

# Human-Centric Design Thinking to Boost Employee Experience in Lean Start-ups – An Empirical Study

Dr. Tabitha Durai\* Dr. R. Madhanagopal\*\* Ms. Rachel King\*\*\*

\* Assistant Professor, Department of Commerce, Madras Christian College, Tambaram, Chennai – 600 059

\*\*Assistant Professor, Department of Statistics, Madras Christian College, Tambaram, Chennai – 600 059

\*\*\*Ph.D. Research Scholar, Department of Commerce, Madras Christian College, Tambaram, Chennai – 600 059

## Abstract

When design thinking is applied to human resources it has a positive effect in boosting employee experience which in turn results in creating employee engagement. Human-centric design thinking is a way of making work processes less complex and more enjoyable. It is not to be confused with the design thinking put into creating the minimum viable product (MVP) or service development. This study is going to focus on human-centered design thinking. Employee experience refers to the employees' perceptions of the organization in which they work. It doesn't necessarily depend on what happened in the organization, it depends on how the employee perceives and reacts to the intentions behind the activities designed by the organization. When an employee is excited and inspired by employee experiences and sees work as more than a transaction of a pay check in return, that is when the employee tends to have a higher sense of engagement. Keeping this in mind we intend to test the effect of design thinking, employee experience and employee engagement in lean start-ups. Lean start-ups are those companies which take an existing idea which is already accepted by end users and improvising on it to come up with a better product or service model by saving on time and investment. To achieve the basis of the study data was collected from 103 respondents working in lean start-ups. The data collected were analysed using SPSS and Structural Equation Modelling (SEM). It was found that there is a positive significance in the relationships between design thinking, employee experience, and employee engagement. The findings highlight the importance of design thinking on employee experience that in turn will result in organic employee engagement. Designing an efficient work process through effective design thinking creates a good employee experience that enhances longer employee satisfaction and productivity than in the case of benefiting from monetary benefits alone. This, in turn, brings success to the organization.

**Keywords: Design Thinking, Employee Experience, Employee Engagement, Lean Start-ups.**

## Introduction

Employees will value the organizations they work in if they feel valued by them. In order to culture a productive work environment, employers need to think smart and be humane with dealing with their employees. A good plan seldom goes wrong, this is where design thinking comes into play. Design thinking in human resources is a solution-based approach that focuses on the employees' and their work experiences. It follows an iterative methodology of getting the best possible outcome into designing a management process in the work environment. When a well-planned function is designed it is defaulted towards enhancing the employees' experience. These processes or functions can be related to the job functions, co-employee relationships and the physical environment of the organization. Jacob Morgan, a best-selling author, and futurist specifies that in order for an employee to attain a positive employee experience the organization has to look into three areas; the technological, physical and cultural environment.<sup>i</sup> In the end, it all comes down to what the employee perceives and how he/she reacts to the intentions behind the efforts put in by the organization. Both human-related design thinking and creating a good employee experience have a positive influence on employee engagement. When an employee is fully absorbed by and enthusiastic about their work, they act in such a way to further the organization's reputation and interests.<sup>ii</sup> In this study, we have chosen to use lean start-ups as the study group because lean start-ups work in a methodical manner by using design thinking in developing products or services. The idea behind any lean enterprise is to avoid waste as it saves investor's money and employees time. This being the case interest was developed in knowing about their efforts put into the way they deal with their employees. Thus, the research paper will examine the relationship between design thinking, employee experience and employee engagement in lean start-ups.

## Objectives

In this paper, we intend to study the effect of the relationship between design thinking, employee experience and employee engagement in lean start-ups.

