Impact of Organizational Commitment and Lean Practices in SME

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Abstract - Lean practices focused on identifying and eliminating waste throughout a product’s entire value stream. It begins with the assembling arrangement of Japanese car manufacturer Toyota and attracted because of its huge achievement boundless consideration around the world. Lean guarantees noteworthy advantages regarding waste reduction and organizational performance. Organizational commitment has become a matter of priority in many Small and Medium Enterprises (SMEs). SMEs are regarded as the engine for economic growth and a vehicle for employment generation in both developed and developing countries, the mediating effects of organizational commitment on lean practices is important in the management of SMEs. This study seeks to investigate the impact of organizational commitment and lean practices in SMEs at Thanjavur district. The study proposed two hypotheses that were validated using a sample of 531 employees in the SME. Through structural equation modeling(SEM) and path analysis the results indicated that there are positive relationships between the posited research variables (organizational commitment, Lean practices and SME Performance).

Keywords: Lean practices, Organizational commitment, Small and Medium Enterprises(SME), structural equation modeling.

I. INTRODUCTION

Researchers have highlighted that there has been increasing awareness by governments in the developing world, of the role played by SMEs and their contribution to the economy (Chang, Chang, Ho, Yen & Chiang 2011). The significance of the small business sector is also accepted internationally in terms of its contribution to employment creation, Gross Domestic Product (GDP) and innovation. Organisational commitment (OC) has attracted the hearts and minds of researchers and practitioners alike and research outcomes have revealed that high levels of OC often results in higher job satisfaction, reduced absenteeism, retention and organisational citizenship behaviours (Grawe, Daugherty &MacElroy 2012; Lean practices refers to a set of techniques aiming at minimizing waste and maximizing customer value. While lean includes both philosophical and technical perspectives, this study only focuses on the observable behaviors. The objective of the study to find out the relation between organizational commitment, Lean practices and SME Performance using a sample of 531 employees in the SME through structural equation modeling(SEM) and path analysis.

II. LITERATURE REVIEW

In this study, critical review of relevant theories for building a broad scientific foundation in order to achieve the objective of the study. Further, widely used Social Exchange Theory provides the theoretical ground for the conceptualized model that is chosen and used because of their strengths and relevance to the current study. Review of research variables organizational commitment, Lean practices and their relationship with SME Performance were listed below:

(a) Organizational Commitment

Researchers has also been defined organizational commitment from either sociological thrust or a psychological perspective. For example those who subscribe to the psychological view submit that organizational commitment works as a psychological bond to the organization and persuades individuals to act in ways that are consistent with the interests of the organization. The outcome of these research proposed that low levels of organizational commitment may be dysfunctional to both the organization and the individual, while high levels might have positive effects that leads to higher performance, greater satisfaction and lower turnover. Organizational commitment defined as an employee’s strong beliefs in the organization’s goals and values, a willingness to work on behalf of the organization, and a desire to maintain membership in the organization (Porter, et al., 1974). This sense of dedication among employees could be used not only to preserve the longevity of their businesses, but also to create a positive working environment for employees (Yamaguchi 2013). Researchers have exposed three components concerned in organizational commitment which are affective or emotional commitment, continuance or calculative or instrumental commitment and normative or moral commitment (Meyer & Allen 1997; Jones & Mcintosh 2010).
(b) Lean practices

Organizations undergoing global competition are under the compel to utilize resources more efficiently. Thus, organizations look for better management principles and practices to improve their performance. In the middle of many management principles and practices, lean is getting more and more attention. Lean is a management approach originated from Japanese manufacturers and has become a management philosophy in both manufacturing and service industry over the world for decades. It’s a management philosophy that “provides a way to do more and more with less and less….while coming closer and closer to providing immediate feedback on efforts to convert muda [i.e. waste] into value” (Womack and Jones, 2003, p.15). As lean evolved, there is now a common agreement on the purpose of lean. The fundamental goal of lean is to utilize the resource and eliminate the “muda” (waste) that does not add customer’s value. Types of wastes were sum up over processing or incorrect processing, excess inventory, unnecessary movement, including overproduction, waiting, unnecessary transport or conveyance, defects, and unused employee creativity (Liker, 2004). Lean practices symbolizes what observable behaviors people perform in the organizations to achieve lean. The TPS house diagram (figure 2.3) illustrates major pieces of lean practices. It represents “a system based on a structure, not just a set of techniques” (Liker, 2004, P.33).

