Ashraf, R., Fendler, R., &Shrikhande, M. (2014).Impact of personality types and learning styles on performance of finance majors. Journal of Financial Education, 39(3), 47-68.

Baldwin, B. A. &Reckers, P. M. (1984).Exploring the role of learning style research in accounting education policy. Journal of Accounting Education, 2(2), 63-76.

Baker, R. E., Simon, J. R., &Bazeli, F. P. (1986).An assessment of the learning style preferences of accounting majors. Issues in Accounting Education, 1(1), 1-12.

Booth, P., & Winzar, H. (1993). Personality Biases of Accounting Students: Some Implications for Learning Style Preferences. Accounting & Finance, 33(2), 109-120. doi:10.1111/j.1467-629x.1993.tb00322.x

Buch, K., & Bartley, S. (2002). Learning style and training delivery mode preference. Journal of Workplace Learning, 14(1), 5-10. doi:10.1108/13665620210412795

Chan, S. C., &Mak, W. (2010).The use of Learning Styles Questionnaire in Macao. Industrial and Commercial Training, 42(1), 41-46. doi:10.1108/00197851011013706

Charlesworth, Z. M. (2008). Learning styles across cultures: suggestions for educators. Education+Training, 50(2), 115-127. doi:10.1108/00400910810862100

Chen, S. Y., &Macredie, R. D. (2001). Cognitive styles and hypermedia navigation: Development of a learning model. Journal of the American Society for Information Science and Technology, 53(1), 3-15. doi:10.1002/asi.10023

Chi-chang, Y., &Noi, L. S. (1994).Learning Styles and Their Implications for Cross-Cultural Management in Singapore.The Journal of Social Psychology, 134(5), 593-600. doi:10.1080/00224545.1994.9922989

Cochran, W. G. (1977). Sampling techniques.John Wiley & Sons.

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). Learning styles and pedagogy in post-16 learning: A systematic and critical review.

Freedman, R. D., &Stumpf, S. A. (1978). What can one learn from the Learning Style Inventory? Academy of Management Journal, 21(2), 275–282.

Goulding, J., & Syed-Khuzzan, S. (2014). A study on the validity of a four-variant diagnostic learning styles questionnaire. Education + Training, 56(2/3), 141-164. doi:10.1108/et-11-2012-0109

Gemmell, R. M. (2017). Learning styles of entrepreneurs in knowledge-intensive industries. International Journal of Entrepreneurial Behaviour& Research, 23(3), 446-464.

Hayes, J., &Allinson, W. (1998).Cognitive Style and the Theory and Practice of Individual and Collective Learning in Organizations.Human Relations, 51(7), 847-871. doi:10.1177/001872679805100701

Holman, D., Pavlica, K., & Thorpe, R. (1997).Rethinking Kolb's theory of experiential learning in management education the contribution of social constructionism and activity theory. Management Learning, 28(2), 135-148.

Honey, P., & Mumford, A. (1982).The manual of learning styles. Maidenhead: Peter Honey Publications Ltd.

Honey, P., & Mumford, A. (2000).The learning styles helper's guide. Maidenhead: Peter Honey Publications Ltd.

Hopkins, R. (1993). David Kolb's experiential learning machine. Journal of Phenomenological Psychology, 24(1), 46-62.

James-Gordon, Y., &Bal, J. (2001). Learning style preferences of engineers in automotive design. Journal of Workplace Learning, 13(6), 239-245. doi:10.1108/eum0000000005723

Jepsen, D. M., Varhegyi, M. M., &Teo, S. T. T. (2015). The association between learning styles and perception of teaching quality. Education & Training, 57(5), 575-587.

Kappe, F., Boekholt, L., Den Rooyen, C., & Van der Flier, H. (2009).A predictive validity study of the Learning Style Questionnaire (LSQ) using multiple, specific learning criteria.Learning and Individual Differences, 19(4), 464-467. doi:10.1016/j.lindif.2009.04.001

Katz, N. (1986). Construct validity of Kolb's Learning Style Inventory, using factor analysis and Guttman's smallest space analysis. Perceptual and Motor Skills, 63, 1323–1326.