## Review of Literature

Interest in design thinking in management and human resources is growing among corporates and researchers. Tim Brown (2009) sums up design thinking as a problem-solving approach, crystallized in the field of design, which combines a holistic user-centered perspective with rational and analytical research with the goal of creating innovative solutions.<sup>iii</sup> The guide, *An Introduction to Design Thinking Process Guide* (2010), written by The Hasso Plattner Institute of Design at Stanford more commonly known as the d.school sums up the importance of empathy, which is to create meaningful innovations; define, which suggests that framing the right problem is the only way to create the right solution; to ideate, which means that it is not about coming up with the 'right' idea, it is about generating the broadest range of possibilities; prototype, which conveys that ideas should be built to think and tested to learn. The last element in the design thinking model is to test; this implies that testing is an opportunity to learn about your solution and your user.<sup>iv</sup> This model was used as a foundation to build up the study for the design thinking aspect, changes were made to suit the human-centered objective of the study. Lucy Kimbell (2009) reviewed that there was a shift taking place where the focus was taken away from giving form to objects, as it was mostly used in designing products and services using lean strategies. Design thinking is now getting recognition in providing purposeful action to solve problems, paying attention to disrupting designers' intentions and constituting designs within organizations.<sup>v</sup> Eric Lesser et al. (2016) in their study bring out practices that need to be implemented to improve employee experience through good work design. This includes the formation and development of work-based connections and relationships, the design and ongoing use of employees' physical work environments, and the tools and social platforms employees use to accomplish work-related activities. The research showed that organizations can enhance employee experiences through increased levels of personalization, transparency, simplification, authenticity and organizational responsiveness.<sup>vi</sup> So, design thinking is being used to create innovative solutions that enhance employee experience in order to design a better place for the employees to work in. There is a shift where design thinking is beginning to be used in forming solutions within organizations and that it can enhance employee experience by designing changes in all facets of the

employee's job such as the technical, cultural and physical aspects of his job. Based on the above discussion the following hypotheses were proposed:

*Hypothesis 1: Perceived design thinking has a positive effect on employee experience of employees working in lean start-ups.*

Solomon Markos and M. Sandhya Sridevi (2010), in their study, point out that employee engagement is the key to improving work performance. Employee engagement is a strong predictor of positive organizational performance clearly showing the two-way relationship between employer and employee. There are many facets to achieving employee engagement and it has a broad scope. It is important to enhance two-way communication, ensure that employees have all the resources they need to do their job, give appropriate training to increase their knowledge and skill, establish reward mechanisms in which good job is rewarded through various financial and non-financial incentives, build a distinctive corporate culture that encourages hard work and keeps success stories alive, develop a strong performance management system which holds managers and employees accountable for the behaviour they bring to the workplace, place focus on top-performing employees to reduce their turnover and maintain or increase business performance.<sup>vii</sup> All this results in employee engagement according to Solomon Markos and M. Sandhya Sridevi (2010). Ologbo C. Andrew, Saudah Sofian (2012) in their study point out the significance of individual factors, like employee communication, employee development, and co-employee support, has an impact in influencing employee engagement towards their job and the organization they work in. Employee engagement can be utilized as a mediator to enhance the behaviour, intention, and attitudes of employees towards a better work performance.<sup>viii</sup> Owais Nazir and Jamid Ul Islam (2017) in their study specify the significance of employees' commitment to their performance and engagement towards the organization they work for. A positive relationship was established in their study.<sup>ix</sup> Arti Chandani et al. (2016) in their study show that an employee organizational pride through fair treatment, talent recognition and redesigning their jobs to suit the employees has a direct effect in creating employee engagement.<sup>x</sup> William H. Macey and Benjamin Schneider (2008) in their study point that the employee's pride, satisfaction, and commitment toward his job and organization are some of the indicators of employee engagement.<sup>xi</sup> From the various factors and elements mentioned in the

above studies, it can be understood that these solutions can be implemented and benefited from the careful designing of work process for effective employee performance. Based on the above discussion the following hypotheses were proposed:

*Hypothesis 2: Perceived design thinking has a positive effect on employee engagement of employees working in lean start-ups.*

