The effects of lean thinking on service workers value productivity: a conceptual framework

Ayham Jaaron*

Industrial Engineering Department,
An-Najah National University,
P.O. Box 7, Nablus, West Bank,
97200, Palestine
Fax: +972-92345982
E-mail: ayham.jaaron@najah.edu
*Corresponding author

Chris Backhouse

Wolfson School of Mechanical and Manufacturing Engineering,
Loughborough University, Loughborough,
Leicestershire LE11 3TU, UK
Fax: +44-0-1509-227648
E-mail: C.J.Backhouse@lboro.ac.uk

Abstract: The purpose of this paper is to present a conceptual framework for leveraging value productivity of support service workers through the application of lean thinking concepts to service operations. Derived from literature review, the framework focuses attention on the achievement of twofold determinants for higher value productivity; organically structured service department and, as a result, high levels of employee's affective commitment. The framework indicates that offerings of lean thinking model provide a mechanism through which the productivity of service workers can be enhanced. The paper concludes that through the implementation of lean thinking to service operations, higher levels of service workers' affective commitment will have a substantial impact on increasing service value productivity. The framework presented is important in that it attempts to incorporate service workers commitment concepts with service operations design to substantially promote service productivity.

Biographical notes: Ayham Jaaron is a full-time Assistant Professor at the Industrial Engineering Department of An-Najah National University, Nablus, Palestine. He is also the acting Head of the Industrial Engineering Department and Coordinator of the ABET accreditation project at An-Najah National University. He received his PhD (full time) in Manufacturing Engineering and Operations Management from the Wolfson School of Mechanical and

Manufacturing Engineering, Loughborough University, England, UK in 2010. He also received his BSc in Mechanical Engineering and MSc in Engineering Management from the University of Engineering and Technology (UET-Lahore) in 2002 and 2004 respectively. He was a full-time Instructor at the Industrial Engineering Department of An-Najah National University, Nablus, Palestine from 2005–2007. He was an Academic Visitor to the Design, Manufacture and Engineering Management (DMEM) Department of the University of Strathclyde, Glasgow, UK in 2006, and he is currently an Academic Visitor to the Wolfson School of Mechanical and Manufacturing Engineering at Loughborough University, UK.

Chris Backhouse received his BSc in Engineering Science from Durham in 1975, MSc in Machines and Mechanisms from Liverpool Polytechnic in 1979 and PhD (part time) in Spatial Differential Geometry from Liverpool Polytechnic jointly with Unilever Research Port Sunlight Laboratories in 1989. He was a Design Consultant at Liverpool Polytechnic from 1980–1982; Scientist at Unilever Research from 1983–1990; full-time Visiting Industrial Fellow at Cambridge University Engineering Department, Manufacturing Group from 1987–1989; Design Manager at Morris Cranes from 1990–1994; Senior Lecturer (joint appointment with Morris Cranes) at Loughborough University from 1990–1994; Head of the Department of Manufacturing Engineering from 1995–1999; Director of Wolfson School of Mechanical and Manufacturing Engineering from 1999–2001; and Dean of Engineering from 2001–2007. He is currently acting as the Director of Internationalisation Strategy of Loughborough University in UK.

---

1   Service design and productivity

Operationally, support services are typified by the mass production model to maximise productivity where employees are controlled through formalised performance monitoring resulting in reduced empowerment (Little and Dean, 2006; Piercy, 2009a, 2009b). In such structures top management is encouraged to adopt a more formalised policy of work tasks and centralised strategies for their decision making. Therefore employees are given low discretion on executing their own initiatives, and more control is placed on their own behaviour to a degree that is believed to reduce their interaction with customers and other co-workers (Raub, 2008; Mao, 2009). Traditionally, for organisations to ensure higher levels of service productivity, they exert significant levels of control on employee's behaviours and relations (Aghazadeh, 2007). Schmenner (2004) found that mass production models emphasise the necessity of rigid and formal rules and procedures to maintain a swift and even flow of information that increase productivity. For this reason, service tasks are so well defined by rules and procedures that standardise performance. In the mass production model the emphasis is on maximising the volume of demands that the employee can handle whilst minimising the costs (Dobni, 2004). This is done in an attempt to instil the organisation's vision of being accessible as a distinctive feature that makes them distinguishable from their competitors. However, providing a swift service, this way, is not the ultimate objective for customers. Service department's employees may achieve their productivity target for answering their customers' demands with high speed, but the argument is that employees can maintain high service productivity by
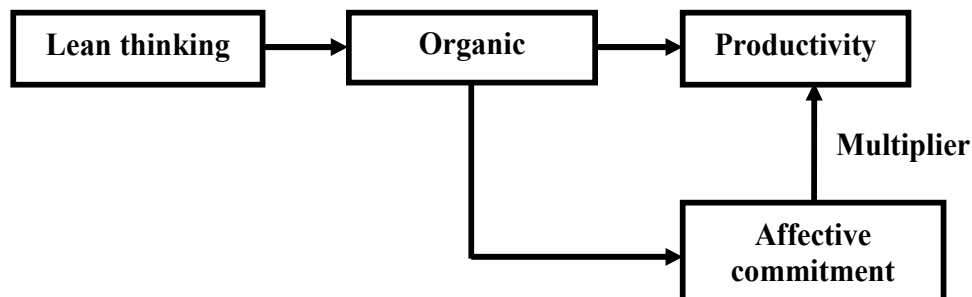
providing a fast service even though the customers may be misunderstood and their demands incorrectly dealt with. Johnston (2004) reported that higher service productivity could lead to lower productivity for the customer if the service encounter is accompanied by poor experience and value. In such cases, service quality can suffer, though productivity is maintained high, and the level of service will not conform to the expected norms causing a significant detriment to the value added to the customer (Xu, 2006). Service productivity, this way, embraces high levels of non-value added customer's contacts. Thus customers' experience may be undermined and their satisfaction is decreased (Johnston, 2004), therefore, possible business opportunities can be lost (Cleveland, 2006).

