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REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

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APPENDIX/ANNEXURE

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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

A REVIEW OF CERTIFICATION AS A TOOL FOR EMPLOYEE DEVELOPMENT

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ABSTRACT

The telecom technology has evolved significantly over the last decade. In fact, over the last few years several path breaking innovations have changed the face and architecture of the telecommunication industry. In an age of unprecedented business and economic turmoil an organization's ability to sustain and consolidate will depend on creating a harmony among its intellectual and capital assets. The telecom environment calls for increased agility of its manpower to rapidly adapt to the changing technological landscape. In this scenario, certification of employees has renewed importance and demonstrates expertise within job roles. Certification process helps in identifying the knowledge gaps and provides an objective validation of an individual's competencies. It enables individuals to move step up their productivity, move up the corporate ladder faster while positively impacting network performance and quality. This paper empirically links the certification process to enhanced competency development of the employees through primary research data garnered over a period of two years localized to the telecom industry.

KEYWORDS
KSA, competency development, organizational learning, employee certification, knowledge gaps.

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1.0 INTRODUCTION

Globalization of the telecommunications industry is driving the need for set of quality requirements synonymous with reduced costs, improved performance and enhanced customer satisfaction. This study is based on the data garnered from a leading Indian integrated Telecom Company with over 160 million subscribers and a Pan-India, high-capacity, integrated (wireless and wireline), convergent (voice, data and video) digital network offering services spanning the entire communication value chain.

The modern day telecom network is a convergence ready broadband network, spread over large geographical area through terrestrial, submarine and satellite links, with a scalable and restorable global NGN footprint, MPLS enabled CORE data network, certified MEN network, integrated BSS-OSS to support complex suite of services with end-to-end connectivity provided over fiber.

The network group is responsible with planning, deployment, monitoring and maintenance of overall telecom network. The primary network functions include Planning & Engineering, Installation & Commissioning, Provisioning & Fault Management, Operation, Maintenance, Performance & Administration (OMAP), Quality and other Support functions. The Learning Center (LC), an ISO 9001:2008 certified entity was established in the year 2002. Over the past ten years, LC has trained & certified more than 56,000 employees through instructor led trainings as well as distance learning programs. In addition, over 61,000 employees were certified using proprietary self-learning methodologies. The LC portfolio comprises of over 220 Instructor Led Training (ILT) courses and 92 Self Learning Modules (SLM) on cutting edge telecom equipment, technologies and services covering all telecom layers. The LC lead trainers (Subject Matter Experts – SME) are functionally aligned to the domain experts. Learning & Development function ensures the readiness of the organizational manpower to quickly adapt to the technological advancements and maintaining high quality standards as per the business requirements.

2.0 RESEARCH PROBLEM

As networks continue to evolve, the demand for professionals who have the skills and training needed to manage and maintain converged technologies continues to grow. As a result, matching the right talent with the right jobs will be more important than ever and increasingly more difficult.

The Shortage of talent in the telecom domain is one of the main impediments for further growth and development in this sector. The Indian economy grew more than 8% on average over the past 5 years, including the year of the unprecedented financial crisis in 2009. The quantitative expansion is widely perceived to have led to an average decline in the quality engineers, the challenge is to create an internal knowledge pool through certification.

The Indian telecom sector is witnessing great competition among public sector enterprises like MTNL and BSNL and private sector players including Airtel, Aircel, Idea, MTS, Reliance, Tata, Vodafone Videocon and Uninor. With more and more players entering the industry, the competition in the industry in terms of attracting and retaining the talent is also increasing. The key problems that form the basis of this research study can be summarized as under:

- The telecom sector has a huge demand for certified engineers
- With Attrition rates of 25 to 30 percent, the biggest challenge for organizations is to create a competent technical manpower pool to take care of the current and future network requirements

3.0 LITERATURE SURVEY

The literature survey focuses on works relevant to organizational learning. The major works listed in this section are the ones that have influenced the LC training and certification model. The research work titled 'How Much Do High-Performance Work Practices Matter? A Meta-Analysis of their Effects on Organizational Performance' includes data from a survey of more than 19,000 organizations and establishes the linkage between organizational learning and organizational performance. The impact of vertical alignment of HR practices and their support to strategic business objectives and work context were enumerated as a part of the study. The employee (especially fresh recruits) engagement activities, like mentoring, initiated by the LC are in consonance with the above studies (Combs, 2006).