Employee experience turns out to be a hot and recent topic in the field of human resources. Creating a good employee experience results in organizations attracting and retaining talented employees, which in turn results with having an engaged workforce. Organizations with engaged workforces are more profitable, enjoy greater growth, and win the battle to keep the most talented personnel<sup>xiii</sup> (Tracy Maylett and Matthew Wride, 2017). Josh Bersin et al. (2017) in their study point out that employee experience will become an increasingly important dimension of competing for and engaging the workforce in a world being transformed by digital technologies, increasing transparency, and the rising demand for talented professionals and workers with fast-changing skills. Employee brand and reputation shared by employees through their experiences in the external world will be the critical competitive differentiator. The human resource department needs to monitor their employees' productivity through various feedback tools and surveys in order to understand the needs of their employees.<sup>xiii</sup> A research study conducted by IBM Corporation mentions that a sense of belonging, purpose, achievement, happiness, and vigour sum up employee experience according to an employee experience index model developed by them.<sup>xiv</sup> A part of the index model was referred to in building up the base of the study with regard to employee experience. In the three studies mentioned, employee experience influences the engagement of an employee. A positive environment will result in an employee's enthusiasm towards work. Based on the above discussion the following hypotheses were proposed:

*Hypothesis 3: Perceived employee experience has a positive effect on employee engagement of employees working in lean start-ups.*

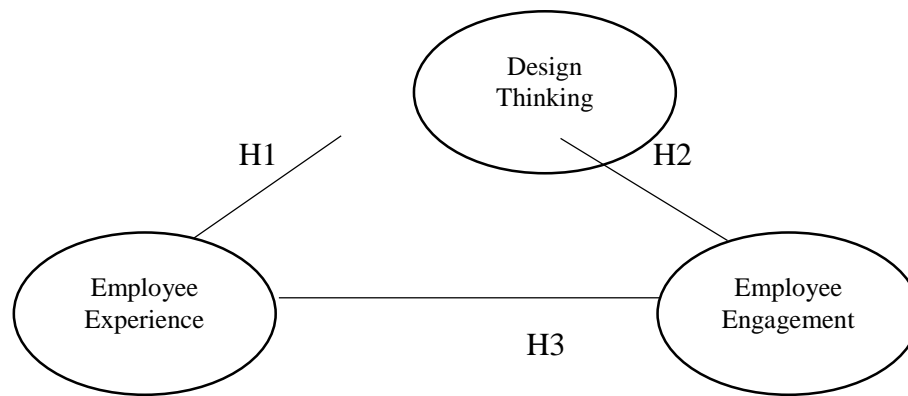


Figure 1 Theoretical Model of the study

Based on the hypothesis formulated for the study Figure 1 explains the relationships among the three variables design thinking, employee experience, and employee engagement.

### Research Methodology

A well-structured questionnaire was carefully prepared for the collection of primary data. Three main questions were designed for collecting the required data for design thinking, employee experience, and employee engagement. The statements framed under design thinking was inspired by a boot camp guide, An Introduction to Design Thinking Process Guide (2010), published by The Hasso Plattner Institute of Design at Stanford. Modifications were made to suit the human-centric approach of design thinking. For the statements framed under employee experience, the base model was influenced by a research study conducted by IBM on -The Employee Experience Index (2016). Lastly, when framing the statement for employee engagement a research study conducted by William H. Macey and Benjamin Schneider (2008) was used as a reference. Changes were made to best suit the nature of the study that was to be conducted.

Multiple choice and Likert scale questions were carefully framed to study the significance of design thinking to boost employee experience in lean start-ups as specified in the theoretical model of the study in Figure 1. To collect data an online and offline survey was administered to employees working with lean start-ups in the area of Chennai using convenient and random sampling method. 103 responses were considered for the study. Data were entered into the Statistical Package of Social Sciences (SPSS) ver. 20.0 and Reliability Analysis was run. Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) was analysed on Analysis of a Moment Structures (AMOS) ver. 21.0 for analysis.

