

# Systems Thinking for Call Centre Service Operations: Implications for Affective Commitment in Manufacturing Enterprises

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*This paper explains the leveraging of Affective Commitment among call centre front-line employees through the improvement of service operations design in a manufacturing enterprise through Systems Thinking approach. A case study was carried out using face-to-face interviews, structured questionnaires and observation methods to collect data at managerial and operative front-line levels. The case study finds a strong relationship between the level of Affective Commitment among front-line employees and the form of service operations system. The study has many implications for the manufacturing enterprises embracing a call centre to improve productivity and working experience. A higher level of Affective Commitment is likely to mitigate turnover and absenteeism in these service departments.*

## 1. Introduction

Call centres have always been designed to be within a highly controlled environment and rigid structures known as *Mechanistic Structures* (Robey; Sales, 1994). Mechanistic Structures are quite often described as bureaucratic structures, similar to the *Machine Bureaucracy* structure (Mintzberg, 1983). They are suitable for the inward oriented departments. Criticisms of the Mechanistic Structures include inflexibility, sluggish response procedures, stifling of employees human qualities, and increased stress on employees. In this context, the management of front line employees in call centres has attracted much attention on the literature due to its perceived impact on job performance and job-related stress which are seen as one of the biggest challenges for call centre managers (Batt; Moynihan, 2002, Raz; Blank, 2007). As a consequence much research work has been completed to address this aspect of the call centre environment, but very little literature has discussed the call centre service operations design as a means of improving working experience and front line employees organizational commitment.

Affective Commitment is one of three organizational commitment components (i.e. affective, continuous and normative components). It has a particular significance in influencing performance (Meyer; Allen, 1991) and service quality of employees in service departments (Malhotra; Mukherjee, 2004). This paper aims at explaining the impact that service operations design improvement has on the Affective Commitment level in call centres embraced by a manufacturing enterprise. The paper suggests that a well chosen call centre operations design is likely to increase the Affective Commitment of front-line employees and decrease turnover rates and absenteeism.

In addition, improving service operations design improves employees working experience and service quality. The paper concludes that the employment of *Organic Structure* (Robey; Sales, 1994) characteristics in call centre service operations design through the Systems Thinking approach have a significant impact on the Affective Commitment level among front-line employees. In the following sections, the concept of Affective Commitment and both its prerequisites and significance will be presented. This is followed by a presentation of the Systems Thinking principles and its link with *Organic Structures*. A description of the case study organization and data collection procedures are illustrated. Finally, results are presented and conclusions discussed.

## **2. The concept of affective commitment**

Organisational commitment is defined as ‘the employee’s psychological attachment to the organisation’ (Meyer; Allen, 1991). It reflects a psychological state that has three different levels:

1. Affective Commitment – a measure of the employee’s emotional attachment to the organisation. At this level the employee strongly identifies with the goals of the organisation and wishes to contribute to its success and continuous improvement. The employee remains a part of the organisation because s/he wants to do so.

2. Continuance Commitment – the employee only commits to the organisation because of the high cost associated with leaving it (for example monetary losses such as pension accruals, lower salary elsewhere, transport costs to other locations, social costs such as loss of friendships etc.). The employee remains a part of the organisation because s/he feels it is too much trouble or cost at present to move.

3. Normative Commitment – the employee feels ‘obliged’ to work for the organisation. This may be because of a feeling of being locked in (e.g. the organisation has some form of golden handcuff arrangement or contractual binding of the employee) or because there is no perceived alternative employment opportunities.

There is evidence from the literature of psychology that employees whose working experiences are rewarding and fulfil their own aspirations are ready to exert more effort on behalf of the organization to deliver high levels of service quality than those whose working experiences were less rewarding (Meyer; Allen, 1991, Mayer; Allen; Smith, 1993). However, despite the ever-changing business environment creating pressures for new forms of organisational structures and management styles which would encourage Affective Commitment, managerial practices and organisational structures in service industry contact centres typically involve standardised work procedures, monitored dialogue, mechanisation of customer- employee contact and an emphasis on quantity, volume and activity statistics and targets rather than quality of

interaction measures (Cleveland, 2006). Employees experience reduced empowerment in making decisions and as a result the lack of Affective Commitment impacts on service quality. This also leads to other high cost implications for the organisation such as increased employee turnover, increased absence rates and falling customer satisfaction levels.

