PERCEIVED JOB PERFORMANCE IN RELATION TO ICT ORIENTATION, WORK ENGAGEMENT AND OCCUPATIONAL STRESS: A STUDY OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS

A
Thesis
Submitted to

For the award of

DOCTOR OF PHILOSOPHY

IN

EDUCATION

By

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FACULTY OF BUSINESS AND ARTS
LOVELY PROFESSIONAL UNIVERSITY
PUNJAB
2017

DECLARATION

I Shabir Ahmad Bhat hereby declare that the thesis entitled *Perceived Job Performance in relation to ICT Orientation, Work Engagement and Occupational Stress: A Study of Public and Private University Teachers,* submitted to Lovely Professional University for the award of Degree Doctor of Philosophy in Education, is my original research work and has been prepared by me in School of Education at Lovely Professional University under the supervision of Dr. Anoop Beri (Ex. Associate Professor LPU. Presently, Registrar CT University Ludhiana). No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

I certify that **Shabir Ahmad Bhat** has prepared his thesis entitled, "*Perceived Job Performance in relation to ICT Orientation, Work Engagement and Occupational Stress: A Study of Public and Private University Teachers",* for the award of Ph.D. degree of the Lovely Professional University, under my guidance. He has carried out the work at the School of Education, Lovely Professional University, Phagwara, Punjab.

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ABSTRACT

The present study deals with the job performance, ICT orientation, work engagement and occupational stress of teachers working in the higher education. This study attempts to study the effect of individual, organizational and demographic variables on the perceived job performance of teachers. The available literature on job performance in the higher education sector reveals that research in this field is still at the budding stage. ICT has gained an important space in attaining job performance due to heavy advancement of information technology. Literature also reflects proliferation of research on job performance in the higher education. The onset of globalization and technology put innovative challenges and demands on the job performance of teaching professionals. Over the past twenty years, institutes of higher education are in a state of rapid change to address such challenges and demands, this change affects the working nature and behavior of professionals in higher education. There are various organizational forces responsible for discrepancies in job performance of public and private teaching professionals. Among these job insecurity, workload, training, technology exposure and salary benefits plays a significant role in job performance.

Objectives of the present study were, to explore perceived job performance, ICT orientation, work engagement and occupational stress of public and private university teachers; to study interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of public university teachers; to study interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of private university teachers; to compare perceived job performance of public and private university teachers on the basis of gender, experience and stream; to compare ICT orientation of public and private university teachers on the basis of gender, experience and stream; to compare work engagement of public and private university teachers on the basis of gender, experience and stream; to compare occupational stress of public and private university teachers on the basis of gender, experience and stream; and to study the affect of ICT orientation, work engagement, occupational stress (predictor variables) on perceived job performance (criterion variable) of university teachers. Present study was conducted on approximately 400 public and private university

teachers from three North Indian states viz. Haryana, Himachal Pradesh and Punjab. Data was collected by employing criterion sampling technique. Perceived Job Performance scale (Self-constructed and validated); ICT orientation scale (Self-constructed and validated); Work Engagement Scale by Schaufeli, Bakker & Salanova (2006) and Teachers Occupational Stress Scale by Sharma & Kaur (2015) were used for the purpose of data collection. The data was analyzed by applying both descriptive and inferential statistical techniques such as, mean, SD, percentage, Pearson's correlation (bivariate), two-way analysis of variance (ANOVA) and multiple regression analysis.

The findings of the present study highlights, percentage-wise distribution of overall sample on different levels of perceived job performance. It revealed that the highest percentage of sample reported average level followed by high, low, very high and very low level of perceived job performance. Whereas, in domain wise distribution majority of public university teachers reported higher levels of percentage in all the three domains i.e. task, contextual, and adaptive performance in comparison to private university teachers. In case of ICT orientation the highest percentage of total sample reported average level followed by low, high, very high and very low levels. While, domain-wise distribution revealed that private university teachers show higher ICT orientation in ease of use, motivation, advantage, compatibility and perception domains, whereas in effectiveness & communication and avoidance domains teachers of both public and private organizations reported equal percentage. Public university teachers reported higher levels of orientation only in facility domain of ICT orientation. For work engagement higher percentage of entire sample reported at the average level. The percentage-wise comparison of public and private university teachers on different levels of work engagement revealed that public university teachers reported higher levels of engagement in all the three domains i.e. vigor, dedication, and absorption. Further, the results emphasized highest percentage of total sample reported in the average level of occupational stress. In the case of public and private university teachers, the study revealed that public university teachers experience less occupational stress as compared to private university teachers.