Further, due to the emphasis on the mechanisation of the customer-employee contact and decreasing service flexibility for higher productivity, service workers lose personal control of their activities and on their ability to negotiate issues with customers (Piercy, 2009a; Aghazadeh, 2007). This has negative effects on workers attempts to provide a value work of delivering what customers want at the first time of contact. Owing to the shortcomings of mass production models in services, Spath and Ganz (2008) noted that, in order to optimise services value productivity, there is a need to shift focus from mass manufacturing systems to service systems focused on value and interactions governed by human-made laws. However, failing to provide customers what they want as they want it has apparently contributed to the low customisation ability of employees of providing single customers an individual service, and increased service waste (Seddon, 2008). Jaaron and Backhouse (2009a) found that lack of service workers flexibility, necessary information, and support from other departments has been found central to this problem. Employees in the mass production model process a limited scope of demand in a repetitive manner. This was seen as a job deskilling practice as it did not allow for job progress prospects and eventually does not contribute towards satisfying employee's personal ambitions of achievement and development (Robey and Sales, 1994). In services, the capabilities of service workers have paramount effects on service quality and productivity (Xu, 2006). Also, Shahin (2008) argued that improving service work quality plays a fundamental role in increasing service operations productivity. However, little research has been accomplished on how the service productivity of service workers themselves can be enhanced (Dobni, 2004). Hackman and Oldham (1976), in their broadly accepted theory of motivating employees through work redesign, noted that work redesign is a prominent strategy for simultaneously improving work productivity and experience of employees. Several researchers such as Porter et al. (1974), Mowday et al. (1979), Allen and Meyer (1990), Mathieu and Zajac (1990) have shown that out of all forms of employees intrinsic motivation behaviours, affective commitment has the most significant impact on service quality and value experienced by customers. However, few studies have examined service workers' affective commitment in relation to service productivity as a result of the form of service design used. Owing to the shortcomings of the conventional way of designing service operations, employees lack affective commitment which detrimentally influences the service quality and has consequences such as high employee turnover and low customer satisfaction (Jaaron and Backhouse, 2009b). Another dimension of research found in the literature strongly supports the notion that employees with high levels of affective commitment have invaluable tendency to increase productivity (Shum et al., 2008; Gong, 2009). Meyer et al. (1998) have indicated that in order for organisations to achieve competitive advantage through

their employees, it is most important to equip them with high levels of affective commitment due to its fundamental links with extra role behaviour in the organisation (Liu and Chang, 2009). Several studies in this regard have pointed out that workplace productivity is increased by the availability of highly affectively committed employees who are doing extra efforts on behalf of their employer to do exceptional job of delivering a quality service that keeps customers (Mowday et al., 1979; Shum et al., 2008; Meyer and Allen, 1991; Mayer et al., 1993). Liu (2009) found that organisational support for employees through proper work designs is likely to influence the level of affective commitment of employees. However, one of the challenges associated with the creation of affective commitment is the need for service design where employees can enjoy a clan culture (Cameron and Quinn, 1999). It is in this type of service design where employees tend to have high levels of affective commitment (Mathieu and Zajac, 1990; Hunt et al., 1985). Sherman (1984) found that organisations need to develop a more organic type of structure that could promote intrinsic motivation behaviour to enhance workers productivity. Therefore, it is not a surprise that Frenkel (1998), in his study of the effects of the constraining nature of bureaucratic structures on service employees, have made the point that bureaucratic structures, such as mass production models, are by no means suitable for service environment, they based their conclusions on the notion that service department's management is trapped between two conflicting dimensions: standardisation of employees activities and customisation of products (i.e., services) to customers. Apparently, there has to be an alternative to the mechanistic mass production models that can be used for quick response for unpredictable customer demands while maintaining value productivity; namely organic structures.

Therefore, the purpose of this paper is to present a conceptual framework for leveraging value productivity of support service workers through the application of lean thinking concepts in service operations. The framework focuses attention on the achievement of twofold determinants for higher value productivity; organic structure and as a result high levels of employee's affective commitment. The framework indicates that in order to increase value productivity, an organically structured service department with high levels of affective commitment among service workers is needed. This can be achieved through the implementation of lean thinking to service operations. These relationships are assembled in Figure 1 in a conceptual model that incorporates service workers characteristics (i.e., affective commitment) because of the reality that the way employees feel at work, and the extent they attach themselves to their workplace, has a significant impact on their productivity levels (Dobni, 2004).

Figure 1   conceptual model for leveraging value productivity

2 Lean thinking

Traditionally, organisational managers have learned to manage their organisations around the concepts of functional specialisations by viewing each part, such as production, finance, marketing, personnel, as a separate entity (Botla, 2009). Managers believed that by focusing on the parts it will be possible for them to manage the whole. However, this reductionist approach of viewing the world around us has resulted in a case where the parts achieve their goals at the expense of the whole (Capra, 1996). Reductionist approach calls for breaking a situation into smaller fragments, solving each smaller problem separately before these smaller solutions are assembled together to provide an overall solution. However, this way of dealing with problems does not necessarily provide the optimum solution for the system as a whole (Gregory, 2007). If complex problems around us are viewed in this reductionist way, it would be inadequate to use one by one (i.e., one-way) cause and effects relationships within a situation. The interactions between system parts produce new properties or relationships that make many effects products of various causes (Daellenbach and McNickle, 2005). Gregory (2007) argued that reductionist approach is not appropriate for organisations as it is based on dividing the organisation into its parts and then setting targets for each part separately to control performance and maximise efficiency. According to him, this is done through silo working that limits organisational dynamic ability and necessary interaction between parts. Similarly, Ackoff (1981) remarked that all sorts of systems must be taken as wholes by understanding the interactions between parts, not maximising the performance of any single part. He observed that focusing on system parts without understanding their interactions makes the system lose its essential properties, and causes managers to face unintended consequences. Gregory (2007) pointed out that one of the most prevalent unintended consequences of the reductionist approach is system waste and employees stress that cause reduced productivity and employees' turnover.