It is noteworthy that Affective Commitment differs from job satisfaction in several ways. Affective Commitment-as it was defined earlier- is the employee's psychological attachment to and involvement in the organization (Mowday; Steers; Porter, 1979). As a consequence, the person strongly identifies with the goals of the organization and desires to remain a part of the organization. The employee remains a part of the organization because he/she wants to do so. Job satisfaction, on the other hand, is defined as an employee's attitude towards his/her job aspects (Weiss, 2002). Hence, Affective Commitment is a more global construct that emphasizes the strength of bonds with the company as a whole, including its values and objectives (Porter; Steers; Boulian, 1974), while job satisfaction "emphasizes the specific task environment where an employee performs his/her duties" (Mowday; Steers; Porter, 1979). In addition, Affective Commitment is more stable overtime than job satisfaction that may vary according to events at work as they develop.

## **1.1 Antecedents and consequences of affective commitment**

The irrevocable fact is that employee's commitment and job satisfaction have a significant impact on service quality. However, the Affective Commitment was found to be more effective than job satisfaction in influencing the service quality of customer-contact employees (Malhotra; Mukherjee, 2004). These effects of the Affective Commitment on service quality can be explained by considering the antecedents of Affective Commitment introduced by (Mowday; Porter; Steers, 1982) and (Van Emmrik; Sanders, 2005). These antecedents include:

- Employee's personal characteristics: if the organization provided the chance for its employees to fulfil their personal ambitions; desire of achievement, autonomy, and a sense of control on what the employees have, then employees are more likely to develop Affective Commitment with their employer.
- Organizational structure and job-related characteristics: Affective Commitment is also related to the employer ability to decentralize decisions making processes to be at the employee's level. This gives employees a feeling of personal importance and value in the organization. In addition, role clarity and constructive supervisors relationships with employees is particularly important in this regard.
- Psychological contract: The psychological contract refers to the expectations set by employees and employer concerning each other's obligations (Van Emmrik; Sanders, 2005). Employees have expectation of job promotion, em-

ployer loyalty and preferences considerations at work. Unmet employee's expectations could result in dissatisfaction and ultimately turnover.

- Work experiences: The psychological contract is partially responsible for how good or bad an employee working experience will be, other dimensions such as objective and subjective matters of the work will have their impact on the issue as well. Generally, The employees whose working experiences were rewarding and fulfilled their own aspirations were ready to exert more effort on behalf of the organization to deliver high levels of service quality than those whose working experiences were less rewarding (Meyer; Allen, 1991, Mayer; Allen; Smith, 1993).

However, Van Emmrik and Sanders (2005) studied the relationship between employees working hours (where there was a non-correspondence between preferred and actual number of hours) and Affective Commitment. It was found that employees experiencing a mismatch in their working hours are less likely to have Affective Commitment with their organizations as a result of their working experience. Further, a study by (Malhotra; Mukherjee, 2004) demonstrated that organizational commitment and job satisfaction have a significant impact on service quality in the financial sector call centres. Affective Commitment was found to be more effective than job satisfaction in influencing the service quality of customer-contact employees. In fact, almost all the studies available in literature that have exhibited a strong relationship between commitment and performance have used the Affective Commitment as the valid measure (Meyer; Allen, 1991). Despite the fact that ever-changing business environment calls for new forms of organizational structures and management styles, managerial practices and organizational structures commonly implemented in call centres across the service industry can inhibit the development of a rewarding job experience for employees. This is due to standardised work procedures, monitored dialogue (Taylor; Mulvey; Hyman; Bain, 2002, Ellis; Taylor, 2006), mechanisation of customer-employee contact and an emphasis on quantity statistics and targets over the quality of interaction (Mahesh, 2006, Varca, 2006). Eventually employees experience reduced empowerment in making decisions, they also perceive that their values and the ethical norms are not confirming with those of the organization. As a result employees possess reduced levels of Affective Commitment. In fact, shared values and ethical norms have been found to be positively related to the development of Affective Commitment in business relationships (De Ruyter, 1999).

