Operational excellence in services: a survey-based study

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Abstract

Lean Management is seen as a powerful method to excel in the service sector. However, only few service companies obtained the desired performance by implementing it. The aim of this research is to investigate the influence of organizational commitment in the relation between lean practices and operational performance. A survey was used for gathering data from service organizations operating in an international setting. Findings show that affective commitment does not directly improve operational performance but positively moderates the relationship between lean management and operational performance, while continuance commitment and normative commitment do not have neither direct nor moderating effects.

Keywords: Lean Management, Service, Survey

Introduction

Nowadays, high pressure and fierce competition force companies to find more effective processes to deliver excellent customer service (Vignesh et al., 2016). For decades, lean management, defined as an interrelated system of social and technical bundles of practices, has been considered as an appropriate managerial approach for achieving operational excellence (Shah & Ward, 2007).

Lean management has its roots in the automotive industry (Womack et al., 1990), but recently has been adopted in service companies as well. Although lean management is considered a powerful approach to continuously improve processes, many manufacturing companies are struggling to achieve the expected advantages (Pay, 2008). These difficulties are even higher in the service sector, where the real applicability and efficacy of lean management is still under scrutiny (Andrés-López et al., 2015; Jasti and Kodali,

2015). One explanation of problems when implementing lean management has been the insufficient attention paid by managers to intangible aspects, such as organizational commitment (Bortolotti et al., 2015). Organizational commitment is the psychological state 'that binds the individual to the organization' (Allen & Meyer, 1990; p.14). In the general management literature, organizational commitment is seen as a crucial element that can affect the effectiveness of a managerial practice or program (Meyer, et al. 2004). In line with this, it can be argued that different levels of commitment can determine the success or the failure of a lean program.

In the OM literature there is a surprising scarcity of empirical studies focusing on the role of commitment in lean companies. This scarcity is even higher in services. In fact, despite services have a dominant role in our economy nowadays (OECD, 2017), only one article by Lam, et al. (2015) studied commitment in lean service companies. Due to sparse evidence about the effectiveness of lean management in services and the paucity of literature about the importance of commitment in such organizations, the aim of this study is to answer the following research questions:

1) Can lean management be effective in service organizations?

2) Does organizational commitment affect the relationship between lean management and operational performance in service organizations?

Literature review and theoretical framework

The concept of "lean service" (the implementation of lean manufacturing practices in services) was introduced after the seminal article of Bowen and Youngdahl (1998). After a tremendously rethinking of management operations (Piercy and Rich, 2009) the performance problems of service firms decreased, and the quality standards increased to offer better customer satisfaction (Bowen and Youngdahl, 1998). Nevertheless, the performance level in services is still relatively low if compared to manufacturing (Piercy and Rich, 2009). There are three main types of services, namely mass services, service shop and professional services, as is depicted in Figure 1 (Silvestro et al., 1992).