Khatun, R. (2015). Examining the Influence of Learning Style and Demographics on Instructional Method Preference. Journal of Strategic Human Resource Management, 4(1).

Kolb, D. A. (1984).Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice-Hall.

Lancaster, S., & Di Milia, L. (2015).Developing a supportive learning environment in a newly formed organisation. Journal of Workplace Learning, 27(6), 442-456.

Manikutty, S., Anuradha, N., & Hansen, K. (2007). Does culture influence learning styles in higher education? International Journal of Learning and Change, 2(1), 70-87. doi:10.1504/ijlc.2007.014896

McKee, T. E., Mock, T. J., & Ruud, T. F. (1992). A comparison of Norwegian and United States accounting students' learning style preferences. Accounting Education, 1(4), 321-341.doi:10.1080/09639289200000049

NASSCOM. (2016). Transform Business Transform India: 2015–16 Annual Report. New Delhi, India: National Association of Software and Services Companies.

NASSCOM. (2017). The IT-BPM Sector in India: Strategic Review 2017. New Delhi, India: National Association of Software and Services Companies.

Newstead, S. E. (1992). A study of two 'quick-and-easy' methods of assessing individual differences in student learning.British

Journal of Educational Psychology, 62, 299–312.

Penger, S., &Tekavčič, M. (2009). Testing dunn&dunn's and honey&mumford's learning style theories: The case of the Slovenian higher education system. Management, 14(2), 1-20.

Pittenger, D. J. (1993).The utility of the Myers-Briggs type indicator. Review of Educational Research, 63(4), 467-488.

Pokharel, M. P., & Choi, S. O. (2015).Exploring the relationships between the learning organization and organizational performance. Management Research Review, 38(2), 126-148.

Sadler-Smith, E., Spicer, D. P. & Tsang, F. (2000). Validity of the Cognitive Style Index: replication and extension. British Journal of Management, 11, 175–181.

Seiver, D. A., Haddad, K., & Do, A. (2014). Student learning styles and performance in an introductory finance class. American Journal of Business Education (Online), 7(3), 183-190.

Sharma, A. (2009). Learning styles across culture: study on learning style of students pursuing management education in India. Management and Change, 13(1), 45-62.

Simpson, J., Schraeder, M., &Borowski, M. (2015).Enhancing the value of training: creating closer time linkages between training acquisition, application and compensation. Development and Learning in Organizations: An International Journal, 29(5), 16-18. doi:10.1108/dlo-05-2014-0037

Sirmans, D. L. (2002).Assessing organizational learning style using the organizational character index and myers-briggs type theory.Graduate School of Syracuse University, New York, United States of America.

Vince, R. (1998). Behind and beyond Kolb's learning cycle. Journal of Management Education, 22(3), 304-319.

Wyrick, D. A. (2003). Understanding learning styles to be a more effective team leader and engineering manager. Engineering Management Journal, 15(1), 27-33.

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Identification of Predictor Variables Influencing Learning Style Preferences of Knowledge Workers in Indian IT Service Companies

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Learning and development of employees is an essential process in an organization. This is fulfilled by training interventions, which can ensurebetter learnability of employees. This makes it essential to ensure that an employee is trained in an environment cohesive to individuals' learning style preferences. Indian Information Technology (IT) service companies devise learning and development programs to train large number of employees. But, the elements ensuring learnability of one employee may be significantly different from that of another employee. If organizations have to achieve excellence in learning, they need to assess learning styles of employees before providing them the training. Therefore, this research work attempts to assess learning styles of knowledge workers in Indian IT service companies. In this study, Peter Honey and Alan Mumford's Learning Styles Questionnaire (LSQ) was used to conduct primary data collection trough online platform. Thereafter, Multinomial Logistic Regression was used to identify significant predictor variables influencing learning style preferences of knowledge workers in Indian IT service companies. Practical implications of this research work can help learning and development managers in Indian IT service companies to understand learning styles preferences of knowledge workers in order to improve learnability.