However, there were attempts to measure the Affective Commitment of employees; one of the examples is the Organizational Commitment Questionnaire (OCQ) (Porter; Steers; Boulian, 1974). Porter et al. (1974) introduced a 15-items version organizational commitment questionnaire which was further shortened to a nine-items version. The shortened nine-items version was found to be more superior than the full 15-items version and more effective for measuring Affective Commitment (Commeiras; Fournier, 2001).

### **3. Systems thinking and organic structure**

Systems Thinking is an approach for the design and management of work. It is stemmed from the translation of lean manufacturing principles for service departments. It is based on designing the organizational systems around customer demand instead of in functional hierarchies at which customer demand is analyzed over a period of time to collect information about what customers want and expect and what matters to them most. Demand is analyzed on the basis of value and failure demand, value demand is what the call centre has been established to serve and what the customers want which is of value to them; failure demand is the demand that the call centre was not able to serve due to the lack of information or supporting operations. Systems Thinking integrates the decision-making processes with the work itself (Seddon, 2005). To design against customer demand is to be more responsive to them. This implies that the waste present in the current system has to be reduced in the new design to enable the quick response. Removing waste implies the redesign of the service processes flow by focusing on minimizing the non-value adding activities from the customer point of view. When waste is removed the capacity of the system increases which allows for costs reductions and service quality improvements (Seddon, 2003). This way allows for more control because data is in the hands of the people doing the work. Measures used are built in so they automatically tell you what is happening. The result is a self-adapting system. Table 1 presents the main features of the Systems Thinking approach and compares them with the traditional managerial thinking found typically in Mechanistic Structures.

Service departments are typically exposed to a greater demand variety from the customer than are production departments (Seddon, 2003). In order for the service departments to absorb demand variety it needs an adaptive mechanism similar to that of a living organism that can adapt to the surrounding environment in order to function and thrive. Such an Organic Structure is typified by devolved decision making processes. Organizations where employees are given the ability to make work decisions are more able to create a variety absorbing system. In addition people who are working under such standards have a sense of freedom and ownership. This approach allows employees to act on a variety of tasks, to learn and to build relationships with customers (Seddon, 2005). The tasks are usually wide in scope which sometimes require the involvement of other members of the team to do the work. "This is congruent to the characteristics of the Organic Structures" (Jaaron; Backhouse, 2009), and eventually Systems Thinking approach is the opposite of Mechanistic Structures.

The Organic Structure represents the opposite case to the Mechanistic Structures; as stated by Robey and Sales (1994). Organic Structures "interpret novel situations and adopt appropriate coping responses". The characteristics of this structure are that jobs are wide in scope and employees are empowered to perform a variety of tasks. These tasks are not governed by rigid rules and procedures, the team shares the responsibility of the work and the hierarchy of control is usually not present thus allowing the team to identify the right person to solve a particular problem. Employees are selected on the basis of their ability to do the work plus their personal attributes, the employees can approach each other informally as well as officially as the personal relationships comprise an important aspect for the organizational life. Commu-

nication channels are not restricted to the hierarchy of authority, employees can approach other departments where needed. Ultimately they can facilitate integration among units. Organic Structures are suitable for the outward facing departments (Robey; Sales, 1994) as shown in Fig. 1.

<b>Comparative dimension</b>	<b>Traditional management</b>	<b>Systems thinking</b>
Design	Functional specialisation	Demand value flow
Decision making	Separated from work	Integrated with work
Measures	Budget, activity, targets, output, standards	Related to purpose, variation and capability
Motivation	Extrinsic	Intrinsic
Management Ethic	Manage budget and people	Act on the system
Attitude to customers	Contractual	What matters

Table 1: Traditional management thinking vs. systems thinking. Adapted from Seddon (2003)