Around the time of the Second World War, a number of scientists and researchers found themselves working together on finding solutions for some military problems. Their perspective exchanges and sharing on different problems helped them to recognise that all incidents and events are parts of a larger whole (Jackson, 2009). This has shifted scientists focus from parts to the relationships and dynamics joining parts together in the form of a system (Daellenbach and McNickle, 2005). This new way of thinking devoted (Von Bertalanffy, 1950) to set the foundations for the emergence of 'General System Theory' as a general science of wholeness. Following Von Bertalanffy's (1950) publication, most system researchers found that 'General Systems Theory' was not robust enough in its pure form to provide substantive solutions for real life problematic situations (Zexian and Xuhui, 2010). Therefore, subsequent attempts were found in science to link different dimensions, such as economical, operational, social, and technological, in the study of systems (Jackson, 2009). This gave rise to a new mode of thinking, that is systems thinking as a general theory (Seddon, 2007). Systems thinking theory, therefore, was centred around three core elements: interrelationships, dynamics, and wholeness (Capra, 1996). In the context of this paper, the words 'lean thinking' are used to describe the lean systems thinking method developed by Seddon (2003), a British occupational psychological, who is specialising in the service industry. Lean systems thinking emerged from the translation of lean manufacturing principles for service departments (Seddon and Brand, 2008). It also incorporates aspects from intervention theory introduced by Deming (1982) together with some influential aspects from soft

systems methodology (SSM) developed by Checkland (1981) and business process reengineering (BPR) mastered by Hammer and Champy (2001).

One of the main differences between traditional systems approaches and lean thinking approach is their way of interpreting the concept of system. Traditional systems approaches view the system as an objective part of the world. In contrast, lean thinking approach deal with systems as subjectively enriched with people rather than simply the objective elements of the system (Zexian and Xuhui, 2010). Lean thinking approach is based on redesigning service operations around customer demand instead of functional hierarchies (Seddon, 2007). Customer demand understanding process begins with analysing customer demands over a period of time to collect information about what customers want and expect and what matters to them most (Zexian and Xuhui, 2010). The need for analysing customer demands stems from the fact that a comprehensive understanding of the transformation processes in the service system needs to be unequivocally presented before interpretations about the situation are made (Checkland, 1995). Customer demand is analysed on the basis of two different types usually available in service departments (Seddon, 2008):

- value demand- is what the service department has been established to serve and what the customers want which is of value to them

- failure demand- is the demand that the service department was not able to serve due to the lack of information or supporting operations.

The findings of customer demand analysis phase help to explore all the possible ways through which a better flow of processes can be designed against customer demand (Seddon, 2005). This is followed by redesigning the processes flow charts taking what have been learned considering the customer 'wants' and then mapping out the new service system design. The most fruitful way to make full use of lean thinking concepts is through the use of a team who is basically from the people facing the problem at work and using the system (Checkland, 1985; Checkland, 1994). Typically, the new service design is focused on minimising non-value adding activities from a customer point of view (Middleton et al., 2007). The new design is used in an experimental environment by using the new model after it has been discussed with the people doing the work. The new processes are induced gradually with careful observation of both employees reaction to it and customer feedback. The processes are tested, re-designed and re-tested again to make sure that customers get the best possible service before going fully live in the service department.

To design against customer demand is to be more responsive by providing a solution for customer demands at the first time of contact, thus being more productive (Xu, 2006; Anwar et al., 2010). Therefore, lean thinking management focus including team leaders is shifted from conventional service measures (i.e., targets and statistics) towards the percentage of one stop service and demand analysis. This is supplemented with the managers' continuous endeavour to further improve service operations to reduce, and ultimately prevent, repeated failure demands. However, Jarvinen et al. (1996) define service productivity as the ability of a service department to use its inputs for providing service with quality matching customer demands and expectations. For other, such as Drucker (1991), service productivity means 'working smarter'. 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 minimising the non-value adding activities from the customer point of view (Busi, 2005). When waste is removed the capacity of the system increases which allows for costs reductions and service quality improvements (Hallgren, 2009). Lean thinking integrates the decision-making processes with the work itself (Seddon, 2005; Jackson, 2008). For this purpose the role of employees change from controlled to full empowerment as lean thinking requires employees to be self-directed by making their own rules and judgments (Piercy, 2009a). This way allows for more control on service processes because data is in the hands of the people doing the work, and provides ability and creativity in responding to the system's surrounding environment (Jackson, 2008).

Since employees in a lean thinking service department need to think, analyse, judge and make decisions on the work on hands, employees training is not the focus in the preparation process for this kind of job, it is actually educating them on 'why' a failure happen and then finding ways to eliminate it from the system. In fact, training increases skills of employees and teaches them the 'how' of doing jobs. While education increases their competence level in finding the reasons of failures in the system (Hammer and Champy, 2001). In order to accommodate these requirements of the lean thinking redesign, the work of managers shifts from command-and-control to coaches and supporters (Piercy, 2009a). The team members can approach their managers for advice in solving problems. This keeps managers very close to their employees to assist in their work when necessary. Due to this kind of managers-employees relationship and due to the whole service processes being owned by employees, the hierarchy of the organisation changes (Griffin et al., 2001). The organisation tends to be more flat as the top-down role of managers diminishes (Hammer and Champy, 2001).

The success of lean thinking is based on achieving economies from understanding the flow of the work, and not from the scale of production (i.e., quantity of transactions) (Seddon and Brand, 2008). Measures used are built in so they automatically tell you what is happening. These measures are usually centred on the concept of how good the service is in achieving the purpose and absorbing the demand variety. When demand variety is absorbed service productivity increases (Aghazadeh, 2007; Schmenner and Swink, 1998). Lean thinking absorbs variety by making intelligent use of the empowered employees (Jackson, 2008). The result is a self-adapting system (Seddon, 2008). This virtue of lean thinking encourages employees to point out the system pitfalls that cause failure demand, and introduce them as the experts through which the new design of processes is made. Employees, this way, get the chance of self-development and continuous learning (Suarez-Barraza, 2010).