Keywords: *Learning styles, Andragogy, Experiential Learning Theory, Knowledge worker, Learning Styles Questionnaire, IT Company.*

INTRODUCTION

Globalization has brought whirlwind changes in the conduction of business. In such a whirlpool, organizations need to adapt quickly to new technologies producing exponential effects, and the Indian software industry is not an exception. With a whopping revenue of US$ 143 billion, the Indian software industry is a darling sector to investors, which involves US$ 110 billion worth exports, which is approximately 49% of total Indian services export. This industry is also a regular breadwinner to 3.9 million people working under direct employment (NASSCOM, 2017). India is strengthening its position as a global resource centre for IT and ITeS services by providing digital transformation solutions to clients in North America and Europe. In the domestic market, e-Commerce is attracting investment from venture capitalist from all across the world. This is providing the base to Indian e-Commerce firms to invest in building technological platforms. The software service business provided by Indian e-Commerce firms is increasing with 33 per cent year on year growth. The IT sector contributes more than 7.7 per cent of the Indian Gross Domestic Product (GDP) (NASSCOM, 2017). It is also the largest private sector employer and leading global sourcing destination. With 1.3 million women working in the IT sector, it is

one of the biggest promoters of gender diversity. Due to its potential, the IT sector receives continuous investment from venture capitalists, boosting entrepreneurship in India (NASSCOM, 2016).

In this agile world of business, human capital is the cornerstone of an organization. Often, it is the proficiency of human capital, which can make or break the future of an organization. Nevertheless, the proficiency of human capital is not constant. Technological advancements render skills acquired by humans obsolete. Therefore, it is essential for an organization to train their employees by promoting a conducive learning environment (Lancaster & Di Milia, 2015). It is the responsibility of the human resource (HR) department of an organization to facilitate a learning environment that encourages employees not only to learn but also to develop cutting-edge skill sets (Pokharel, & Choi, 2015). The HR department provides training and development programs to encourage learning attitude among the workforce. However, learning capability of an individual is highly influenced by their learning style (Chen &Macredie, 2001). Learning styles vary depending on inclination of individuals to learn the same concepts (Coffield, Moseley, Hall, & Ecclestone, 2004).

It is the capability of employees to embrace learning in their practice, which decides the trajectory of growth of an organization. Investment in strategizing training and development plays a vital role in achieving organizational goals (Simpson, Schraeder, & Borowski, 2015). Therefore, in order to enhance the outcome of training and development programs, it is essential to assess learning styles of the participating employees. Leaders of an organization must encourage HR department to provide effective training to employees (Amitay, Popper, & Lipshitz, 2005).

LITERATURE REVIEW

Till the end of 1980's, most of the research work involved theory building by underpinning constructs in learning styles of an individual. During the span of 1981-2000, learning styles research progressed on empirical studies which were focused on learning styles of graduate and post-graduate students. With the dawn of the 21st century, awareness came regarding learning styles of employees working in organizations. Most of the work done on learning styles of employees is from UK and USA (James-Gordon &Bal, 2001; Wyrick, 2003). Looking at differences in how people learn, many researchers have even used personality type as an indicator to assess learning styles (Sirmans, 2002). It was observed that with an understanding of one's personality type, it is possible to predict preference towards particular learning styles. (Pittenger, 1993). Especially, researchers have used Myers-Briggs Type Indicator (MBTI) extensively to predict the learning styles of an individual. Therefore, it is understood that the phenomenon of personality type indicator and learning styles is coherently related (Ashraf, Fendler, &Shrikhande, 2014; Seiver, Haddad, & Do, 2014). Table 1 has key findings from highly cited empirical studies on learning styles of students in higher education settings or employees in organizations. In the Indian context, there are few studies of learning styles of students in higher education settings (Manikutty, Anuradha, &Hansen, 2007; Sharma, 2009).

Wyrick (2003) used Kolb's LSI to assess learning styles of industrial engineering students and industrial management students to understand most preferred learning style. It was a longitudinal study over a period of 1992-2000 by taking small samples from American and Swedish students in each assessment. Wyrick found that both engineering and industrial management students tend to have converger as their preferred learning styles. Penger & Tekavčič (2009) used Dunn and

Dunn's LSI and Honey and Mumford's (LSQ) to compare the results of two instruments over learning styles of students in higher education at University of Ljubljana. The study found there is no correlation between factors of two instruments viz. Dunn and Dunn's LSI and Honey and Mumford's LSI and therefore they are independent of each other. The study concludes that it is necessary for students to understand their learning style preferences in order to adapt themselves for lifelong learning.

