability Control * Activity control	Role-ambiguity	0.0381	0.0438	0.0592	0.0592	0.6425
Capability Control * Activity control	Role-conflict	-0.0071	-0.0599	0.1335	0.1335	0.0535
Outcome * Activity control	Role-ambiguity	0.0806*	0.0784	0.039	0.039	2.0657
Outcome * Activity control	Role-conflict	0.1561*	0.164	0.0605	0.0605	2.5799
Outcome control * Capability Control	Role-ambiguity	-0.084	-0.0794	0.0596	0.0596	1.4098
Outcome control * Capability Control	Role-conflict	-0.4429	-0.2961	0.3704	0.3704	1.1958
Role-ambiguity	Interpersonal Adaptiveness	-0.5297*	-0.5283	0.05	0.05	10.5997
Role-ambiguity	Service Adaptiveness	-0.6855*	-0.6871	0.0359	0.0359	19.0732
Role-conflict	Interpersonal Adaptiveness	-0.2611*	-0.2639	0.0464	0.0464	5.6315
Role-conflict	Service Adaptiveness	-0.2163*	-0.2165	0.0384	0.0384	5.6411
R ² values						
Interpersonal Adaptiveness						0.48
Service Adaptiveness						0.66
Role-ambiguity						0.71
Role-conflict						0.30

*p<0.05 **p<0.1

Table.4 Summary of Results from the Analysis

From	To	Hypothesis	Support
Outcome control	Role-ambiguity	H1	Yes
Outcome control	Role-conflict	H2	Yes*
Activity control	Role-ambiguity	H3	Yes
Activity control	Role-conflict	H4	Yes
Capability Control	Role-ambiguity	H5	No
Capability Control	Role-conflict	H6	No
Outcome * Activity control	Role-conflict	H7	Yes
Outcome * Activity control	Role-ambiguity	H8	Yes
Outcome control * Capability Control	Role-conflict	H9	No
Outcome control * Capability Control	Role-ambiguity	H10	No
Capability Control * Activity control	Role-ambiguity	H11	No
Capability Control * Activity control	Role-conflict	H12	No
Role-ambiguity	Interpersonal Adoption	H13	Yes
Role-ambiguity	Service Adoption	H14	Yes
Role-conflict	Interpersonal Adoption	H15	Yes
Role-conflict	Service Adoption	H16	Yes

*supports at $p < 0.07$ level

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