Another key principle, to show the strength of lean thinking in absorbing service variety, is its view to employees. Instead of putting employees in separate departments to perform specified functions, they are viewed as one entity performing within the boundaries of a team (Jackson, 2008). Frost (1994) sought to explain that for organisations that are constantly involved in a competitive process of bringing forth distinguished services, they can reap a competitive advantage of formulating a team-based culture. In this type of culture, team members share the responsibility of the whole processes and hence every member will be practicing something new every time he performs a demand. Each team member, this way, will possess the required level of skills for every demand received as they practice along the way (Seddon, 2007). Therefore, employees are able to meet any demand coming in to the service department first stop and in relatively good time. Employees, this way, achieve a sense of job improvement, learning and skills enhancement (Suarez-Barraza, 2010). As a result, employees'

work becomes more challenging and rewarding and thus more satisfying (Robey and Sales, 1994).

However, a gap seems to be present in service organisations between the management focus and that of front-line staff. While the premium interest of management in service organisations, similar to other types of organisations, is the cost, the concern used at the customer interface level is of service quality and customer satisfaction (Busi, 2005). To cover this gap of interest the management has to understand that as the service level increases the operating costs decrease. If the customer receives what he wants from the organisation, then the customer is receiving a quality service with least-cost incurred by the organisation as he/she does not need to call again asking for further resources. Likewise, if the organisation is not providing what customer wants, then most probably the service encounter is poor and the customer is consuming more resources from the organisation since he/she needs to call again until he/she gets what he/she wants. Eventually, if the customer does not get what he/she wants from an organisation, this may cause him/her to stop using the service and switch over to other competitors (Seddon, 2007). However, the need to satisfy customer demands and reduce the frequency of demand failure requires the elimination of waste in the service systems and the creation of a variety absorbing workforce that can reduce resources consumption and improve capacity.

2.1   Lean thinking: the enabler for organic structures

Service departments are typically exposed to a greater demand variety from the customer than are manufacturing departments (Seddon, 2003; Seddon and Brand, 2008). The lean thinking approach in services recognises that manufacturing lean tools, which emphasise standardisation and the elimination of variation, are not appropriate for service organisations, which need to absorb variety in customer demand (Piercy, 2009b). In order for service organisations to absorb this variation in demand they need to become adaptive organisations, often referred to as 'organic structures' introduced by Burns and Stalker (1961). Such 'organic' organisations are frequently introduced as remediation for mechanistic and reductionist approaches pitfalls. It is recognised that when employees are given the ability to make work decisions, organisations are more able to absorb variety (Robey and Sales, 1994; Jackson, 2008). In addition, staff who are working under such standards, and who are entrusted with working on a variety of tasks and building relationships with customers, have a sense of freedom and responsibility (Jaaron and Backhouse, 2009b). The characteristics of organic structures emanate from those of lean thinking (Suarez-Barraza, 2010). Therefore, it is discerned that lean thinking approach is the opposite of mechanistic structures. The characteristics of this approach are that individual goals are tied with organisational goals, and that service workers desired behaviour is articulated by the ability of individuals to meet customer demand from the first time of contact. Therefore, the tasks are not governed by rigid rules or procedures and the service workers share the responsibility of the work (Seddon, 2005). Hierarchy of control is not usually present thus allowing service workers to identify the right person to solve a particular problem (Jackson, 2008). However, Monat (2007) emphasised the symbiosis between these characteristics and increased productivity. According to him, tying individual goals to organisational goals, and articulating desired behaviour for each employee is a cost-effective approach for productivity maximisation.

To provide an account for the impact of the radical redesign of company's service operations as a result of lean thinking implementation, the work of Hammer and Champy (2001) is used to illustrate the kinds of changes that occur in the organisation:

2.1.1 The work changes from functional specialisation to team work

Once the lean thinking principles are implemented, the people relocate within the service department to be a part of a team. The essence of this team is that all the individuals are working together to perform an entire process and if necessary they can seek the help from each other to accomplish a task. Instead of separating the individuals into different departments, they are all now working within the boundaries of one team.

2.1.2 Employee's work changes from handling simple processes to diversified tasks

Lean thinking urges the individuals working within the team to share the responsibility of the work with their team members. An employee could receive a different customer demand every time he receives a call. He actually performs a whole customer demand or a part of a demand that provides a solution or solves a problem for a customer who cares about (Hammer and Champy, 2001). This adds richness to the work with a tremendous potential for learning and challenge.

2.1.3 Employee's role changes from controlled to empowered

Lean thinking requires employees who can steer the work rather than being steered. Employees are given full control on what they have in hands (Jackson, 2008); they rely on their innovation and intelligence to make decisions regarding customer demands and how to serve them the best. Employees can decide what and how to do the work as long as they are "within the boundaries of their obligations to the organisation" (Hammer and Champy, 2001).

2.1.4 The emphasis is changed from training to education

As employees are given the authority to make decisions and deicide on how to serve the customer in a lean thinking service department, the company puts a great deal of effort on educating employees how to continuously check the system for potential improvement (Seddon, 2008). Education increases employees' understandings and teaches them 'why' the system behaves as they experience, while training only increases employees skills and instructs them how things are to be done (Hammer and Champy, 2001).

2.1.5 Performance measurement changes from numbers to value and quality

In mechanistic service departments employees are evaluated on the basis of how many customer demands they do in a specified shift, day or month. Numbers play a vital role in this environment to decide whether the employee has performed as expected and instructed or not (Cleveland, 2006). In contrast, lean thinking service department measures performance on the basis of how good service workers are in matching the company's principles of serving the customer through service workers' appraisals in the service department. The number of value-adding demands handled is counted against the

non-value adding demands to form the basis for measuring and evaluating employees work in general.

2.1.6   Organisational culture changes from targets orientation to customer orientation

Organisations grant a serious importance for organisational culture in order for its employees to deliver competitive services (Frost, 1994; Masood et al., 2006). Lean thinking builds a culture that requires employees to be focused on delivering value work to customers (Seddon, 2008). This entails that managers' demand for targets achievement is no longer in place. Thus, employees believe that they are doing the work for the sake of the customer and not for their immediate supervisor or manager.