SKILL SHORTAGE IN FRESH ENGINEERING GRADUATES
Skill shortage remains one of the major constraints to continued growth of the Indian economy. This employer survey seeks to address this knowledge-gap by answering three questions (Blom Andreas, Saeki Hiroshi, 2011)

- Which skills do employers consider important when hiring new engineering graduates?
- How satisfied are employers with the skills of engineering graduates?
- In which important skills are the engineers falling short?

The results confirm the widespread dissatisfaction with the current engineering graduates—64 percent of employers not satisfied with the quality of the new hires. The factor analysis of the data collected reveals that employers perceive Soft Skills (Core Employability Skills and Communication Skills) to be very important. Skill gaps are particularly severe in the higher-order thinking skills ranked according to Bloom's taxonomy. In contrast, communication in English has the smallest skill gap, but remains one of the most in-demand skills by the employers. Although employers across India require the same set of soft skills, the demand for professional skills differ greatly based on economic sectors, geographic regions and organizational size. The key recommendations of the survey for engineering education institutions are as listed below:

- Improve technology skill sets of graduate engineers
- Provide soft skill training to students
- Refocus the assessments, teaching-learning process, and curricula away from lower-order thinking skills, such as remembering and understanding, toward higher-order skills, such as analyzing and solving engineering problems, as well as creativity
- Interact more with employers to understand the particular demand for skills in that region and sector

Providing the future engineers with a comprehensive set of industry recognized skill sets would improve their employability and ultimately the development of the nation. Large economic sectors, such as IT, infrastructure, power and water, rely critically upon engineering skills and technologies. This survey provides new insights on specific skills that are important for employers and highlights areas where the graduates currently fall short. The three main considerations with respect to the education of budding engineering graduates include:

- The quality improvements in education lie squarely within the scope of pedagogy, education policy and education management
- The engineers evaluated by employers should be seen as the end product of the entire education system, not just engineering education. The engineering colleges receive graduates from the secondary education system with a set of skills upon which they add. In particular, the Soft Skills are influenced by a prior schooling and the family setting

Learning Theories (Chetley and Vincent, 2003)

There are usually three models of learning described in the literature – acquisitive, constructivist and experiential. The acquisitive model describes a process of acquiring knowledge and skills, to add to existing knowledge in order to achieve a goal. This model emphasizes the achievement of desired outputs, with little attention to the role of the learner. The constructivist model explores the process of developing one's existing structure of knowledge. Its primary focus is on learning as changing one's understanding and is seen as a product of the relationship between what the learner already knows and can do, what the learner thinks the topic is about and what it will take to learn it, and what the trainers, teachers or facilitators do, the learning tasks they set and how these are interpreted by the learners. The experiential model sees learning as a process – one through which any experience is transformed and where learning is seen as the production of knowledge through the reflection upon and transformation of experience. There is considerable support for the use of the experiential model as the most effective approach to use with adult learners.

Learning theories, focusing on the process, can in general be classified in to four different orientations –the behaviorist, the cognitive, the humanistic and the social/situational.

ORGANIZATIONAL LEARNING THEORIES

The intimate relationship between learning and working life is one that does not easily lend itself to analysis partly, because it is embedded in the dynamics of our human engagement with the challenges of living and working. No one single perspective in current learning theory is sufficient to capture fully the multiple connections and possibilities that learning creates and from which it emerges (Antonacopoulou, 2006). Argyris and Schön in their important book in 1978 made the distinction between organizations with and without the capacity to engage insignificant learning (Easterby-Smith and Lyles, 2003). Numerous theories are proposed by authors, each one focusing on a precise element of the phenomenon: the learning object (information, knowledge, competencies), the learning subject (individual, organization), the learning trigger (error, innovation, environment change) or on the process itself (socialization, codification) (Fillol, 2006).

ORGANIZATIONAL LEARNING

Hau (2005) recognized that the term Organizational Learning has been defined from three different views. The first view emphasizes organizational learning as a process. Authors of this group view learning as cognition or information processing. They offer definitions such as: organizational learning is the development of insights, knowledge and associations between past actions, the effectiveness of those actions, and the future actions. In contrast, the second group emphasizes the outcomes of organizational learning i.e. change of behavior, improvement of organizational effectiveness. For example, organizational learning was defined as increasing an organization's capacity to take effective action and as a change in the behavior of individuals or groups within an organization, leading to changes in the behavior of the organization itself. The third group integrates both views by offering definitions that link the learning process and it outcomes. Tsang (1999) noted that "at the moment definitions are as many as there are writers on the subject".