The results of correlation analysis revealed a statistically significant, interrelationship among perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement, ICT orientation and

occupational stress of public university teachers. In addition to this, the results also revealed that occupational stress of public university teachers show an insignificant relationship with perceived job performance and work engagement. In case of private university teachers, the results revealed a statistically significant relationship between perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement and ICT orientation and occupational stress. The results also reported an insignificant relationship between occupational stress with perceived job performance and work engagement of private university teachers.

Results on comparative analysis revealed there exists a significant difference in perceived job performance of public and private university teachers. While public and private university teachers do not differ significantly in case of different demographic variable i.e. gender, experience and stream, the results further revealed that public university teachers showed higher perceived job performance than private university teachers. The results also revealed that ICT orientation of public and private university teachers differ significantly on the type of university and stream. Surprisingly, in case of gender and experience public and private university teachers do not show the significant difference in ICT orientation. While observing the analysis on work engagement of university teachers, the results revealed that work Engagement of public and private university teachers differs significantly. The results further revealed public and private university teachers show a significant difference in their work engagement on the basis of their gender, experience, and stream. Besides, the findings also revealed that public university teachers are more engaged than private university teachers. Further, the analysis revealed that occupational stress of university teachers significantly differs among public and private universities and their stream, while in case of gender and experience occupational stress do not differ significantly. The findings also revealed that private university teachers reported more occupational stress as compared to public university teachers.

The results of the regression analysis specify independent variables i.e. ICT orientation, work engagement, and occupational stress collectively, are found significant predictors of perceived job performance of public and private university teachers. The results further revealed that ICT orientation and work engagement of public and private university teachers are strong predictors of their perceived job performance. While in case of

occupational stress the analysis revealed that occupational stress do not contribute significantly to perceived job performance of public and private university teachers.

Keywords: Perceived Job Performance, ICT Orientation, Work Engagement, Occupational Stress, Public and Private University teachers.

ACKNOWLEDGMENT

In the name of **ALLAH** most Gracious and Merciful, all praises for **HIM** and be myriad peace and blessings be upon **HIS** noblest, beloved and final **MESSENGER (ﷺ)**. It would not have been possible to complete this Thesis without faith and blessings of **ALMIGHTY**. I offer all praises and gratitude to **HIM** and seek **HIS** assistance and forgiveness. With **HIS** blessings this research is completed. I bow before **HIM** for blessings hidden and apparent and for giving me power and ability to pursue my dreams Alhamdulillah.

No words can express, no act of gratitude can convey and no gifts can express the role played by every person who helped me in accomplishment of this study. This acknowledgement is an expression of my heartfelt gratitude to all those who supported me and stood by my side throughout this journey. It was a great opportunity to work under the guidance of Dr. Anoop Beri Ex. Faculty member of School of Education Lovely Professional University and presently Registrar at CT University, Ludhiana. A blend of compassion and professionalism Dr. Beri, my mentor made me look beyond the boundaries and strive for perfection. Despite a hectic schedule he always managed to have time to guide me whenever I needed. His cooperation, enthusiasm and encouragement helped me to overcome all the hurdles and barriers in this research. Thankyou sir for your advice, guidance and efforts.

I extend my deepest gratitude to Professor Sanjay Modi, Executive Dean and Professor P.P. Singh Head of School for providing me the platform to conduct my research work smoothly. Professor Modi has been most supportive and his constant and constructive feedback during annual seminars helped me to enhance the quality of my research.

Heartfelt gratitude to the esteemed faculty members of the School of Education, Lovely Professional University, Dr. Vijay Kumar Chechi (HOD), Dr. Nimisha Beri, Dr. Kundan, Mr. Harish Mittu, Mr. Dinesh Kumar, Mr. Kamal and Ms. Kamal Preet Kaur for their kind cooperation at all the times.