2.1.7   Managers' role changes from monitors to supporters

Lean thinking employees deal with a growing complexity of customer demands and tasks within their own team. Employees are no more in need for managers to instruct them on how to do things; on the contrary, they need support and advice from their managers (Jackson, 2008). The new role of managers includes becoming a part of the workforce as they had the capability, and on occasions can act on this capability. They substitute for front-line employees where available to help front-line employees serve the customer.

2.1.8   Organisational structure changes from top-down hierarchy to flat

As the role of managers' change from monitors to supporters the top down hierarchy is no longer suitable for this new environment (Hammer and Champy, 2001). Departmental and operational issues that required managerial levels meetings are now being resolved by the team members who are equipped with the right level of knowledge and freedom to make decisions (Jaaron and Backhouse, 2010). The new workplace, this way, is no longer in need of as much managerial layers as they used to have in the mechanistic top-down structure. Organisational structure is also changed as a result of the open channels of communication between the team members and whomever they need to execute customer' demands and service operations (Hammer and Champy, 2001).

There is evidence that the characteristics of organic structures, emanating from lean thinking implementation, play a major role in leveraging affective commitment of front-line employees. In fact, Mowday et al. (1982) and Van Emmrik and Sanders (2005) found that employees' affective commitment leveraging and creation depends to a great extent on fulfilling employees personal ambitions; desire of achievement, autonomy, and a sense of control on what they have, decentralising decision making processes to be at the employee's level, meeting the expectations set by employees and employer concerning each other's obligation, and most importantly how good or bad an employee's working experience (Simosi, 2010). Based on the offering of lean thinking, organic structures help service workers in fulfilling their personal ambitions, and in promoting their desire of achievement. It is also important to note that lean thinking is related to the employer ability to decentralise decision making processes to be at the employee's level. Lean thinking this way provides employees with a sense of control on what they have, and gives them a feeling of personal importance and self esteem in the organisation (Meyer and Allen, 1991). Due to these reasons employees working under the lean

thinking principles are more likely to develop affective commitment with their organisation (Mowday et al., 1982). In addition, converting the management role from performance monitoring to constructive support and involvement in demand analysis inevitably creates a rewarding working experience that can help increase employees' level of affective commitment (English, 2010). However, affective commitment leveraging is vital to reducing employee turnover and absenteeism which can cause service departments to lose experience and talent (Vandenberghe, 2009). The longer an organisation keeps employees the better the services provided will be due to the accumulated expertise over time (Krenzelok and Dean, 1994).

3 Affective commitment effects on service productivity

Several research studies have shown that the level of employees' organisational commitment has a significant impact on the level of employee's performance and service quality experienced by customers (Porter et al., 1974; Mowday et al., 1979; Allen and Meyer, 1990). The majority of these looks at the relationship between the components of organisational commitment (i.e., affective, continuance, and normative) and their effects on service quality, and the relative influence of job satisfaction and commitment on service quality (Malhotra and Mukherjee, 2003, 2004). Research has shown that, among these components, affective commitment is of particular significance in the workplace since this has been found to have the greatest impact on individuals' productivity, on-work behaviour and ultimately organisational effectiveness (Porter et al., 1974; Shum et al., 2008; Gong, 2009; Sung, 2007; Herscovitch, 2002). As defined by Meyer and Allen (1991), affective commitment is a measure of the employee's emotional attachment to the organisation, the strength of identification with the goals of the organisation and strength of commitment to its success and continuous improvement. The employee remains a part of the organisation because s/he wants to do so. According to this definition, workplace productivity of highly affectively committed employees is increased by having invaluable tendency among employees to do extra efforts on behalf of employer to do exceptional job of delivering a quality service that keeps customers (Mowday et al., 1979; Mathieu and Zajac, 1990; Meyer and Allen, 1991; Mayer et al., 1993; Mowday et al., 1982). Further, Sanders (2008) noted that affective commitment is a major predictor for desired employee performance and behaviour. The literature also suggests that equipping employees with the right level of affective commitment is associated with reduced turnover levels and enhanced responsibility sharing at work (Vandenberghe, 2009; Somers, 2009). Similarly, Malhotra and Mukherjee (2004) have identified that affective commitment is more effective than job satisfaction in influencing the service quality and value added to customers.

According to Sung (2007), ensuring high levels of affective commitment among service workers would be the most important factor for developing collective action system of dealing with customer demands. In other words, building affective commitment among service workers is significantly important for enhancing effective cooperation and collaboration in the workplace (English, 2010). In many circumstances, service productivity benefit largely from the participation of other colleagues, with greater experience, in processing customer demands particularly at situations where further inputs are required (Dobni, 2004; Lagrosen et al., 2010). However, affective commitment, this way, has significant implications for better ideas and expertise sharing

among employees at work. This can result in enhancing service productivity due to employees improved skills of how and what needs to be done at critical situations or when dealing with a new customer demand (Dobni, 2004). However, employees tendency to collaborate due to employees' affective commitment offerings positively enhance friendship among employees (English, 2010). Workplace friendship is very significant for work-related information sharing and mutual support (Kram, 1985), thus, workplace friendship plays an important role in enhancing work performance and productivity (Ross, 1997).

At the most general level, affective commitment has the potential to provide service workers with enthusiasm for serving customers in the best possible way which can increase productivity (Little and Dean, 2006). In addition, highly affectively committed service workers tend to deal with customers with high levels of rapport, leading to better two-way communication that enhance delivery of high quality service in relatively short time. Therefore, having a good relation with customers is considered by Dobni (2004) as an important value productivity booster. Customers who stay with the company for longer, due to excellent service workers performance, become accustomed to use the service more, thus reducing the chance of misunderstandings or fire-fighting that help swift service delivery at the required level of service quality (Reichheld and Sasser, 1990).