Table 1: Key Findings from Empirical Studies				
Authors	Purpose	Sample Size (N)	Model/ Instrument	Key Findings
McKee, Mock & Ruud (1992)	To perform a comparative study on learning styles of Norwegian accounting student with their counterparts in the USA.	350	Kolb's LSI	Dominating learning styles of Norwegian accounting students is assimilator while that of their counterparts in USA, is converger.
Booth & Winzar (1993)	To find evidence of Myers-Briggs personality type bias for accounting students in Australian Universities.	200	MBTI	Myers-Briggs personality preferences are associated with significant differences in how students prefer to learn.
Chi-chang&Noi (1994)	To identify the influence of culture on learning styles.	1032	Kolb's LSI	People with science and mathematical background tend to be assimilators while those with management education tend to be accommodators.
Sadler-Smith (1999)	To provide empirical elaboration, in the context of business and management education, for models of cognitive style.	226	Onion model and Cognitive Control Model	The results provide support for the onion and cognitive control models.
James-Gordon & Bal (2001)	To investigate learning styles of engineers in the automotive design industry.	45	Honey and Mumford LSQ	No need to have different training and learning method for engineers and managers.
Buch& Bartley (2002)	To understand the relationship between learning styles preference and training delivery mode among employees.	165	Kolb's LSI	Convergers show a strong preference for computer-based delivery while assimilators show a preference for print-based delivery.
Alfonseca et al.(2006)	To understand learning style for collaborative learning in a group of students.	166	Felder and Silverman model	There exist a relationship between the ways in which students group themselves with respect to their learning styles.
Charlesworth (2008)	To identify the relationship between different cultures (Indonesian, Chinese, French) and learning styles in higher education settings.	113	Honey and Mumford LSQ	Indonesian students are preferably reflectors while Chinese are more inclined towards being activists. French students were found to have higher tendency as pragmatist.
Wyrick (2003)	To understand suitable learning style to be an effective team leader and manager.	Not Defined	Kolb's LSI	Engineers are predominantly convergers while people with management skills tend to be assimilators.
Kappe et al. (2009)	To examine the predictive validity of Honey and Mumford's learning style LSQ among higher education settings in Netherlands.	90	Honey and Mumford LSQ	LSQ revealed no predictive validity,however, we can report good test–retest reliabilities over a two year time period.

Authors	Purpose	Sample Size (N)	Model/ Instrument	Key Findings
Penger&Tekavčič (2009)	To explore learning styles of Slovenian students in higher education settings.	63	Honey and Mumford LSQ, Dunn and Dunn LSI	The study resulted in a clear extraction of all four factors of Honey and Mumford LSQ.
Chan &Mak (2010)	To examine the use of LSQ in educational settings in Macao.	135	Honey and Mumford LSQ	Differences in learning styles were found on the basis of gender among students.
Goulding & Syed- Khuzzan (2014)	To develop a four variant diagnostic learning styles questionnaire using earlier learning styles measures.	90	Kolb's LSI, Honey and Mumford LSQ, Felder and Silverman model	More thoroughly instructors understand the differences in learning styles, the better chance they have of meeting the diverse learning needs of their learners.
Jepsen, Varhegyi, &Teo (2015)	To identify relationship between students' learning styles and perception of teaching quality.	272	Honey and Mumford LSQ	Students with reflector and theorist learning styles are influenced in their perception of teaching quality.
Gemmell (2017)	To assess learning styles of entrepreneurs in knowledge intensive industry.	168	Kolb's LSI	Preference for the Kolb Active Experimentation (AE) learning mode over Reflective Observation (RO).