I owe my depest gratitude to Dr. Vishal Sareen, HOD Economics Department Lovely Professional University, Dr. Aijaz Ahmad, Associate Professor Department of Statistics, Kashmir University, Dr. Heirome, Assistant Professor Department of Psychology, Lovely Professional University and Dr. Arjider Singh, Principal Innocent Hearts College

Jalandhar, for giving me their invaluable time to guide me in applying appropriate statistical techniques, during analysis stage of my research. I would extend my thanks to two noble persons Dr. Mohammad Syed Bhat, Associate Professor, Central University of Kashmir and Dr. Noor-Ul-Amin, Assistant Professor (c), Kashmir University, beyond my vocabulary for their support feedback and motivation. The journey of research would have been difficult and lonelier without these noble souls.

I am also thankful to the non-teaching and library staff of the School of Education for extending their support and making my stay pleasant in the department during the course. I would also like to extend my thanks to Mr. Manoj (Chaudary Photostat) for his quality printing at convenient rates.

I am deeply indebted to my parents, Mr. Habib-Ullah-Bhat and Mrs. Syeeda, for their loving, care and affection. I thank my parents from the bottom of my heart for providing me the best education and giving me the liberty to choose my path. I am thankful for their constant inspiration, encouragement and blessing which played a pivotal role for my higher academic pursuits. I feel that I am the luckiest person in the world to have such loving parents. While, pursuing my Ph.D. some of my important duties as the youngest member of the family were neglected. I would like to express my sincere gratitude to my elder brothers, Mr. Hafiz-Ullah, Mr. Zahoor Ahmad, Mr. Mohamad Altaf and my Brother-in-law Mr. Ghulam Nabi, who not only shouldered my share of responsibilities but also provided support during scoring and tabulation of data. I would also like to extent my thanks to my sister Mrs. Gulshan and sisters-in-law Mrs. Neelofar, Mrs. Nighat and Mrs. Nazima for their affectionate care and helping me manage my daily chores. I also owe special thanks to my nephew Master Anas and two sweet nieces Baby Hadiya & Sadiya who eagerly helped me to sort out the questionnaires during the scoring process.

It has been rightly said, “A true friend sees the first tear, catches the second and stops the third”. I feel lucky to be surrounded by some special friends. From the bottom of my heart I would like to thank one of my best friend Mehraj Udin Ganaie who introduced me to Makhmoor Bashir, one of the most helpful and encouraging friends I have ever met in my life. I would also like to thank Ishaq Ahmad, Hilal Bashir, Bilal Naikoo, Bilal Rah, Rayees Farooq, Mujeeb-Ul-Rehman and Mehraj Sofi for their support in taking decisions and encouragement while encountering failures. I owe my special thanks to Zeeshan who walked and sweated by my side during data collection. I would like to thank Mrs. Manjit

Waraich, President, Guru Darshan Education Society, for the help and support during data collection in Haryana. I owe special thanks to my fellow researchers, Joy Kirt Waraich, Jaswinder Kaur and Shilpa Sharma for their constant support and help.

Further, I would like to thank the Registrars, Deans and HOD's of Himachal Pradesh University, Arni University, Kurukshetra University, AL-Falah University, Punjabi University, Patiala and Lovely Professional University for allowing me to interact with the faculty members and collect the required data. I also like to extend my vote of thanks to all those faculty members (respondents) who managed their busy schedule and filled out my questionnaires. I am really grateful to their friendly attitude and humble behavior.

I also express my thanks to Prof. G. M. Malik (Dean BGBS University), Professor Rajesh Verma (HOS Mittal School of Business), Dr. M.Y. Ganai (Assistant Professor Kashmir University), Dr. Mahuwa (Associate Professor Punjab University Chandigrah), Dr. Sandeep Vij (Associate Professor DAV University), Dr. Harminder (Associate professor LPU), Dr. Gurmeet Singh (Assistant Professsor Punjab University Chandigrah), Dr. Asif (Assistant Professor Aligrah Muslim Uuniversity), Dr. Sanjeev Sharma (Assistant Professor GNDU), Dr. Amina Parveen (Assistant Professor Kashmir University), Dr. Grish Taneja (Assistant Professor DAV University) for their valuable and constant feedback on my research instrument.

This acknowledgement would remain incomplete without extending my thanks and gratitude to my beloved wife Azrah Amin my support, partner and a friend. I don't have words to thank her for the patience she has shown these years as my fiancée. She extended unconditional support, encouragement and love. She believed in me and in my dreams and adjusted with unfavorable situations and tried her best to remain, cool, calm and cheerful. Thank you for all you have done to ease my life and showing faith in me.