4   Discussion and concluding remarks

The purpose of this paper was to introduce a conceptual framework for leveraging value productivity of support service workers through the application of lean thinking concepts. The framework indicates that in order to increase value productivity, an organically structured service department with high levels of affective commitment among service workers is needed. Lean thinking approach relies on affected employees by the problem to set potential solutions for service systems (Seddon, 2008, 2007). This is due to researchers and practitioners belief that affected people are more committed to seeing a workable solution that provides optimal results. The value of involving affected people by the problem has been regarded by Gregory (2007) as a way to reduce control measures as people will view the solution as their own property, and will work hard to protect it. However, depriving employees from decision making authority, as in the case of mass production models, results in a lack of control on the demand they receive (Jackson, 2008). The consequence is that employees have a feeling of not being of value to their organisation and simply act as filters to direct enquiries and demands after initial basic evaluation. It is clear that the service system design at the mechanistic structure service department cannot create the antecedents to instil the foundations of affective commitment. As a result lower levels of affective commitment are anticipated in such environments (Simosi, 2010; Sanders, 2008). However, central to all these issues is the communication problem in the service department. Employees feel that they are paralysed due to the unavailability of predefined open channels of communication and support from other departments and colleagues when needed (Simosi, 2010).

The offerings of the lean thinking service design has contributed to the development of employees' sense of job ownership and promoted feeling of belonging and value to the work place. This is because lean thinking provides the opportunity for employees to fulfil their personal ambitions; desire of achievement, autonomy, and a sense of control on

what they have. Furthermore, it was revealed that lean thinking is related to the employer ability to empower employees to make work decisions at their own level to provide a customised service, with this in place employees can develop a feeling of personal importance to the organisation (Mowday et al., 1982; Van Emmrik and Sanders, 2005). Constructive team leaders' relationships with employees, and their ability to play the role of front-line employee when needed, has a particular importance in creating a supporting culture in the work place rather than a monitoring culture that could destroy employees morale (Seddon, 2003). This inevitably creates a rewarding working experience for employees and explains the tendency to have high level of affective commitment with their employer.

All considered, organically structured service department, through the implementation of lean thinking principles, employ open channels of communication with other business units in the organisation as well as among employees themselves (Chenhall and Morris, 1995). Decentralising decision making processes to be at employees' level was a result of this open communication strategy. Employees could access resources necessary for them to process demands and thus allow them to provide solutions during same customer contact without the need for customers to call again. Handling service demands this way allows employees to process more requests and increase value productivity in an efficient way without a cut in service, and eventually enhanced their self-esteem of ability to act and personal achievement. Continuous demand analysis carried out by managers, team leaders, and employees for the issues raised by customers has further enhanced their feeling of ownership and empowerment as they were viewed as the source of potential improvement in the system and were actively involved in the creation of corrective and development measures. This has clearly increased employees affective commitment which provided them with more determination to do more efforts on behalf of their employer in processing demands one stop to satisfy and retain customers.

References

Ackoff, R.L. (1981) *Creating the Corporate Future*, John Wiley and Sons, New York.

Aghazadeh, S. (2007) 'Re-examining the training side of productivity improvement: evidence from service sector', *International Journal of Productivity and Performance Management*, Vol. 56, No. 8, pp.744–757.

Allen, N.J. and Meyer, J.P. (1990) 'The measurement and antecedents of affective, continuance and normative commitment to the organization', *Journal of Occupational Psychology*, Vol. 63, No. 1, pp.1–18, Leicester.

Anwar, M.R., Masud, A.K.M., Abedin, F. and Hossain M.E. (2010) 'QFD for utility services: a case study of electricity distribution company DESCO', *International Journal of Quality and Innovation*, Vol. 1, No. 2, pp.184–195.

Botla, L. (2009) 'Systems thinking: the Gandhian way', *Journal of Human Values*, Vol. 15, No. 1, pp.77–90.

Burns, T. and Stalker, G.M. (1961) *The Management of Innovation*, Tavistock Publications, London.

Busi, M. (2005) 'Seeing the value in customer service', White Paper, The centre for Business Process Outsourcing, University of Strathclyde, Glasgow, UK.

Cameron, K.S. and Quinn, R.E. (1999) *Diagnosing and Changing Organisational Culture*, Addison-Wesley Longman, Reading, Massachusetts.

Capra, F. (1996) *The Web of Life: A New Scientific Understanding of Living Systems*, Double-day, New York.

Checkland, P. (1981) *Systems Thinking, Systems Practice*, Wiley, Chichester.

Checkland, P. (1985) 'Achieving desirable and feasible change – an application of soft systems methodology', *Journal of the Operational Research Society*, Vol. 36, No. 9, pp.821–831.

Checkland, P. (1994) 'Varieties of systems thinking: the case of soft systems methodology', *System Dynamics Review*, Vol. 10, No. 2, pp.189–197.

Checkland, P. (1995) 'Model validation in soft systems practice', *Systems Research*, Vol. 12, No. 1, pp.47–54.

Chenhall, R.H. and Morris, D. (1995) 'Organic decision and communication processes and management accounting systems in entrepreneurial and conservative business organizations', *Omega*, Vol. 23, No. 5, pp.485–497.

Cleveland, B. (2006) *Call Center Management on Fast Forward: Succeeding in Today's Dynamic Customer Contact Environment*, ICMI Press, Annapolis, Maryland.

Daellenbach, H. and McNickle, D. (2005) *Decision-Making through Systems Thinking*, Palgrave Macmillan, UK.

Deming, W.E. (1982) *Out of Crisis*, Cambridge University Press, Cambridge.

Dobni, D. (2004) 'A marketing-relevant framework for understanding service worker productivity', *Journal of Services Marketing*, Vol. 18, No. 4, pp.303–317.

Drucker, P.F. (1991) 'The new productivity challenge', *Harvard Business Review*, November/December, Vol. 69, No. 6, pp.69–79.

English, B. (2010) 'Moderator effects of organizational tenure on the relationship between psychological climate and affective commitment', *Journal of Management Development*, Vol. 29, No. 4, pp.394–408.