(c) Relationship between Organizational commitment and Lean practices

Organizational commitment or “the relative strength of an individual’s identification with and involvement during a explicit organization” (Porter, Steers, Mowday and Boulian, 1974, p604) is important for organizations implementing lean as a result of they have workers who can voluntarily participate in continuous improvement activities (suggestion schemes, quality circles) that fall on the far side prescribed technical necessities (Brown and Reich, 1989; Adler, 1993). In Shadur et al’s (1995) study, organizational commitment was the strongest predictor of worker approval of Lean, leading the authors to conclude that it “is of primary importance and may be enclosed during a model that seeks to elucidate the adoption of Japanese producing practices like those embodied in Lean production” (Shadur et al., 1995, p1418). organizational commitment is additionally reported to be a key determinant of worker acceptance of TQM (Waldman, 1994; CoyleShapiro , 2003), it’s expected that organizational commitment and intention to adopt lean practices are absolutely connected. However, it’s additionally expected that attitude can mediate this positive relationship. This proposition is primarily driven by the organizational change literature that suggests that workers extremely committed to their organization usually have positive attitudes towards change and are willing to simply accept alternative ways of operating (Coopey and Hartley, 1991; Cordery et al., 1993; Guest, 1987; Iverson, 1996).

H 1: organizational commitment(OC) encompasses a vital positive impact on lean practices (LP) in SME sector

(d) Relationship between Lean practices and SME performance

The most vital purpose of a lean strategy is to eliminate wastes (muda) (Tapping, 2006).Several analysis studies have shown that a lean strategy produces higher levels of quality and productivity and higher client responsiveness (Krafick, 1998; Nicholas, 1998). The impact on lean strategy is generally supported empirical proof that it improves the company’s competitiveness (Oliver et al., 1996; Doolen

Figure 1: Toyota Production System House

Figure 2: Conceptual Research Model

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and Hacker, 2005). It's value mentioning that the impact of lean thinking as a technique is vital not solely in manufacturing however conjointly for the complete supply chain. In addition to formation relationships, management involvement and commitment is a vital requirement in aiding any of the specified productivity improvement initiatives (Kettinger and Grover, 1995; Coronado and antony, 2002; Eckes, 2000; Henderson and Evans, 2000).

H2: LP has a significant positive impact on SMEs performance

III. RESEARCH METHODOLOGY

To study the relationship between lean practices, organizational commitment researchers adopt the descriptive research design. Primary data was collected through the questionnaire and secondary data was collected from previous studies. To collect the data from the respondents convenient sampling technique was used. Based on the literature review portrayed in the previous section, Powell and Meyer (2004) utilizes eleven items of lean practices to determine organizational commitment. The questionnaire consisted of three sections, questions related to demographic factors, lean practices and organizational commitment. Scale used in the questionnaire was five-point Likert scale, scoring (items) ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire was distributed to the employees in SME at thanjavur district. A total of 531 completed questionnaires were received from the respondents. Reliability analysis was conducted by examining the value of Cronbach’s alpha to test instruments’ reliability of the scale used in the study.

Tests of Measures and Accuracy Analysis Statistics

The reliability and validity of the measuring scales was assessed to confirm valid data analyses. This was necessary for this study since a few of the scales have been changed to adapt to the actual business context. Confirmatory factor analysis (CFA) was performed to look the reliability, convergent and discriminant validity of the multi-item construct measures. All the factor loadings are above 0.5 which demonstrates a high validity of the measurement instruments used. On the whole acceptable CFA model fit indices used in this study incorporated: the $\chi^2$/df (Chi-Square/Degree of Freedom) value equal to or less than 3.00, Tucker and Lewis Index (TLI) value equal to or higher than 0.90, the CFI (Comparative Fit Index) value equal to or higher than 0.90, and the Root Mean Square Error of Approximation (RMSEA) value equal to or less than 0.08, the Incremental Index of Fit (IFI) value equal to or higher than 0.90. Suggested statistics for the final overall model assessment revealed an acceptable fit of the measurement model to the data, that is: $\chi^2$/df = 1.407; CFI = 0.953; TLI = 0.907; RMSEA = 0.025 and IFI = 0.973.