KOLB LEARNING CYCLE

In 1984 David Kolb developed a four stage model of how individuals learn from experience which involves doing, reflecting, connecting and testing in a continuous cycle (see Figure 2.2). In this model, learning starts by taking action, then reflecting on the outcomes of the action, making connections with what we already know and understand and then testing those connections and new ideas through further action. The doing and reflecting stages of the cycle belong more to the concrete real world whereas connecting and testing are more abstract. The doing and testing stages are more action oriented whereas the reflecting and connecting stages are more reflective in nature. The learning cycle model underpins the concept of individual 'learning styles': the idea that each person has preferences for one or more stages in the learning cycle.

FIGURE 1: KOLB LEARNING CYCLE
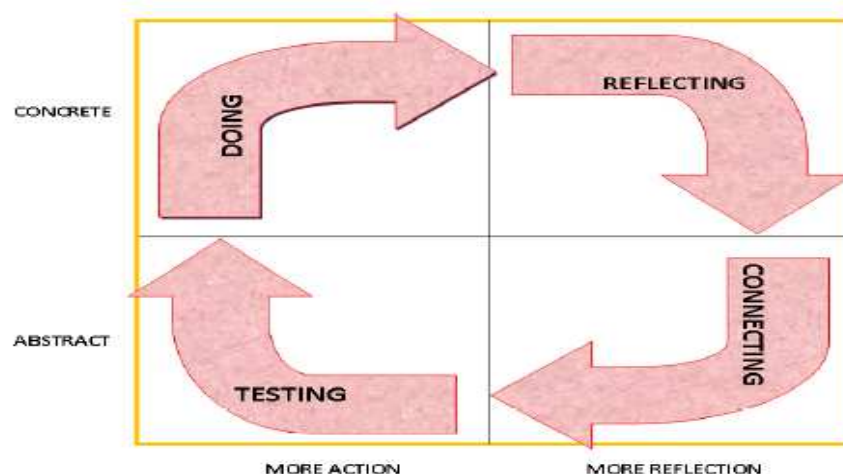
Source: Adapted from Britton, 2002

INTERACTION Vs. INFORMATION PERSPECTIVE

Seen from an Information Perspective the organization consists of information systems and decision-making systems and has roots back to the so-called behavioral theories of the 1960s. In other words, the organization is seen as a system with its own principles and regulation mechanisms. The individual only constitutes a small part because it is systems, structures and procedures that are in focus. It is the organization's formal system or frames for learning that is in focus, while the Interaction Perspective is more concerned with the organization's informal system or learning environment and a certain kind of behavior. Both these approaches

are necessary to explain the Learning Organization. A Learning Organization embodies both frames for learning in the organization's formal system (structure, IT and management systems) and a culture and behavior in the organization's informal system (a learning environment characterized by reflection and knowledge sharing (Thomsen and Hoest, 1999).

Pedler *et al's* MODEL OF THE LEARNING ORGANISATION

The model proposed by Pedler et al in 1991 has the following elements of management incorporated to support learning (Birdthistle, 2006): (1) A learning approach to strategy (2) Participative Policy Making (3) Informating (4) Formative accounting and control (5) Internal exchange (6) Reward Flexibility (7) Enabling structures (8) Boundary workers as environmental scanners (9) Inter-company learning (10) Learning climate and (11) Self-development opportunities for all. This model of Learning Organization as presented in figure 2.11 provides comprehensive aspects of learning at all organizational levels.