Frenkel, S. (1998) 'Beyond bureaucracy? Work organization in call centres', *The International Journal of Human Resource Management*, Vol. 9, No. 6, pp.957–979.

Frost, T. (1994) 'Creating a teamwork-based culture within a manufacturing setting', *Industrial Management*, Vol. 36, No. 3, pp.17–20.

Gong, Y. (2009) 'Human resources management and firm performance: the differential role of managerial affective and continuance commitment', *Journal of Applied Psychology*, Vol. 94, No. 1, pp.263–275.

Gregory, A.J. (2007) 'Target setting, lean systems and viable systems: a systems perspective on control and performance measurement', *Journal of the Operational Research Society*, Vol. 58, No. 11, pp.1503–1517.

Griffin, M., Patterson, M.G. and West, M.A. (2001) 'Job satisfaction and team work: the role of supervisor support', *Journal of Organizational Behavior*, Vol. 22, No. 5, pp.537–550.

Hackman, J.R. and Oldham, G.R. (1976) 'Motivation through the design of work: test of a theory', *Organisational Behaviour and Human Performance*, Vol. 16, pp.250–279.

Hallgren, M. (2009) 'Lean and agile manufacturing: external and internal drivers and performance outcomes', *International Journal of Operations & Production Management*, Vol. 29, No. 10, pp.976–999.

Hammer, M. and Champy, J. (2001) *Reengineering the Corporation: A Manifesto for Business Revolution*, Nicholas Brealey, London.

Herscovitch, L. (2002) 'Commitment to organizational change: extension of a three-component model', *Journal of Applied Psychology*, Vol. 87, No. 3, pp.474–487.

Hunt, S.D., Chonko, L.B. and Wood, V.R. (1985) 'Organizational commitment and marketing', *Journal of Marketing*, Vol. 49, No. 1, pp.112–126.

Jaaron, A. and Backhouse, C. (2009a) 'Affective commitment stimulation through systems thinking', Paper presented at the *11th QUIS International Conference. Moving Forward with Service Quality*, 11–14 June, Wolfsburg, Germany.

Jaaron, A. and Backhouse, C. (2009b) 'Organic structures in call centres: implications for affective commitment in manufacturing enterprises', Paper presented at the *First POMS-HK International Conference*, 30 December, POMS- Hong Kong Chapter, Hong Kong.

Jaaron, A. and Backhouse, C. (2010) 'Systems thinking for call centre service design: affective commitment implications in manufacturing enterprises', *The Service Industries Journal*, 28 September (iFirst).

Jackson, M.C. (2008) 'Evaluating systems thinking in housing', *Journal of the Operational Research Society*, Vol. 59, No. 2, pp.186–197.

Jackson, M.C. (2009) 'Fifty years of systems thinking for management', *Journal of the Operational Research Society*, Vol. 60, No. 1, pp.S24–S32.

Jarvinen, R., Lehtinen, U. and Vuorinen, I. (1996) 'The change process of industrialisation, elecronising service channels and redesigning organization in the financial sector from the productivity viewpoint', paper presented at the *2nd International Research Workshop on Service Productivity*, 18–19 April, Madrid.

Johnston, R. (2004) 'Service productivity: towards understanding the relationship between operational and customer productivity', *International Journal of Productivity and Performance Management*, Vol. 53, No. 3, pp.201–213.

Kram, K.E. (1985) 'Mentoring alternatives – the role of peer relationships in career-development', *Academy of Management Journal*, Vol. 28, No. 1, pp.110–132.

Krenzelok, E.P. and Dean, B.S. (1994) 'The cost of employee turnover to a regional poison information centre', Veterinary and Human Toxicology, Vol. 36, No. 1, pp.60–61.

Lagrosen, Y., Backstrom, I. and Lagrosen, S. (2010) 'The relationship between quality management and health – exploring the underlying dimensions', *International Journal of Productivity and Quality Management*, Vol. 5, No. 2, pp.109–123.

Little, M. and Dean, A. (2006) 'Links between service climate, employee commitment and employees' service quality capability', *Managing Service Quality*, Vol. 16, No. 5, pp.460–476.

Liu, J.S. and Chang, K.H. (2009) 'Effects of environmental cues, satisfaction and affective commitment on extra-role behaviours', *International Journal of Economics and Business Research*, Vol. 1, No. 4, pp.381–399.

Liu, Y. (2009) 'Perceived organizational support and expatriate organizational citizenship behavior: the mediating role of affective commitment towards the parent company', *Personnel Review*, Vol. 38, No. 3, pp.307–319.

Malhotra, N. and Mukherjee, A. (2003) 'Analysing the commitment-service quality relationship: a comparative study of retail banking call centres and branches', *Journal of Marketing Management*, Vol. 19, No. 9, pp.941–972.

Malhotra, N. and Mukherjee, A. (2004) 'The relative influence of organizational commitment and job satisfaction on service quality of customer-contact employees in banking call centres', *Journal of Services Marketing*, Vol. 18, No. 3, pp.162–174.

Mao, H.Y. (2009) 'The relationship between bureaucracy and workplace friendship', *Social Behavior and Personality*, Vol. 37, No. 2, pp.255–266.

Masood, S.A., Dani, S.S., Burns, N.D. and Backhouse, C.J. (2006) 'Transformational leadership and organizational culture: the situational strength perspective', *J. Engineering Manufacture*, Vol. 220, Part B, pp.941–949.

Mathieu, J.E. and Zajac, D.M. (1990) 'A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment', *Psychological Bulletin*, Vol. 108, No. 2, pp.171–194, Washington.

Mayer, J.P., Allen, N.J. and Smith, C.A. (1993) 'Commitment to organizations and occupations: extension and test of a three- component conceptualization', *Journal of Applied Psychology*, Vol. 78, No. 4, pp.538–551.

Meyer , J.P. and Allen, N.J. (1991) 'A three-component conceptualization of organizational commitment', *Human Resources Management Review*, Vol. 1, No. 1, pp.61–89.