## Analysis & Findings

The objective of the study was to study the relationships between design thinking, employee experience, and employee engagement. In order to measure the internal consistency data, the items under each group were tested for reliability using Cronbach's alpha. The results showed that the results under each group were acceptable as they ranged from 0.926 to 0.724; design thinking (0.926), employee experience (0.931), and employee engagement (0.724). This data as accepted in accordance with the rule of thumb of 0.07 (Nunnally, 1978). Another test called confirmatory factor analysis (CFA) was conducted. This procedure was done using AMOS, and factor loadings of items above 0.50 were taken. Several criteria were considered for assessing the structural model and making sure that it fits the data well. Certain factors that were insignificant to the model were eliminated. To identify the most significant and meaningful modifications, modification indexes were used to improve the fit of the model and to make theoretical sense.

After normalizing the data and conducting confirmatory factor analysis, the structural equation modelling (SEM) was then drawn using AMOS software. The structural model was used to test the hypothesized relationships in the proposed model shown in Figure 1. The structural equation modelling technique enables the simultaneous estimation of multiple regression equations in a single framework. The model was estimated using maximum likelihood method. Browne and Cudeck (1992) specified that a model whose root mean square error approximation (RMSEA) is less than 0.05 has a close fit; an RMSEA of less than 0.08 has a good fit. Chin and Todd (1995) suggest that the GFI and NFI should be above 0.90 and the AGFI above 0.80 for a good fit. The CFI should also be above 0.90 (Bentler, 1990). The Table 1 lists the recommended values of various measures of model fit. Based on the results shown in Table 1, it can be said that the structural model achieved an adequate fit for the data.

Table 1 Goodness-of-Fit Results of the study

Goodness of Fit Measures	$\chi^2$	Df	$\chi^2 / df$	GFI	RMSEA	AGFI	TLI	CFI	NFI
Desired Ranges for Good Model Fit	$p > .05$	$\geq 0$	2 to 5	$> .90$	$< .08$	$> .90$	$> .90$	$> .95$	$> .90$
CFA Model	15.732	11	1.430	0.960	0.065	0.898	0.974	0.987	0.958
SEM Model	12.813	11	1.165	0.967	0.039	0.916	0.990	0.995	0.966

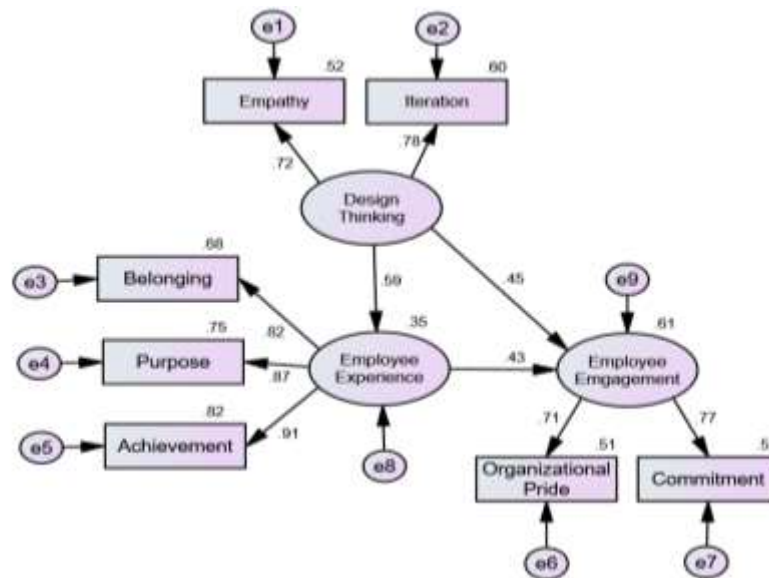


Figure 2 Revised Structural Equation Model of the study

As shown in Table 2, the regression weight of design thinking to employee experience ( $t = 4.582$ ;  $p < .05$ ), design thinking to employee engagement ( $t = 2.821$ ;  $p < .05$ ) and employee experience to employee engagement ( $t = 3.126$ ;  $p < .05$ ) were significant. This indicated that design thinking and employee experience had a significant direct effect on employee engagement. The estimation results in Table 2 indicate that the three hypotheses, H1 (design thinking → employee experience), H2 (design thinking → employee engagement) and H3 (employee experience → employee engagement), are strongly supported, with standardized path coefficients of 0.743, 0.396 and 0.297 respectively.