Table 2: Key Learning Styles Instruments			
Author	Year	Measure	Key Terms
Isabel Myers & Katharine Briggs	1962	Myers-Briggs Type Indicator (MBTI)	Perceiving- judging, sensing- intuition, thinking- feeling, extraversion- introversion
Rita Dunn & Kenneth Dunn	1975	Learning Styles Inventory (LSI)	Environmental, emotional, sociological, physiological processing
David Kolb	1976	Learning Style Inventory (LSI)	Accommodating, diverging, converging, assimilating styles
Anthony Gregorc	1977	Gregorc Style Delineator (GSD)	Concrete sequential, abstract random, abstract sequential, concrete random
Peter Honey & Alan Mumford	1982	Learning Styles Questionnaire (LSQ)	Activist, reflector, theorist, pragmatist

Synthesizing and analyzing previous literature lead to the identification of five major model (refer Table 2) which are widely cited by researchers in learning styles area. These are models which are currently at the forefront of learning styles research in different capacities.

Hayes &Allinson (1998) raised the need for assessing learning styles of employees in organization. It was found that there is a lack of empirical studies on assessing learning styles of employees in organization vis-à-vis students in higher education

settings (James-Gordon &Bal, 2001; Buch& Bartley, 2002; Wyrick, 2003; Khatun, 2015; Gemmell, 2017).

Khatun (2015) emphasized on the lack of research work to assess learning styles of employees in Indian organizations.

THEORETICAL FRAMEWORK

With this systematic literature review, it was evident that theoretical research in learning styles has matured in the 20th century. There are many

empirical studies on students in an education setting, but, learning styles area needs more empirical evidence from organizational context to plan and strategize development of human capital. Such evidence and insights on individual learning styles can immensely benefit organizations.

Kolb (1984) asserts the types of profession plays a key role in determining learning styles preferences of an individual. Baldwin &Reckers (1984) used Kolb's LSI to investigate learning styles preference for undergraduate students. They identified that students in different year of study has got significant difference in their preference for learning styles. Baker, Simon, &Bazeli (1986) also used Kolb's LSI and found that preference for a learning style is significantly related with experience of students in educational settings. They identified that final year managerial students have developed preference for Converger as their learning style. McKee, Mock, & Ruud (1992) performed an empirical study to compare learning styles preferences of accounting students from Norway and USA. They found that age and study experience in the course plays a significant role in deciding learning styles preference. Chi-chang&Noi (1994) found that educational background plays a significant role in determining learning styles preference. While educational background was used in higher education setting studies, type of jobs were taken in research studies on employees in organizations. In their study on learning styles preferences of Singaporean and USA students using Kolb's LSI they found that Assimilators have an education background in Science or Mathematics while business management students prefer Accomodators as their learning style. Khatun (2015) used Kolb's LSI to examine influence of learning styles on instructional method preference of employees in Indian organizations. She used chi-square test to find that gender, age, education and learning styles play crucial role in influencing instructional method preference of employees.

However, according to Khatun, type of industry and experience were found to be insignificant in deciding instructional method of preference. These results need to be probed further because research method used for this study is not based on robust foundation. Moreover, using chi-square technique to establish models is always under the questions.

There are studies which critic Kolb's learning styles inventory stating that it is limited factors in capturing learning styles (Vince 1988; Holman, Pavlica & Thorpe 1997; Hopkins 1993). Vince (1988) argue LSI has ignored demographics aspect related to individuals. Also, there has been consistent criticism over the validity of Kolb's LSI because of poor factor loadings analyzed by researchers in various empirical studies (Freedman &Stumpf, 1978; Katz, 1986). Newstead (1992) found low reliability score of on administering LSI among psychology students. While on the other side Allinson& Hayes (1988, 1990) argued that Honey & Mumford's LSQ has better validity and reliability than Kolb's LSI.

Therefore, after having detailed review of theoretical literature and assimilation of empirical research studies, it was finalized that this research study will have gender, age, work experience and job role as demographic variables. Through this systematic literature review, it is derived that Honey and Mumford's LSQ is the best suited model to assess learning styles of knowledge workers in organizational context. LSQ is best suited when it is required to assess learning styles of individuals where intellectual capabilities are the driving force behind providing quality services or building products. Therefore, four learning styles parameters of LSQ viz. activist, reflector theorist and pragmatist were included as psychographic variables. Figure 1 depicts theoretical framework for this research study.

According to Honey and Mumford (2000), activists are the people who learn through action learning.