INDIVIDUALS AS LEARNING ENTITY IN AN ORGANIZATION
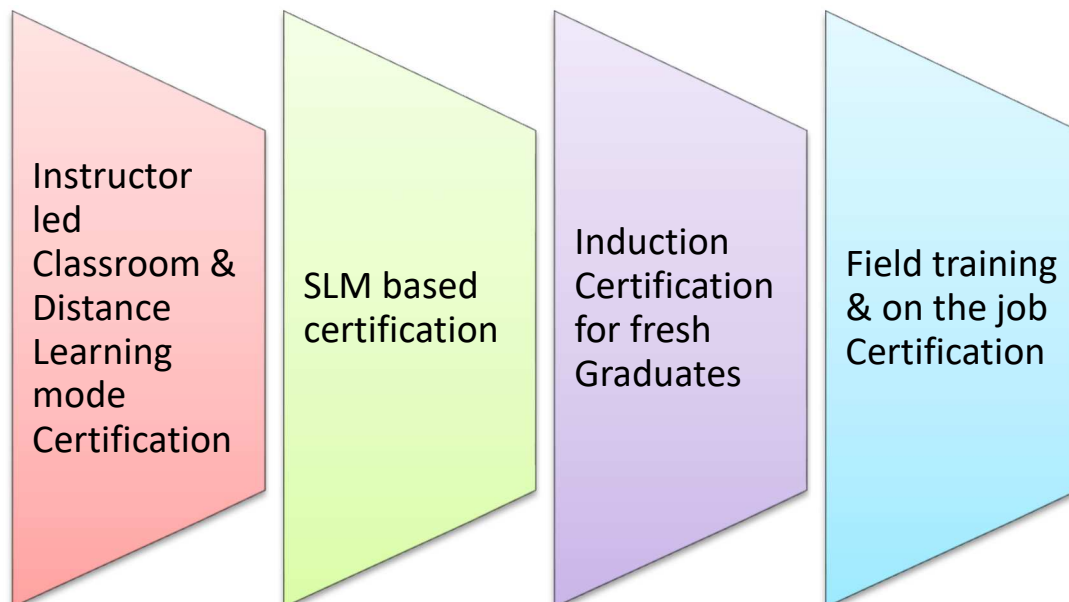
The concept that organizational learning as the sum of learning of individuals is suggested by some authors as pointed out by Huys & Hootegem (2001). Pralahad, for instance, felt that much of corporate downsizing represents a lost opportunity in that what the older employees have learned disappears. But an organization that is so heavily dependent on what its individuals have learned is typically characteristic of a lack of learning at the organizational level (Huys & Hootegem, 2001). According to Simon (1991) "All learning takes place inside individual human heads".

4.0 CERTIFICATION METHODS

Certifications are globally accepted means of establishing as well as assessing the essential set of credentials required for a job. They provide organizations with compelling evidence of the competence of its employees to perform the tasks assigned (or could be assigned in future). They also provide the management with an internationally accepted benchmark against which both current and prospective employees can be assessed.

In order to foster a culture of continuous learning through a series of learning initiatives, the employees depending upon their band, role, function and sub-function are required to attend a set of pre-determined Certification Programs. In addition, employees also have to do self-learning – both voluntary and mandatory by taking up self-learning modules and getting themselves certified through objective validation tests administered online through pre-determined windows. Employees are provided with e-certificates after successfully passing the validation exams. Credits obtained through voluntary self-learning are also considered when an employee wishes a role change (once in 2 years). The certification process is illustrated in the figure 2.

FIGURE 2: CERTIFICATION METHODS

Instructor led Classroom & Distance Learning mode Certification

SLM based certification

Induction Certification for fresh Graduates

Field training & on the job Certification

4.1 CERTIFICATION OF FRESH ENGINEERS

The certification program is conducted by LC trainers to provide the recruits with insights to design, develop and maintain modern day telecom networks. The eight week Certification program presents an opportunity to imbibe skills required for their job function and prepares them for new role by providing training, tools and knowledge required to successfully integrate with the job and organizations. The certification program helps in developing:

- Technology, Concepts & its practical application within the Network
- Understanding of the modern day telecom network architecture, products and their functionalities
- Trainings on soft skills to enhance communication skills, time management skills, team building & interpersonal skills
- Exposure to integrated technology labs for equipment and management systems hands-on practice
- Troubleshooting & problem solving skills on live network
- Network Provisioning and O&M skills for Fault surveillance and performance management of live telecom networks
- Understanding ground realities through field visits

On successful completion they are certified to be placed on the Network roles with clear-cut KRA's and deliverables with further certifications timeline.

4.2 CERTIFICATION PROCESS

- The certification process is mandatory for all fresh graduates irrespective of their function and location
- The certification exams would be administered online
- There are total of 12 certification exams to be completed by fresh graduates
- Six certification exams will be administered during the course of the induction Program
- The balance six certification exams have to be completed within six months of joining the organization as per pre-notified certification windows
- Employees securing 80% and above in the exam are issued e-certificates
- The maximum number of attempts per certification exam is limited to three

4.3 SLM BASED CERTIFICATION

Self Learning Modules (SLMs) are learning solutions designed for participants to facilitate anywhere, anytime and on demand learning. SLMs are animated audio-video presentations that offer a flexible learning option to employees. SLM duration is typically between 30 minutes to 60 minutes and are based on generic topics ranging from technology or product overview to specialized topics including Operation & Maintenance of telecom equipments, demonstration of maintenance activities etc. An advanced version of an SLM, Interactive SLM (i.SLM) simulates live scenarios thereby offering real time experience to the learners. These modules help an employee optimize their time spent in learning and contribute to improved productivity and operating efficiency.