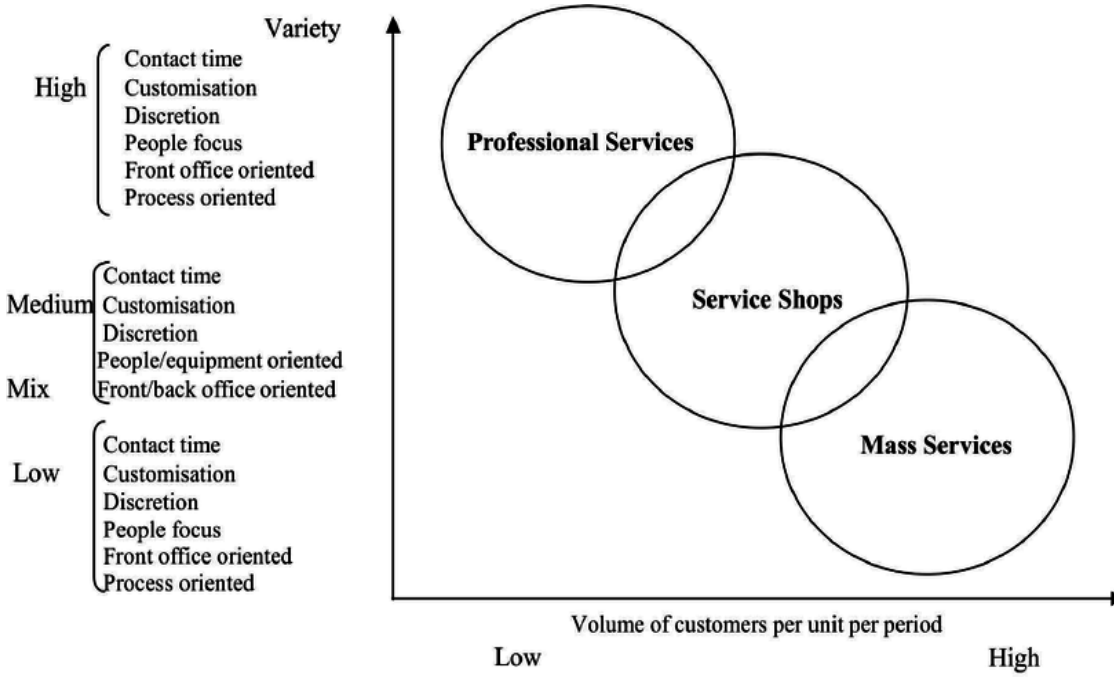

Figure 1 – Service types (based on Silvestro et al., 1992)

This research focusses on professional services (e.g., consultancy and banking companies) because they are recognized as the most distinct compared to manufacturing and therefore most varying and interesting results are expected. This type of service is highly people focused, with high customization and high contact time per transaction. Moreover, employees are highly skilled and have high levels of discretion.

Empirical research on the implementation of lean practices in the professional service industry are of high importance. First, the service sector in general accounts considerably to a larger extent for the gross domestic product compared to manufacturing companies (Malmbrandt and Ahlström, 2013; Piercy and Rich, 2009). Generally, this implies that service industries have a higher influence on the economic situation of most developed countries. Secondly, firms in the professional service sector have very different characteristics compared to manufacturing companies where Lean Management was born. Examples are non-transparent production flows, irregularities and high customer involvement in the production process.

Opposing to the opinion that the characteristics of professional services hinder the implementation of Lean Management, de Koning et al. (2008) and Piercy and Rich (2009) sustain that it offers opportunities. For example, specific lean practices focus on ways to achieve visibility of flows, which can be an opportunity in settings where transparency is an issue. Therefore, the literature highlights how firms in the professional service industry do not necessarily have more problems in implementing Lean Management, but actually can benefit from it.

Therefore, we posit:

Hypothesis 1: Lean Management has a positive influence on operational performance of organizations operating in the professional service sector.

Organizational commitment has many definitions. This study is based on the definition of Jackson (2004). He classified organizational commitment into three commitment components. The components, also named as the three-component model (TCM), includes an affective, cognitive and a behavioral component, which are all motivated by a different mindset. Where "affective indicators include pride in affiliation to the company's goals, and feelings of satisfaction derived from involvement with the company's goals, cognitive indicators include identification with the organization's goals and values, and a shared sense of importance of the company's goals. Behavioral indicators include active participation in the goals of the organization, and willingness to exert effort towards goal accomplishment" (Jackson, 2004; p. 715). In short, the TCM shows the degree to which employees feel the *desire, need* and *obligation* to stay, respectively.

Past research published in journals of Human Resource Management and General Management stress the importance of organizational commitment for organizational performance. However, in the field of Operations Management, only a few researchers have appropriately discussed this. Ahmad and Schroeder (2003) found that organizational commitment provides a high potential for organizational efficiency. Jurburg, Viles, Tanco, and Mateo (2017) complemented this by providing an in-depth analysis of increased organizational efficiency. They illustrated how employees need to be motivated to become committed to certain activities and therefore improve operational performance.

Therefore, we posit:

Hypothesis 2: Affective, cognitive and behavioral commitment have a positive influence on operational performance of organizations operating in the professional service sector.

Although lean management can be implemented successfully in professional services, a great percentage of companies still fail to obtain the expected results from lean and this can be motivated by the lack of organizational commitment. A high level of organizational commitment means an increase in motivation of employees in the execution of their daily activities. This means a better realization of their tasks related to the execution of lean practices (Meyer, Becker & Vandenberghe, 2004). Increased motivation for working towards high quality and high performance is manifested in the way employees' feels appreciated. This could be done by providing employees the opportunities to make suggestions and propose new ideas (Samat et al., 2006). Besides, this effect expands to a better execution of employee responsibilities like problem solving and continuous improvement. This is in line with the study of Bou and Beltrán (2005), who claim that "the effects that a TQM strategy have on organizational results are higher when it is implemented through a human resource strategy that promotes the commitment and involvement of all individuals in the organization with quality objectives" (Bou and Beltrán, 2005; p. 82).

Therefore, we posit:

Hypothesis 3: Affective, cognitive and behavioral commitment positively moderates the relationship between Lean Management practices and operational performance of organizations operating in the professional service sector.