Table 2 Hypothesis Testing Results of the study

Path	Estimate	S.E.	C.R.	P
<b>Design Thinking → Employee Experience</b>	0.761	0.166	4.582	***
<b>Design Thinking → Employee Engagement</b>	0.396	0.14	2.821	0.005
<b>Employee Experience → Employee Engagement</b>	0.297	0.095	3.126	0.002



## Discussion and Conclusion

The aim of the study was directed toward examining the effects of design thinking, employee experience and employee engagement in lean start-ups. The findings in the first hypothesis indicated that design thinking has a positive effect on employee experience of employees working in lean start-ups. The study pointed out that empathy towards the employees and being prepared for keeping work functions susceptible to iteration in order to attend to any factors slowing down the efficiency of the employees in their work environment was of significance. As covered in previous studies (Tim Brown 2009, Lucy Kimbell 2009, a guide on design thinking by the d.school 2010 and Eric Lesser et al. 2016) findings suggest that the iteration in design thinking is much needed as its aim is problem-solving, it needs to be implemented more in human-related organisational functions apart from products and services. It brings about lean management of employees which ultimately results in creating a positive working environment for the employees in completing their responsibilities, forming positive co-worker relationships and being provided with an efficient workspace.

The next relationship that was perceived during the study resulted in design thinking and employee engagement. It was found that design thinking had a positive effect on employee engagement of employees working in lean start-ups. The presence of having a sense of belonging, purpose, and achievement by the employees was overviewed in order to understand how far the employees in the lean start-ups were experiencing a positive employee experience. As discerned in recent studies (Tracy Maylett and Matthew Wride 2017, Josh Bersin et al. 2017 and an IBM Corporation research study 2016) it supports the positive significance of employee experience and employee engagement. Organisations with an engaged workforce are known for their profitability and enjoy growth. In fact, companies need to be competitive in keeping their employees engaged in order to retain their talented human capital.

The final relation that of significance in the study was the relationship between employee experience having a positive effect on employee engagement of employees working in lean start-ups. The study showed that engaged employees had a sense of organizational pride and felt committed to their company. Studies by authors Solomon Markos and M. Sandhya Sridevi 2010, Ologbo C. Andrew, Saudah Sofian 2012, Owais Nazir and Jamid Ul Islam 2017, Arti Chandani et al 2016 and William H. Macey and Benjamin Schneider

(2008) support the significance of designing a feasible work design. The design thinking will contribute toward creating employee engagement which can be recognized through the level of pride and commitment the employee has towards his job and organization. Engagement is an outcome which cannot be forced on to the employees by the organization. It is something that is to nurtured organically by designing the right experiences in any organization. This in return will aid in improving the productivity of the employees and profitability of the organization.

Based on the support from the findings of the study conducted design thinking, employee experience and employee engagement in lean start-ups shared a positive effect on their relationships. It can be said that start-ups can expect positive growth in their companies by administering special focus on the applying design thinking for bettering the work environment of their employees, creating a better employee experience and aiming at encouraging employee engagement.

### **Recommendations for Further Research**

The study can be replicated using different variables that affect employee engagement apart from design thinking and employee experience as used in this study. Different approaches to this study can be explored. Although the SEM provides a good fit to the hypothesized model, future research could use a different design to examine the causal relationships posted by the theories related to employee engagement such as to explore other variables that enhance employee engagement. Research can be conducted on different study groups just as this study was based on lean start-ups.

### **References**

1. Andrew Ologbo, C., and Sofian, Saudah. (2012). Individual Factors and Work Outcomes of Employee Engagement. *Procedia - Social and Behavioral Sciences*. Vol 40. pp.498-508. Retrieved from <http://www.sciencedirect.com/>
2. Bentler, P., (1990). Comparative fit indexes in structural models. *Psychological Bulletin* 107, pp.237-246.