SLMs were introduced in the year 2008 to provide fast track learning opportunities and 100% certification of engineers working in the field. A set of authoring tools were used to introduce required animations, relevant video clips and other documents into the presentations. Concepts and information are conveyed using simple audio visual explanation and even using vernacular languages. The benefits of these innovations were further extended to various other groups of employees of the network.

- "Must know technical know-how" is passed on as a set of procedure to follow
- It is available to participants before he/she attends formal training
- It can be referred any time after the training
- Faster deployment as compared to conventional classroom training, which has limited seats to accommodate at given point of time
- Provides the ability to control the learning pace to suit the convenience and capabilities of the learners
- Interactive SLMs (*i*SLM) help simulate the on-field network conditions
- Improved understanding of core concepts and the consequent positive impact on network performance
- It reduces queue time (conventional classroom) for learning

SLMs improve the understanding of core concepts while simplifying the efforts to assimilate complex topics. Self-Learning can be done by an employee at their convenience. It helps them prepare for subsequent in-class discussions, improves understanding and retention. The benefit summary is as enumerated below:

LC prepares SLMs nearly on all telecom domains. On one hand, these SLMs serves as a pre-requisite material or a supplement to the main course, whereas, on the other hand SLMs are complete learning capsules in itself. Employees undergo training on SLM to draw level with the advancements in technology and equipment. SLMs can be played repetitively to learn the subject thoroughly, which sometime is not possible in conventional classroom training (Sreenivasam Ram; Sudhir Warier; L.R.K Krishnan, 2012)

5.0 RESEARCH METHODOLOGY

This section outlines the methodology adopted for this research.

5.1 RESEARCH OBJECTIVES

1. The primary objective of this research is to validate the efficacy of the Certification model in the telecom service industry
2. To evaluate the impact of certifications on employee productivity and performance

5.2 HYPOTHESIS

H1: The certification model has a positive impact on employee performance and productivity

H2: The certification process has enhanced the knowledge & skills of the engineers and contributed to the competency development of the technical manpower in the Network function

5.3 SAMPLING DESIGN

A stratified random sampling technique was adopted for the purpose of this study. The study included the analysis of the recruitment of graduate engineers during the period 2009-2011. The performance of the recruits during the period 2009-2011 was also collected to analyze the efficacy of the Certification model. A sample size of 52 was used for this study.

5.4 DATA COLLECTION

This paper is based on primary research data collected. The paper analyzes the performance of 52 engineers who were certified in the year 2010-2012. The employee performance was captured from the online Employee Performance Management System (PMS) and validation scores were obtained from the LC MIS.

5.5 DATA ANALYSIS, INTERPRETATION AND HYPOTHESIS TESTING

Data analysis has multiple facets and approaches, encompassing diverse techniques various domains including business, science and social sciences. Initially a missing data analysis was performed on the data collected.

TABLE 1: MISSING DATA ANALYSIS

	N	Mean	Std. Deviation	Missing		No. of Extremes[a]	
				Count	Percent	Low	High
F1	50	72.20	14.076	0	.0	0	0
F2	50	97.62	5.959	0	.0	.	.
F3	32	66.87	14.013	18	36.0	0	0
F4	41	67.80	17.820	9	18.0	0	0

Interpretation: Missing analysis test was performed on the tabulated data. The missing performance data was automatically imputed using the SPSS algorithm in order to increase the statistical validity, as indicated in table 2.

TABLE 2: MISSING DATA DISCOVERY AND COMPUTATION

	RESULT VARIABLES				
	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	F1_1	0	1	50	50	SMEAN (F1)
2	F2_1	0	1	50	50	SMEAN (F2)
3	F3_1	18	1	50	50	SMEAN (F3)
4	F4_1	9	1	50	50	SMEAN (F4)

The descriptive data for the new values are provided in table 3.