Call centres are typically Mechanistic Structure units by nature and by the managerial systems they use. However they are outward-facing entities exposed to the ever-changing, uncertain and demanding surrounding environment, they represent the most intensive and the main channel of interaction with customers (Burgers; Ruyter; Keen; Streukens, 2000). These units typically face different demands and conditions than those that are shielded from the environment (e.g., production department, quality assurance department, etc.), the unpredictable demands and conditions increase the uncertainty of the inputs (Robey; Sales, 1994). The emphasis that Mechanistic Structures must be shielded from the environment strongly indicates that call centres must be given an organic face. In fact, what is needed is a design tool to decide the structure of the call centre in the organization prior to its creation. The tool must ensure the necessity of giving organic features to the call centre and ensure integration of the call centre with the organizational business units, hence helping front-line employees in delivering better service and enjoying a rewarding working experience (Jaaron, 2009).

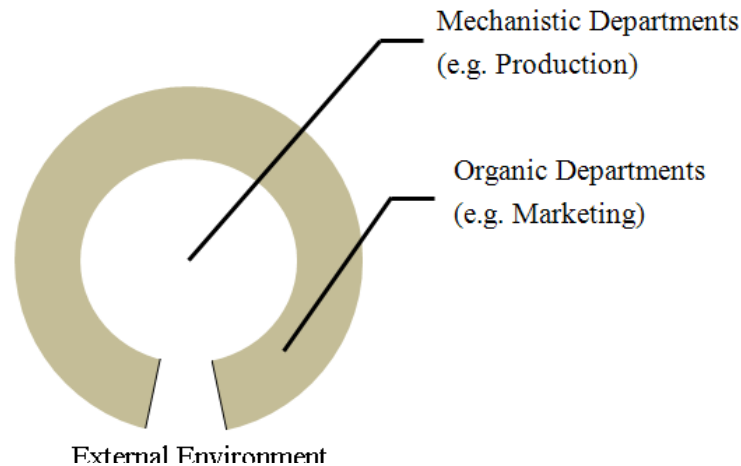


Fig. 1: Organic vs. mechanistic structure. Adapted from Robey and Sales (1994)

#### 4. Case study

A case study was conducted to explain the relationship between improving service operations design in call centres and front-line employees' Affective Commitment and the factors underpinning its building. Therefore the research question sought to be addressed in this paper is:

*Does the Organic Structure of call centre's service operations in the manufacturing enterprise help build "Affective Commitment" among front-line employees?*

The case study conducted at one of the market leaders in the manufacture of roof windows in the United Kingdom. The company employs 211 people where the operations department is the largest, in terms of number of employees, with 108 employees, majority of them are working in the call centre located in the operations department itself and are local residents in the area surrounding the company. Employees are a mixture of young (19-25 years) and older employees with half of them approximately having high school (A-level) and the other half with higher degrees. The case study used the mixed methods designs to collect data from different organizational sources; the aim is to explore as fully as possible the phenomena through a form of triangulation design known as a "Multilevel Research" (Tashakkori; Teddlie, 1998, Creswell; Plano Clark, 2006) to make sure that the information being collected are indeed correct. Three levels in the organization are studied and these are the company director, departmental managers, and front-line employees in the call centre, in addition to the company direct consultant who provided the call centre service operations design improvement project.

The data were collected mainly on site during multiple visits to the company where the call centre is situated, the data consisted of semi-structured interviews, they were held with front-line employees and departmental managers on site and only the consultant interview was held off site. At the same time of preparing and conducting interviews, the nine-items organizational commitment questionnaire (Porter; Steers; Boulian, 1974) was used in this case study to measure the Affective Commitment among front-line employees in the call centre. The questionnaire was sent to the whole population in the call centre, this provided a large sample of respondents; “the larger the sample the less the potential error that the sample will be different from the population” (Creswell, 2004). At the time of the questionnaire, there were 65 people working in the call centre to which the questionnaire was sent electronically using web-based software, 59 of them responded to the questionnaire targeting a response rate of approximately 91 per cent. The data was supplemented by studying the work atmosphere of front-line Employees in the call centre through the means of observation of both place and people; this helped in understanding the employees working experience. A non-participant observer role was adopted and an observational protocol was used to take field notes while visiting the call centre.