They prefer job rotation to understand the overall situation of the organization. Training methods which involve role plays and outdoor activities are preferred a method to impart knowledge to such people. Reflectors prefer e-learning as it gives them an opportunity to go through a training program at a pace suitable to them by reflecting on concepts and review, till it is completely understood. They do not rush to take a decision. Reflectors require a period to understand a situation in detail before taking any decision. Theorists are the people who prefer learning by understanding and applying theories. Their foundation lies in the constructs and variables of a phenomenon. They enjoy learning through lectures and prefer to develop theoretical foundation than going for practical aspects. While pragmatists are the people, who are interested in practical applications and are least interested in discussions and debates.

HYPOTHESES FORMULATION

As from previous research work it was found that gender, age group, work experience and job role can play important role in determining learning style of employees in organization. Considering this analysis, following hypotheses were created for gender, age group, work experience and job role as dependent variables influencing learning styles preference of knowledge workers in India IT service companies.

H1:There is a significant relationship between gender and learning styles of knowledge workers in Indian IT service companies.

H2:There is a significant relationship between age group and learning styles of knowledge workers in Indian IT service companies.

H3:There is a significant relationship between work experience and learning styles of knowledge workers in Indian IT service companies.

H4: There is a significant relationship between job role and learning styles of knowledge workers in Indian IT service companies.

RESEARCH METHODOLOGY

Considering theoretical framework, it was finalized that positivist as an epistemological position along with objectivist as an ontological position will be best suitable for this research work. Therefore, according to this philosophical position, it was decided to create a non-experimental research design.
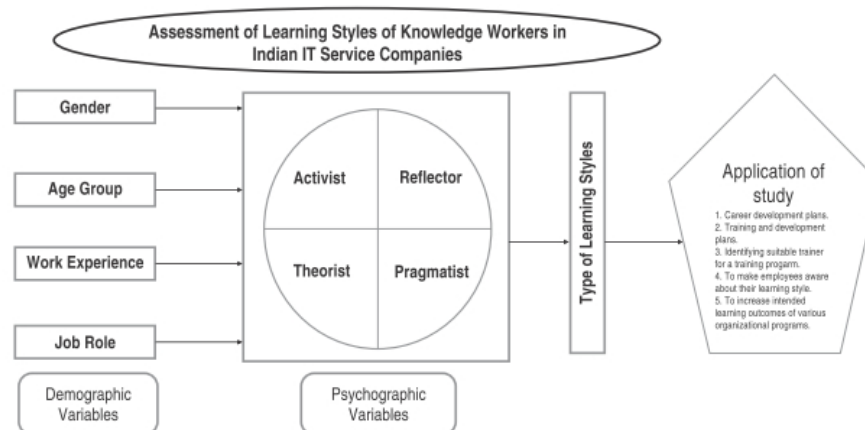

Figure 1 : Theoretical Framework for Research

For this research study, unit of analysis was identified as a knowledge worker in Indian IT Service Company. Review of literature revealed that Honey and Mumford's Learning Styles Questionnaire (LSQ) is most suitable in the context to assess learning styles of employees in organization. Considering NASSCOM (2016) report, it was identified that Bengaluru, Delhi-NCR, Chennai, Mumbai, Hyderabad and Pune are the Indian cities where each city has greater than 5% accumulation of IT companies. Therefore, considering the purpose of study, it was decided to use clustered sampling to gather responses using LSQ through online platform. Required sample size for this study was calculated using Cochran's (1977) sample size formula. Considering 95% confidence level it was found that 384 responses were required for the purpose of this research study. Thereafter, online questionnaire using Honey and Mumford's LSQ was administered to get responses from knowledge workers having different demographic characteristics.

ANALYSIS AND RESEARCH FINDINGS

Total 437 responses were received from knowledge workers in Indian IT service industry. Thereafter, using Honey & Mumford (1982) LSQ, activist score, reflective score, theorist score and pragmatist score were transformed to identify learning styles of knowledge workers in Indian IT service companies.

Thereafter, pre-analysis measures were performed before proceeding with research methods (Figure 2).