TABLE 3: DESCRIPTIVE STATISTICS

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SMEAN(F1)	50	56.0	44.0	100.0	72.200	14.0756	198.122	-.474	.337	-.348	.662
SMEAN(F2)	50	17.0	83.0	100.0	97.620	5.9587	35.506	-2.140	.337	2.684	.662
SMEAN(F3)	50	60.0	40.0	100.0	66.875	11.1461	124.235	.738	.337	2.428	.662
SMEAN(F4)	50	60.0	40.0	100.0	67.805	16.1007	259.233	.505	.337	.141	.662
Valid N (listwise)	50										

Interpretation: Descriptive statistics provides summaries about the sample and about the observations that have been made including measures of central tendency (mean, median, and mode), measures of dispersion (range, standard deviation, variance, minimum and maximum), measures of kurtosis and skewness.

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Analysis of above data shows that the distribution is asymmetrical and hence non gaussian. This is verified by the running the KS Normality tests as indicated in Table 4.

TABLE 4: KS NORMALITY TEST

			Statistic	Std. Error
Validation	Mean		72.200	1.9906
	95% Confidence Interval for Mean	Lower Bound	68.200	
		Upper Bound	76.200	
	5% Trimmed Mean		72.489	
	Median		75.000	
	Variance		198.122	
	Std. Deviation		14.0756	
	Minimum		44.0	
	Maximum		100.0	
	Range		56.0	
	Interquartile Range		17.0	
	Skewness		-.474	.337
	Kurtosis		-.348	.662
Feedback	Mean		97.620	.8427
	95% Confidence Interval for Mean	Lower Bound	95.927	
		Upper Bound	99.313	
	5% Trimmed Mean		98.300	
	Median		100.000	
	Variance		35.506	
	Std. Deviation		5.9587	
	Minimum		83.0	
	Maximum		100.0	
	Range		17.0	
	Interquartile Range		.0	
	Skewness		-2.140	.337
	Kurtosis		2.684	.662
PMS	Mean		66.8750	.08015
	95% Confidence Interval for Mean	Lower Bound	66.7139	
		Upper Bound	67.0361	
	5% Trimmed Mean		66.9335	
	Median		66.8750	
	Variance		.321	
	Std. Deviation		.56675	
	Minimum		65.38	
	Maximum		67.32	
	Range		1.95	
	Interquartile Range		.52	
	Skewness		-1.759	.337
	Kurtosis		2.656	.662

TESTS OF NORMALITY

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Validation	.123	50	.058	.951	50	.039
Feedback	.515	50	.000	.412	50	.000
PMS	.257	50	.000	.701	50	.000
a. Lilliefors Significance Correction						

The normality test for the data collected (Table 4), whose graphical interpretation is provided in figures 2,3 & 4, confirm that the distribution is non Gaussian. Non parametric test is employed for hypothesis testing.
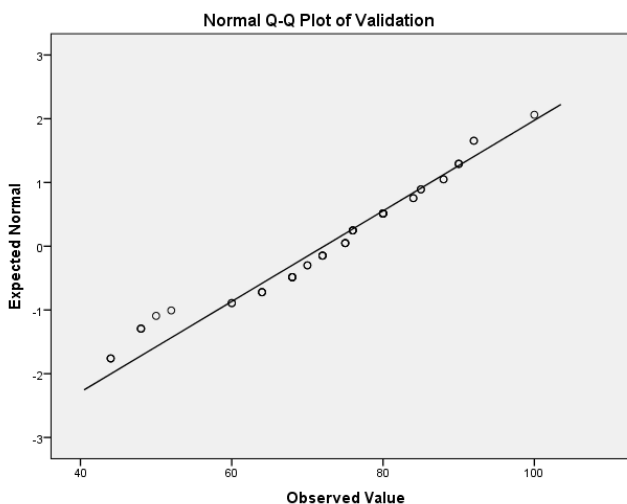
FIGURE 3: NORMAL Q-Q PLOT OF VALIDATION