## **5. Case study findings**

The results from the semi-structured interviews were focused on the working conditions of the front-line employees as a result of the recent improvements to the call centre service operations. All interviewees were asked about the form of communication between the call centre and other business departments and among front-line employees themselves. Departmental managers, consultant and company director commented that the call centre has open channels of communication with all departments in the company; it provides valuable information and support on regular basis. The front-line employees interviewed in the call centre commented that they approach each other informally as well as formally to do the work, they can seek the help from their colleagues when needed to serve the customer in the best way they can, they also seek help from other departments like logistics team to deal with relevant customer demands that the front-line employee cannot handle alone, joint calls between the call centre team and other teams is also possible in such cases. Interviewees were asked about how front-line employees are measured and rewarded. They have commented that the measurement of front-line employees in the call centre is done on the basis of how good they are in matching the company’s principles of serving the customer through employees’ appraisals in the call centre. The number of value-adding calls is counted against the non-value adding calls to form the basis for measuring and evaluating employees work in general. The front-line employees in the call centre are rewarded by getting feedback and recognition on their work. In addition, the company employs a bonus system which depends on the overall profits gained; if the company achieves 1% profit increase then everyone will receive 1% salary increase.

The call centre front-line employees were observed on the basis of their call handling procedures and communication and networking nature in the work place to provide a wider perspective on their working experiences. Employees work in one large place where everyone can see the others. Employees are dealing with a wide variety of



tasks and customer demands, the call handling procedures are not monitored. In addition, no screens-showing the rate of calls being processed-were used in the call centre place; employees have no call handling time target or a script to follow when handling calls so they can have more flexibility and time talking to customers without the need to be quick. Employees can approach each other officially as well as informally to process the work. Personal relationships comprise an important aspect for the workplace life. Communication channels between the call centre employees are open and not restricted to the hierarchy of authority; employees approach other people in other departments when needed to do the work efficiently.

The data collected from questionnaires were inserted to and analysed by the SPSS (Statistical Package for the Social Sciences) software to examine how affectively committed the call centre front-line employees are. The standard deviation and the mean of each item in the questionnaire were calculated, a final overall mean of 4.17 was achieved. This value shows that on average all the respondents agreed on the questionnaire items that reflected a highly affectively committed workforce. The Internal consistency reliability test yielded a score of 0.86 for the questionnaire results obtained. While the standard internal consistency of the instrument ranges from 0.82 to 0.93 (Porter; Steers; Boulian, 1974), this obtained result is a good fit and within the acceptable range of the reliability test. The results of the questionnaire data analysis are outlined in Fig. 2 and further illustrated in Table 2 for each item.

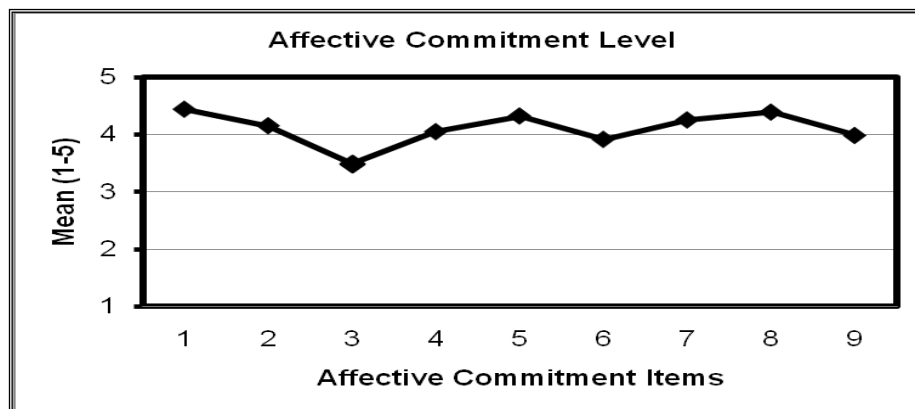


Fig. 2: Affective commitment measuring result

Item	No.	Minimum	Maximum	Mean	Std. deviation
Q1: I am willing to put great deal of effort beyond that normally expected to this company be successful.	59	1.00	5.00	4.4407	.70151
Q2: I talk up this company to my friends as a great organization to work for.	59	1.00	5.00	4.1525	.92501
Q3: I would accept almost any type of job assignment in order to keep working for this company.	59	1.00	5.00	3.4915	1.15031