Meyer, J.P., Allen, N.J. and Topolnytsky, L. (1998) 'Commitment in a changing world of work', *Canadian Psychology, Psychologie Canadienne*, Vol. 39, No. 1, pp.83–93.

Middleton, P., Taylor, P.S., Flaxel, A. and Cookson, A. (2007) 'Lean principles and techniques for improving the quality and productivity of software development projects: a case study', *International Journal of Productivity and Quality Management*, Vol. 2, No. 4, pp.387–403.

Monat, J.P. (2007) 'Motivational aspects of corporate productivity maximisation: a field study', *International Journal of Productivity and Quality Management*, Vol. 2, No. 2, pp.177–192.

Mowday, R.T., Porter, L.W. and Steers, R.M. (1982) *Employee-Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover*, Academic Press, New York.

Mowday, R.T., Steers, R.M. and Porter, L.W. (1979) 'The measurement of organizational commitment', *Journal of Vocational Behavior*, Vol. 14, No. 2, pp.224–247.

Piercy, N. (2009a) 'High quality and low cost: the lean service centre', *European Journal of Marketing*, Vol. 43, Nos. 11–12, pp.1477–1497.

Piercy, N. (2009b) 'Lean transformation in the pure service environment: the case of the call service centre', *International Journal of Operations & Production Management*, Vol. 29, No. 1, pp.54–76.

Porter, L.W., Steers, R.M. and Boulian, P.V. (1974) 'Organizational commitment, job-satisfaction, and turnover among psychiatric technicians', *Journal of Applied Psychology*, Vol. 59, No. 5, pp.603–609, Washington.

Raub, S. (2008) 'Does bureaucracy kill individual initiative? The impact of structure on organizational citizenship behavior in the hospitality industry', *International Journal of Hospitality Management*, Vol. 27, No. 2, pp.179–186.

Reichheld, F.F. and Sasser, W.E. (1990) 'Zero defection: quality comes to services', *Harvard Business Review*, Vol. 68, No. 5, pp.105–111.

Robey, D. and Sales, C.A. (1994) *Designing Organizations*, 4th ed., Richard D. IRWIN, INC., USA.

Ross, J.A. (1997) 'Human resources – does friendship improve job performance?', *Harvard Business Review*, Vol. 75, No. 2, pp.8–9.

Sanders, K. (2008) 'The impact of individual and shared employee perceptions of HRM on affective commitment: considering climate strength', *Personnel Review*, Vol. 37, No. 4, pp.412–425.

Schmenner, R.W. (2004) 'Service business and productivity', *Decision Sciences*, Vol. 35, No. 3, pp.333–347.

Schmenner, R.W. and Swink, M.L. (1998) 'On theory in operations management', *Journal of Operations Management*, Vol. 17, No. 1, pp.97–113.

Seddon, J. (2003) *Freedom from Command and Control: A Better Way to Make the Work*, Vanguard Education Ltd., Buckingham.

Seddon, J. (2005) 'Freedom from command and control', *Management Services*, Vol. 49, No. 2, pp.22–24, Enfield.

Seddon, J. (2007) 'Systems thinking, lean production and action learning', *Action Learning: Research and Practice*, Vol. 4, No. 1, pp.9–24.

Seddon, J. (2008) *Systems Thinking in the Public Sector*, Triarchy Press, Axminster.

Seddon, J. and Brand, C. (2008) 'Does lean enhance public services? Debate: systems thinking and public sector performance', *Public Money & Management*, Vol. 28, No. 1, pp.7–9.

Shahin, A. (2008) 'The relationship between quality and productivity: a new perspective', *International Journal of Productivity and Quality Management*, Vol. 3, No. 2, pp.206–222.

Sherman, J.D. (1984) 'The influence of organizational-structure on intrinsic versus extrinsic motivation', *Academy of Management Journal*, Vol. 27, No. 4, pp.877–885.

Shum, P., Bove L.L. and Auh, S. (2008) 'Employees' affective commitment to change: the key to successful CRM implementation', *European Journal of Marketing*, Vol. 42, Nos. 11–12, pp.1346–1371.

Simosi, M. (2010) 'The role of social socialization tactics in the relationship between socialization content and newcomers' affective commitment', *Journal of Managerial Psychology*, Vol. 25, No. 3, pp.301–327.

Somers, M.J. (2009) 'The combined influence of affective, continuance and normative commitment on employee withdrawal', *Journal of Vocational Behavior*, Vol. 74, No. 1, pp.75–81.

Spath, D. and Ganz, W. (Eds.) (2008) *The Future of Services: Trends and Perspectives*, Hanser, Germany.

Suarez-Barraza, M. (2010) 'Implementation of Lean-Kaizen in the human resource service process: a case study in a Mexican public service organisation', *Journal of Manufacturing Technology Management*, Vol. 21, No. 3, pp.388–410.

Sung, M.P. (2007) 'Antecedents, mediators, and consequences of affective, normative, and continuance commitment', *Review of Public Personnel Administration*, Vol. 27, No. 3, pp.197–226.

Van Emmrik, I.J.H. and Sanders, K. (2005) 'Mismatch in working hours and affective commitment: differential relationships for distinct employee groups', *Journal of Managerial Psychology*, Vol. 20, No. 8, pp.712–726.

Vandenberghe, C. (2009) 'A closer look at the relationship between affective commitment to supervisors and organizations and turnover', *Journal of Occupational and Organizational Psychology*, Vol. 82, No. 2, pp.331–348.

Von Bertalanffy, L. (1950) 'The theory of open systems in physics and biology', in Emery, F.E. (Eds.): *Systems Thinking*, pp.70–85, Penguin, Harmondsworth.

Xu, K. (2006) 'The effects of customer contact on conformance quality and productivity in Chinese service firms', *International Journal of Quality & Reliability Management*, Vol. 23, No. 4, pp.367–389.

Zexian, Y. and Xuhui, Y. (2010) 'A revolution in the field of systems thinking- a review of Checkland's systems thinking', *Systems Research and Behavioral Sciences*, Vol. 27, No. 2, pp.140–155.