It was found that there were total 388 responses which were useful for further analysus. Out of 388 responses, 267 were male while 121 were female. On the basis of age group, 179 were of 25 years or under, 83 were in between 26-30, 49 were in between 31-35, 39 were in between 36-40, 34 were in the age group of 41-45 and 4 were 45 and above. Based on work experience, 242 were having experience of 5 years or less, 68 were having experience ranging from 6-10, 43 were having experience in between 11-15 years, 23 were in the range of 16-20 years of work experience and 12 respondents were having more than 20 years of experience. Based on job role 236 were on engineering role while 152 were on managerial role. It was also found that respondents were having activist, reflector, theorist and pragmatist, activist-theorist and activist-pragmatist as their learning style. Out of which activist was the most preferred learning styles while reflector was the least preferred learning style.

After that, graphical test was conducted to check whether the data was normally distributed. Through this graphical test it was found that distribution of scale variables was not normal (refer Figure 3). Therefore, it was decided to consider logistic regression models that do not have assumption of normality.
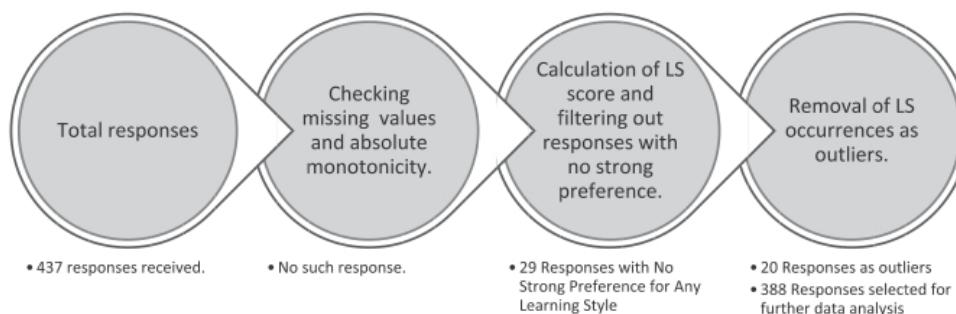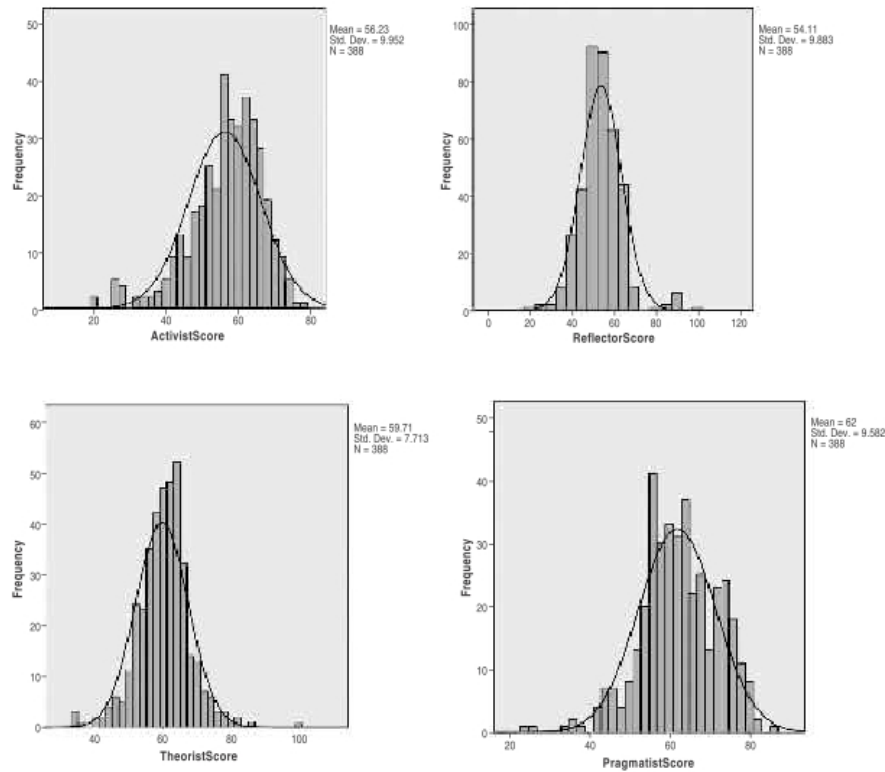

Figure 2: Pre-Analysis Measures

Figure 3: Histograms of All Learning Styles Score

It was identified that widely used logistic models in social science research are binomial logistic regression, multinomial logistic regression and ordinal logistic regression model. As in this research study, dependent variable was categorical in nature, therefore, possibility of using ordinal logistic regression was ruled out. Also, as dependent variables had more than two category, therefore using binomial logistic regression model was also not possible. Considering multiple categories of dependent categorical variable and four independent variables with categorical or ordinal data, multinomial logistic regression was correct choice to proceed further with analysis. Therefore, it was decided to develop logistic regression model using gender, age group, work experience and job role as predictor variables while type of learning styles was used as dependent variable.