<i>Q4: I find that my values and this company's Values are very similar.</i>	59	2.00	5.00	4.0508	.68036
<i>Q5: I am proud to tell others that I am part of this company.</i>	59	1.00	5.00	4.3220	.85985
<i>Q6: This company really inspires the best in me in the way of job Performance.</i>	59	1.00	5.00	3.9153	.91516
<i>Q7: I am extremely glad I chose this company to work for over others I was considering at the time I joined.</i>	59	1.00	5.00	4.2542	.80072
<i>Q8: I really care about the fate of this company.</i>	59	1.00	5.00	4.3898	.85131
<i>Q9: For me, this is the best of all companies for which to work</i>	59	1.00	5.00	3.9831	1.07465
<b>Overall mean</b>				<b>4.17</b>	
<b>Internal Reliability (<math>\alpha</math>)</b>				<b>0.86</b>	

Table 2: Mean and standard deviation for affective commitment questionnaire

## 6. Discussion and conclusion

Results from the organizational Affective Commitment questionnaire blended with the interviews conducted and the observations noted have reflected the working experience of the employees in the call centre. The main features of this experience stemmed from the ability of employees to enjoy the informal communication among them and with other teams in other departments, this has obviously satisfied the social needs of employees. In addition, employees were not monitored by technology nor by their managers, on the contrary managers were very supportive and did not show any direct control on the way the employees should handle calls, employees were trusted to do the work in the way that provides them with a sense of ownership and authority to make decisions on phone, this inevitably enhanced the feeling of responsibility of company's success among front-line employees in the call centre. These characteristics of the new service operations design have been found to be similar to those offered by the organic structures introduced by Robey and Sales (1994) (Jaaron; Backhouse, 2009), in other words using organic structures to design the call centre service operations would help the integration of departments through open channels of communication and it would help the creation of a more pleasant working experience for front-line employees. However, designing the call centre service operations this way has contributed to the creation of less stressful working environment in the call centre, employees were enjoying a rewarding job experience that fulfilled their own aspirations and needs both socially and morally. This has been ap-

proved by the results of the organizational commitment questionnaire for measuring the Affective Commitment and further enhanced by the low levels of turnover among front-line employees which did not exceed eight per cent per year at the time of case study. The questionnaire result indicates that front-line employees in the call centre possess a high level of Affective Commitment as a result of the rewarding job experience that they enjoy. The employees who achieve personal aspirations through their working experience are ready to exert more efforts on behalf of their organization to deliver higher levels of service quality than those whose working experience were less rewarding (Meyer; Allen, 1991, Mayer; Allen; Smith, 1993). The manufacturing enterprise studied has been known among its customers for the high level of service quality their employees provide, which supports the direct relationship between improving the service operations design and higher levels of employees Affective Commitment and service quality as the end result.

Further, the management style followed in the call centre is based on the managers support to the employees based on the statement "Do what you think is necessary to get the job done" (Robey; Sales, 1994). This management style increases the authority of the lower level employees in call centre and imposes them as the experts in the field. However, front-line employees this way will guide themselves rather than being guided or controlled by the call centre managers. In other words, the general moral system of the workplace will control the human resources behaviour and not the traditional technology surveillance.

Finally, it has also become clear that improving call centre service operations design using organic structures is likely to increase the Affective Commitment of front-line employees and decrease turnover rates and absenteeism. In this case study we have proved how a well chosen call centre operations design can provide employees with a better working experience that can improve productivity and service quality. It is actually the supportive culture emphasised by the managers who championed the change project that tends to guide employees behaviour in the call centre to achieve organizational goals. Organic structures are based on the idea of involving customers in the process of decision making and giving them more control as they are the people handling the work and receiving the valuable information, this suggests that the ability of employees to control the work and to decide about the way they handle and receive information is a key factor of satisfying employees career needs and building Affective Commitment.

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