3. Bersin, Josh et al. (2017). The Employee Experience Culture, Engagement, and Beyond. Deloitte Global Human Capital Trend Report. 51-62. Retrieved from <https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2017/improving-the-employee-experience-culture-engagement.html>
4. Browne, M.W., and Gudeck, R., (1992), Alternative ways of assessing model fit. In: Bollen, K. A., Long, J. S.(Eds.), Testing Structural Equation Models, Sage, Beverly Hills, CA.
5. Brown, Tim. (2013). Change by Design [Kindle Version]. Retrieved from <http://www.amazon.in/>
6. Chandani, Arti et al. (2016). Employee Engagement: A Review Paper on Factors Affecting Employee Engagement. Indian Journal of Science and Technology. Vol 9 (15). pp. 1-7. Retrieved from <http://www.indjst.org/>
7. Chin, W.W., & Todd P.A., (1995), On the use, usefulness, and case of use of structural equation modeling in MIS research: a note of caution. MIS Quarterly 19(2), pp.237-246.
8. Kimbell, Lucy (2009). Beyond design thinking: Design-as-practice and designs-in-practice, Paper presented at the CRESC Conference, Manchester. Retrieved from [https://www.academia.edu/3278345/Beyond\\_design\\_thinking\\_Design-as-practice\\_and\\_designs-in-practice](https://www.academia.edu/3278345/Beyond_design_thinking_Design-as-practice_and_designs-in-practice)
9. Lesser, Eric et al. (2016) Designing employee experience How a unifying approach can enhance engagement and productivity. IBM Corporation. Retrieved from <https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=GBE03735USEN>
10. Macey, W. H., and Schneider, B. (2008). The Meaning of Employee Engagement. Industrial and Organizational Psychology. Vol. 1. pp. 3-30. Retrieved from [https://www.researchgate.net/publication/255593558\\_The\\_Meaning\\_of\\_Employee\\_Engagement](https://www.researchgate.net/publication/255593558_The_Meaning_of_Employee_Engagement)
11. Markos, Solomon., and Sridevi Sandhya, M. (2010). Employee Engagement: The Key to Improving Performance. International Journal of Business and Management, Vol. 5 (12). pp. 89-96. Retrieved from <http://www.ccsenet.org/journal/index.php/ijbm>
12. Maylett, Tracy., and Wride, Matthew. (2017). The Employee Experience How to Attract Talent, Retain Top Performers, and Drive Results [Kindle Version]. Retrieved from <http://www.amazon.in/>

13. Morgan, Jacob (2017). The Employee Experience Advantage How to Win the War for Talent by giving Employees the Workspaces they want, the Tools they Need, and a Culture they can Elaborate [Kindle Version]. Retrieved from <http://www.amazon.in/>
14. Nazir, Owais., and Islam, Jamid Ul. (2017). Enhancing organizational commitment and employee performance through employee engagement An empirical check. South Asian Journal of Business Studies. Vol. 6 (1), pp. 98-114. Retrieved from <http://www.emeraldinsight.com/loi/sajbs>
15. Nunnally, J. C. (1978). Psychometric theory (2nd edition). New York: McGraw-Hill.
16. The Employee Experience Index. (2016). IBM Corporation and Globoforce Limited. New York. Retrieved from [http://www.globoforce.com/wp-content/uploads/2016/10/The\\_Employee\\_Experience\\_Index.pdf](http://www.globoforce.com/wp-content/uploads/2016/10/The_Employee_Experience_Index.pdf)
17. The Hasso Plattner Institute of Design. (2010). Stanford. Retrieved from <https://dschool-old.stanford.edu/sandbox/groups/designresources/wiki/36873/attachments/74b3d/ModeGuideBOOTCAMP2010L.pdf>
18. Steve Blank. (2013, May). Why the Lean Start-Up Changes Everything. Harvard Business Review. Retrieved from <https://hbr.org/2013/05/why-the-lean-start-up-changes-everything>