Normal Q-Q Plot of Validation

FIGURE 4: NORMAL Q-Q PLOT OF FEEDBACK

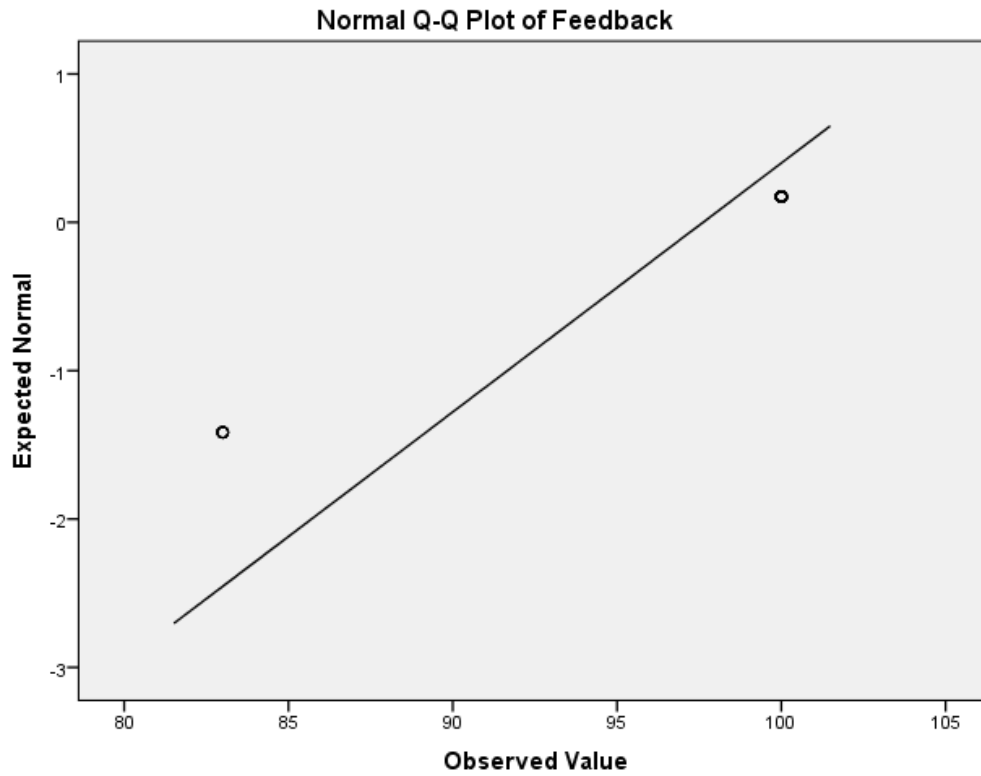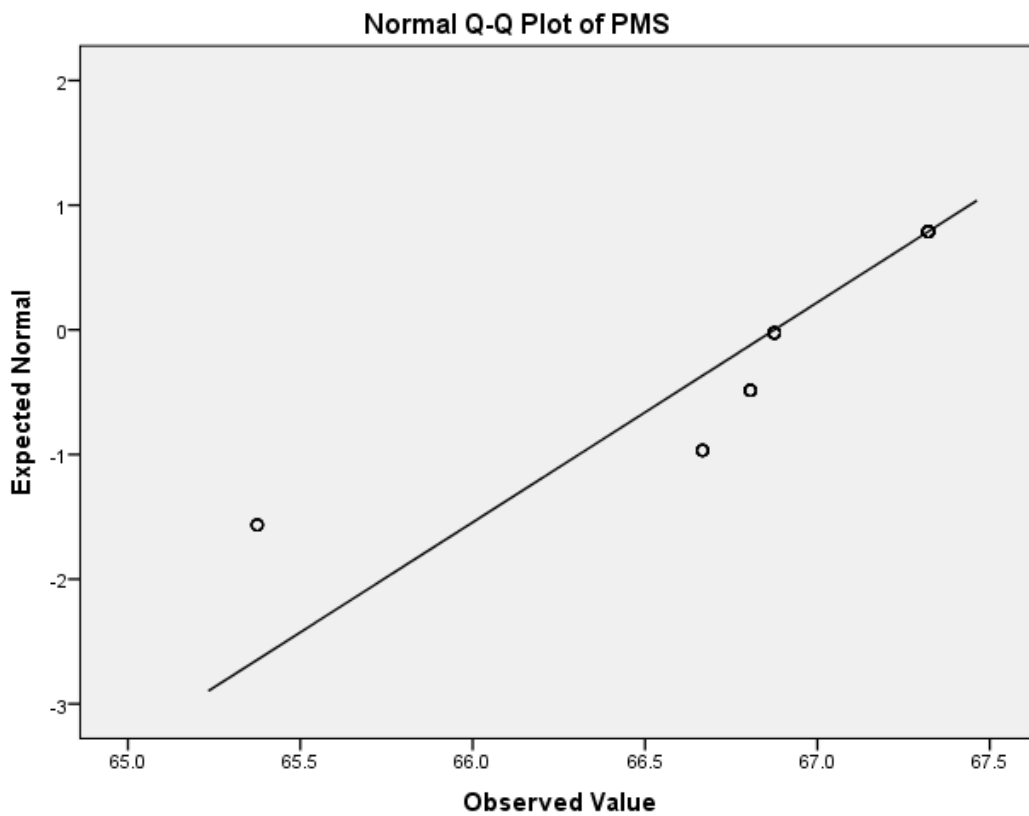Normal Q-Q Plot of Feedback