Methodology and results

To answer the research questions, a survey-based methodology was used. Data was collected from 81 banking and consultancy organizations operating in Germany, the Netherlands and China (Table 1 reports the descriptive statistics of the sample).

Table 1 – Descriptive statistics

Characteristic	Consultancy	Banking	Germanic Europe	Confucian Asia	SMEs	Large
Percentage	55.5	45.5	50.8	49.2	60.5	39.5

The constructs of interest are measured with multi-item scales. Organizational commitment is 2 operationalized in terms of affective, continuance and normative commitment (Allen and Meyer, 1990). Lean management and operational performance are operationalized based on Bortolotti et al. (2015). The measurement model was tested by an exploratory factor analysis (EFA). Lean management was conceptualized as a second-order construct. Therefore, after validating the constructs at practice level (e.g., Continuous flow), we compute parcels of practices and tested the validity of the reduced scale of lean. Table 4 shows the component matrix of our scale.

Table 2 – Component matrix of lean management

Construct	***Component***
Multifunction employees	.849
Small group problem solving	.818
Continuous improvement	.862
Top management leadership for quality	.894
Employee suggestions	.890
Continuous flow	.750
Statistical process control	.620
Autonomous maintenance	.829
Cleanliness and organization	.729
Design for quality	.878

The table shows that, unlike what is typically found in manufacturing, practices from theoretically different bundles belong to the same latent variable in the case of professional services.

After having successfully validated the measurement model, we run a hierarchical regression analysis using SPSS to test our theoretical framework. As can be seen in table 3, when only the control variables are included (Confucian Asia, Germanic Europe, small and large companies), there are no significant relationships visible (Model 1). The same is true for Model 2 and 3 in which the control variables have no effect ($\rho > 0.05$), suggesting that country and size does not affect performance.

Table 3 – Hierarchical regression model

Independent Variable	***Model 1***	***Sig.***	***Model 2***	***Sig.***	***Model 3***	***Sig.***
(Constant)	3.690	0.000	3.763	0.000	3.660	0.000
Confucian Asia	-0.186	0.281	-0.085	0.546	-0.079	0.567
Small company	0.148	0.533	0.001	0.993	0.070	0.663
Large company	0.041	0.838	-0.0145	0.310	-0.137	0.322
Lean Management			0.557	0.000**	0.600	0.000**
Affective commitment			-0.009	0.944	0.098	0.491
Cognitive commitment			-0.062	0.530	-0.083	0.409
Behavioral commitment			-0.035	0.689	-0.083	0.356
LM*AC					0.210	0.043*
LM*CC					-0.142	0.112
LM*BC					-0.013	0.883
R^2	0.035		0.606		0.653	
Adjusted R^2	0.015		0.554		0.584	
F	0.699		11.660		9.427	
dF	3		7		10	
Sig.	0.557		0.000**		0.000**	

* $\rho < 0.05$

** $\rho < 0.01$

Table 3 shows that Hypothesis 1 is fully supported as lean management is found as a strong predictor of operational performance in professional services. Regarding Hypothesis 2, our results do not support the positive influence of any of the organizational commitment dimensions on operational performance per se. Finally, the results partially support Hypothesis 3 concerning the moderating effect of organizational commitment on the lean-performance relationship. In fact, we found that affective commitment enhances the effectiveness of lean management in professional services.

In summary, our analyses suggest that lean management significantly improves operational performance in service organizations. Interestingly, affective commitment does not directly improve operational performance but positively moderates the relationship between lean management and operational performance, while continuance commitment and normative commitment do not have neither direct nor moderating effects.

Conclusions

The results suggest that organizational commitment does have a significant role in performing lean practices in professional services. Our findings indicate that affective commitment is a unique medium to make companies' lean strategy more effective, as operational excellence can be achieved only when employees perceive a high level of pride to the goals of the organization and are proud of being involved and having an active role in achieving company's goals. Noteworthy is that professional service companies can not achieve operational excellence if they only lever on employees' pride and satisfaction. Operational excellence can only be achieved in combination with lean management. This is in line with the research of Bou and Beltrán (2005), in which the authors suggest that results of lean management are higher when a human resource

strategy is implemented. In fact, this should stimulate both the involvement and commitment of individuals in the company.

The findings of this study contribute also to practice. Managers should pay maximum attention on improving and sustaining affective commitment. One way may be based on trust building. The stronger the bond of trust, the stronger the incentive to feel committed. This, in turn, will increase the effectiveness of lean when implemented in the service organization.

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