On conducting multinomial logistic regression, it was found that value for Pearson's goodness of fit was 0.99828. This indicated that final model is adequately fit. Table 3 shows model summary indicating all four variables viz. gender, age group, work experience and job role was having significant impact in deciding type of learning styles.

Considering 95% confidence level, it was found that all variables have p-value less than critical value (0.05). Therefore, null hypotheses relevant to gender, age group, work experience and job role were rejected and their alternate hypothesis were accepted. Hence, it was found that gender, age group, work experience and job role have significant relationship in deciding learning styles preference of knowledge workers in Indian IT service companies.

Table 3: Summary of Multinomial Logistic Regression Model		
Variable	Model Fitting Information Criteria		Likelihood Ration Test
Effect	AIC of Reduced Model	BIC of Reduced Model	Sig.
Gender	317.136	534.922	0.00046
Age Group	323.096	461.731	0.00001
Work Experience	299.060	457.500	0.02478
Job Role	311.708	529.563	0.00479

Source: Calculated by Researcher using IBM-SPSS

CONCLUSION AND PRACTICAL IMPLICATIONS

This research concludes that Gender, Age Group, Work Experience and Job Role have significant impact on learning style preference of knowledge workers in Indian IT service companies. Also, it was found that, Activist was the most preferred learning style among the knowledge workers in Indian IT service companies and Reflector was the least preferred learning style among the knowledge workers in Indian IT service companies.

Therefore, we recommend to learning and development managers in Indian IT companies that they should focus on gender, age group, work experience and job role of knowledge workers to understand the probable learning style preferences of knowledge workers. As Activist was found to be the most preferred learning style among knowledge workers in Indian IT service companies, job rotation and giving them chance to mentor others can be very effective strategy for boosting learnability. Also, as Reflector was found to be the least preferred learning style among knowledge workers in Indian IT service companies, training only through e-learning modules only may not be a suitable.

ASSUMPTIONS AND LIMITATIONS

Like all other social science research work, this research work also has certain assumptions and limitations. Considering this study used primary data collection we assume that respondents have read instructions carefully mentioned in questionnaire and they were honest and accurate while responding to questionnaire. As this study focuses only on knowledge workers in Indian IT service companies, the results of the study may not be applicable for other types of worker viz. support staff, maintenance workers and technicians in the IT service industry. Also, the study could not address to the possibility of establishing any fact regarding persistence of learning styles over a period of time. Also, it was out of scope of study to explain the reason behind acquisition of a particular learning style.

SCOPE OF FUTURE RESEARCH WORK

Future research work in this area can assess learning styles of employees in other industries in India. Future endeavors can also conduct exploratory research to understand reasons behind learning styles preferences. It is also possible to longitudinal study on learning style preferences of knowledge workers in Indian IT service companies.

REFERENCES

Alfonseca, E., Carro, R. M., Martín, E., Ortigosa, A., & Paredes, P. (2006). The impact of learning styles on student grouping for collaborative learning: a case study. User Model User-Adap Inter, 16(3-4), 377-401. doi:10.1007/s11257-006-9012-7

Allinson, C. W., & Hayes, J. (1988). The Learning Styles Questionnaire: an alternative to Kolb's Inventory. Journal of Management Studies, 25(3), 269–281

Allinson, C. W., & Hayes, J. (1990).Validity of the Learning Styles Questionnaire.Psychological Reports, 67, 859–866.

Amitay, M., Popper, M., &Lipshitz, R. (2005).Leadership styles and organizational learning in community clinics. The Learning Organization, 12(1), 57-70. doi:10.1108/09696470510574269