FIGURE 5: NORMAL Q-Q PLOT OF PMS

Normal Q-Q Plot of PMS

Co-relational analysis was performed in order to understand the relationship between the primary research variables. The Spearman's co-relation coefficient is computed since the distribution is non Gaussian. The Co-efficient matrix for the certification, PMS and training feedback data is provided in table 5.

TABLE 5: THE SPEARMAN'S CO-RELATION MATRIX -CORRELATIONS

Correlations			Validation	Feedback	PMS
Spearman's rho	Validation	Correlation Coefficient	1.000	.102	.142
		Sig. (2-tailed)	.	.480	.325
		N	50	50	50
	Feedback	Correlation Coefficient	.102	1.000	-.230
		Sig. (2-tailed)	.480	.	.108
		N	50	50	50
	PMS	Correlation Coefficient	.142	-.230	1.000
		Sig. (2-tailed)	.325	.108	.
		N	50	50	50

It is evident from table 5 that there is a positive co-relation between organizational learning, employee certification and On-the-job improvement. It can thus be inferred that employee certification improves organizational learning and contributes to the competency development of its employees.

HYPOTHESIS TESTING

HYPOTHESIS - 1

The hypothesis testing was done using Wilcoxon Signed Ranks Test. The Wilcoxon signed-rank test is a non-parametric statistical hypothesis test used when comparing two related samples, matched samples, or repeated measurements on a single sample to assess whether their populations mean ranks differ. The result of the test is provided in table 6. It may be noted that the p value for PMS – Validation is < 0.05. This rejects the null hypothesis.

The current market conditions dictate that organizations provide the highest level of quality across all aspects of their businesses. Certification leads to increase in product and service quality and standardization, competitive advantage in the market along with employee growth and satisfaction. It also leads to employee growth and development, standardization of product and services, increase service quality, customer satisfaction and sustainable competitive advantage. Research studies have proven that s employees who receive customized on- job-training make fewer errors in the workplace. Countless studies show organizations that invest in "human capital development" have much more favorable business results than those that do not (Combs, 2006).

It can thus be conclusively established that the **Certification Model has a positive impact on employee performance and productivity**.

HYPOTHESIS - 2

It is evident from the results in table 5 that there is a positive co-relation between organizational learning, employee certification and On-the-job improvement. Hypothesis testing was done using Wicoxon Signed Ranks Test. The value of p (PMS-Feedback) is < 0.05. The null hypothesis is thus rejected. **Employee certification improves organizational learning and contributes to the competency development of its employees**.

TABLE 6: WILCOXON SIGNED RANKS TEST

Ranks		N	Mean Rank	Sum of Ranks
PMS - Validation	Negative Ranks	37[a]	24.73	915.00
	Positive Ranks	13[b]	27.69	360.00
	Ties	0[c]		
	Total	50		
PMS - Feedback	Negative Ranks	50[d]	25.50	1275.00
	Positive Ranks	0[e]	.00	.00
	Ties	0[f]		
	Total	50		

TABLE 7: WILCOXON SIGNED RANKS TEST

Test Statistics[a]	PMS - Validation	PMS - Feedback
Z	-2.679[b]	-6.188[b]
Asymp. Sig. (2-tailed)	.007	.000

CONCLUSION

Certifications are globally accepted means of establishing as well as assessing the essential set of credentials required for a job. They provide organizations with compelling evidence of the competence of its employees to perform the tasks assigned (or could be assigned in future). They also provide the management with an internationally accepted benchmark against which both current and prospective employees can be assessed.

Certification leads to enhanced productivity and enables employees to move up the corporate ladder faster. Additionally, in a telecom environment certification results in competency development of employees which in turn leads to enhanced network performance due to reduced downtime & mean time to repair (MTTR) and enhanced network and customer quality. An internal certification culture will enable the creation of a pool of competent employees within the organization, reduced dependencies on external support and hence lower recruitment costs. The LC Certification Framework has enhanced competency development of the employees within the network group and positively impacted network performance.

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