---

<sup>i</sup> Morgan, Jacob (2017). The Employee Experience Advantage How to Win the War for Talent by giving Employees the Workspaces they want, the Tools they Need, and a Culture they can Elaborate [Kindle Version]. Retrieved from <http://www.amazon.in/>

<sup>ii</sup> Paul, Eliza.( 2017, August 5). Employee Engagement: A Key HR Strategy. Retrieved from <http://www.emptrust.com/blog/employee-engagement-a-key-hr-strategy>

<sup>iii</sup> Brown, Tim. (2013). Change by Design [Kindle Version]. Retrieved from <http://www.amazon.in/>

<sup>iv</sup> 17. The Hasso Plattner Institute of Design. (2010). Stanford. Retrieved from <https://dschool-old.stanford.edu/sandbox/groups/designresources/wiki/36873/attachments/74b3d/ModeGuideBOOTCAMP2010L.pdf>

<sup>v</sup> Kimbell, Lucy (2009). Beyond design thinking: Design-as-practice and designs-in-practice, Paper presented at the CRESC Conference, Manchester. Retrieved from

[https://www.academia.edu/3278345/Beyond\\_design\\_thinking\\_Design-as-practice\\_and\\_designs-in-practice](https://www.academia.edu/3278345/Beyond_design_thinking_Design-as-practice_and_designs-in-practice)

<sup>vi</sup> Lesser, Eric et al. (2016) Designing employee experience How a unifying approach can enhance engagement and productivity. IBM Corporation. Retrieved from <https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=GBE03735USEN>

<sup>vii</sup> Markos, Solomon., and Sridevi Sandhya, M. (2010). Employee Engagement: The Key to Improving Performance. International Journal of Business and Management, Vol. 5 (12). pp. 89-96. Retrieved from <http://www.ccsenet.org/journal/index.php/ijbm>

<sup>viii</sup> Andrew Ologbo, C., and Sofian, Saudah. (2012). Individual Factors and Work Outcomes of Employee Engagement. Procedia - Social and Behavioral Sciences. Vol 40. pp.498-508. Retrieved from <http://www.sciencedirect.com/>

<sup>ix</sup> Nazir, Owais., and Islam, Jamid Ul. (2017). Enhancing organizational commitment and employee performance through employee engagement An empirical check. South Asian Journal of Business Studies. Vol. 6 (1), pp. 98-114. Retrieved from <http://www.emeraldinsight.com/loi/sajbs>

<sup>x</sup> Chandani, Arti et al. (2016). Employee Engagement: A Review Paper on Factors Affecting Employee Engagement. Indian Journal of Science and Technology. Vol 9 (15). pp. 1-7. Retrieved from <http://www.indjst.org/>

<sup>xi</sup> Macey, W. H., and Schneider, B. (2008). The Meaning of Employee Engagement. Industrial and Organizational Psychology. Vol. 1. pp. 3-30. Retrieved from

[https://www.researchgate.net/publication/255593558\\_The\\_Meaning\\_of\\_Employee\\_Engagement](https://www.researchgate.net/publication/255593558_The_Meaning_of_Employee_Engagement)

<sup>xii</sup> Maylett, Tracy, and Wride, Matthew. (2017). The Employee Experience How to Attract Talent, Retain Top Performers, and Drive Results [Kindle Version]. Retrieved from <http://www.amazon.in/>

<sup>xiii</sup> Bersin, Josh et al. (2017). The Employee Experience Culture, Engagement, and Beyond. Deloitte Global Human Capital Trend Report. 51-62. Retrieved from

<https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2017/improving-the-employee-experience-culture-engagement.html>

<sup>xiv</sup> The Employee Experience Index. (2016). IBM Corporation and Globoforce Limited. New York. Retrieved from [http://www.globoforce.com/wp-content/uploads/2016/10/The\\_Employee\\_Experience\\_Index.pdf](http://www.globoforce.com/wp-content/uploads/2016/10/The_Employee_Experience_Index.pdf)