<table>
<thead>
<tr>
<th>Research Construct</th>
<th>Cronbach’s Test value</th>
<th>C.R Value</th>
<th>AV E Value</th>
<th>High est shared varia (SV)</th>
<th>Factor loading</th>
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</thead>
<tbody>
<tr>
<td>OC1</td>
<td>0.9</td>
<td>43</td>
<td>0.9</td>
<td>0.9</td>
<td>0.94</td>
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<tr>
<td>OC2</td>
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<td>62</td>
<td>0.9</td>
<td>0.9</td>
<td>0.96</td>
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<tr>
<td>OC3</td>
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<td>79</td>
<td>0.9</td>
<td>0.9</td>
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<tr>
<td>OC5</td>
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<td>65</td>
<td>0.9</td>
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<tr>
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<td>0.9</td>
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<td>0.97</td>
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<tr>
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<td>0.9</td>
<td>0.96</td>
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<tr>
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<td>86</td>
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<td>0.9</td>
<td>0.98</td>
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<td>44</td>
<td>0.9</td>
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<td>0.95</td>
</tr>
</tbody>
</table>

Note: C.R.: Composite Reliability; AVE: Average Variance Extracted; S.V.: Shared Variance;* Scores: 1 – Strongly Disagree; 3 – Neutral; 5 – Strongly Agree .Measurement CFA model fits: $\chi^2$/df = 1.336; RMSEA = 0.029, CFI = 0.950; TLI = 0.909 and IFI = 0.965.

Factor loadings of individual items on their respective constructs are shown in Table 1. The lowest value for individual item loadings for the research constructs is 0.865, since all the individual item loadings go beyond
the recommended value of 0.50 (Hair et al., 2010). This reveals that all the measurement instruments are up to standard and reliable since all the individual items converged well and with more than fifty percent of each item’s variance shared with its respective construct. As indicated from the results shown in Table 1 the least obtained composite reliability (CR) value of 0.971 is well above the recommended of value 0.6 (Hulland, 1999), while the lowest obtained average variance (AVE) value is also above the recommended 0.5 which is 0.919. This point toward that convergent validity was attained and also this further validate internal consistency and reliability of the measurement instruments used.

![Table 2: Correlations between constructs](image)

All pairs of constructs reveals an sufficient level of discriminant validity (Table 2) since all the correlations value were less than 1. These outcome provided confirmation for acceptable levels of research scale reliability. Discriminant validity was found by checking and confirming that the AVE values were greater than the highest SV values . Table 1 show that all the AVE values are above the SV values for all the research constructs, as a result further confirming the existence of discriminant validity.

**IV. RESULTS OF THE HYPOTHESES**

In Table 3 all the hypothesis are noteworthy and strong because all the path coefficients are greater than 0.5. The highest path coefficient is OC and LP which is 0.837, showing statistical significance indicating that in small medium scale industries where organization commitment is high , Lean practices also found to be high Morrow( 2003). The lowest path coefficient is LP and SME performance which is 0.785 slightly lower than the highest path coefficient. If organization practices lean definitely organizational commitment will be high .This indicate that all the path coefficients are significant.

Research structural model fits: $\chi^2/(df) = 2.737$; IFI = 0.922 ; TLI = 0.905; CFI= 0.920; and RMSEA = 0.060. Note:1. **p-value less than 0.001using a significance level of 0.05, critical ratios (t-value) that exceed 1.96 would be significant. The first hypothesis (H1) shows that there is a significant positive influence of employee organizational commitment on lean practices in the SMEs. From the end result of the path coefficients there is a strong relationship between these two constructs because the p-value is less than 0.001.

**TABLE 3: OVERALL RESULTS OF STRUCTURAL EQUATION MODELING HYPOTHESES TESTING**

<table>
<thead>
<tr>
<th>Hypothesis Statement</th>
<th>Path Coefficients</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Organisational commitment $\rightarrow$ Lean Practices</td>
<td>0.837***</td>
<td>Supported</td>
</tr>
<tr>
<td>H2 Lean Practices $\rightarrow$ SME Performance</td>
<td>0.785***</td>
<td>Supported</td>
</tr>
</tbody>
</table>

This is supported by Coopey and Hartley(1991) suggests that employees highly committed to their organization generally have positive attitudes towards change and are willing to accept different ways of working . Therefore high organizational commitment is associated with high LP. The second hypothesis (H2) shows that there is a strong positive relationship between LP and SMEs performance (p-value is less than 0.001). Research reveals that low levels of LP may be dysfunctional to both the organisation and the individual, while high levels may have positive effects that leads to higher performance, greater satisfaction and low turnover.

**V. CONCLUSION**

An attempt is made to explain the interrelationships of the variables, in which lean practices is the ultimate variable. Further it reveals there is a positive relationship between organizational commitment and lean practices in small medium enterprises, as employees in this SME have an emotional connection in the circumstance in which they are situated. Even though gradual implementation of lean practices may not gain full benefits, but the step taken could assist SMEs to perk up their performance gradually. The results of this study therefore, fill in the void that has existed in academic literature.

**REFERENCES**


[2]. Ayperi Okur(2016) "lean thinking is perfectly compatible with digitalization"