There could be a possibility that I might have missed few names. My special and sincere thanks to all those lovely people who encouraged me throughout the research work.

Shabir Ahmad Bhat.

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ACRONYMS

ADV	-	Advantage
AP	-	Adaptive Performance
AVO	-	Avoidance
COM	-	Compatibility
CP	-	Contextual Performance
CSE	-	Core-Self-Evaluation
CVR	-	Content Validity Ratio
E&C	-	Effectiveness and Communication
EFA	-	Exploratory Factor Analysis
EOU	-	Ease of Use
FAC	-	Facility
HOD	-	Head of Department
HSD	-	Honest Significant Difference
ICT	-	Information and Communication Technology
ICTOR	-	Information and Communication Technology Orientation
INQAHEE	-	The International Network for Quality Assurance Agencies in Higher Education
KMO	-	Kaiser Meyer-Olkin
MOT	-	Motivation
MSA	-	Measure of Sample Adequacy
NAAC	-	National Assessment and Accreditation Council
OS	-	Occupational Stress
PER	-	Perception
PJPS	-	Perceived Job Performance Scale
TOSS	-	Teachers Occupational Stress Scale
TOU	-	Type of University
TP	-	Task Performance
UGC	-	University Grants Commission
WE	-	Work Engagement

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CHAPTER I

THEORETICAL ORIENTATION OF THE PROBLEM

1.1: INTRODUCTION

Integration and application of the modern techniques in teaching learning process placed demands for establishment of the robust higher educational system. In present era edifices of higher education have been compelled to respond to the new trends of modern society to counterbalance the challenges posed by globalized educational societies all over the globe. In order to survive and compete in present competitive society effective human resources management has gained utmost importance. According to Sharma (2007) among all the fundamental resources of any organization, human resource is the most important and vital one. Only those organizations can progress up to the brim which has the ability to utilize these human resources to their maximum potential. There is no doubt that human resource of the present era is facing the dynamic force of change and increasing competition from different organizations. Globalization and innovations in technology has transformed the organizational environment into authoritative structures (O'Toole & Lawler, 2006). The connectivity of employees with the organization has been enhanced due to the dynamic structural changes of organizations from vertical to horizontal. Technology has made it imperative for the employees to stay connected with the organization 24/7. Hence, limits amongst work time and individual time get obscured which results in the intermingling of borders between personal and professional time. The organizations are placed in an unwanted situation burdened with training and handling administration, resulting in the increase in conflicts at workplace and degeneration of behavior at the workplace (Trudel, 2009). To overcome this situation and perform effectively employees require information and conviction in their own capacity to perform well (Vasquez-Colina, 2005). According to Kaila (2012) one of the fundamental organizational objectives of the present society is to build a strong culture in the organization, which enhances the output of the human resources and creates a cooperative environment. Human resources play a vital role in developing the culture of an organization as it interacts efficiently with the management and employees. Globalization and implementation of modern technologies in the teaching learning

process propled the present knowledge society to respond towards the growing demands and competition among the educational organizations. Due to the surge in education, organizations are focusing on ideal utilization of their resources in order to upgrade their productivity. Rapid changes and reforms in the educational system around the globe affects not only the educational organization but also teacher's job performance (Mohamad & Jais, 2016). To address such work related issues, concerned authorities like organizational management, behavioral scientists, policymakers, practitioners of management and economists are trying to enhance the performance potential of available human resources.

Due to dynamic nature of modern organizations, implementation of new policies and uneven change in technology applications agitated the intellect of human resources. In earlier times, changes that used to take place in decades are nowadays occurring within a year. Various aspects of human life have been affected due to these changes in the organizations which has strong implications for organizational management. Effects of these changes are visible on the relationship between human resources and organizations. Moreover, a contractual relationship has evolved rather than traditional interpersonal relationships and merely up-gradation of physical facilities (instruments, infrastructure and technological automation's) cannot work unless and until both organizational and behavioral factors of human resources are not addressed properly. It is clear that desired achievements can be obtained only when the performance of human resources at the workplace is upgraded with the specific purpose of enhancing the teachers perceived personal and organizational attributes.

It has been realized that fundamental issue of job performance revolves around the understanding and addressing the dynamic behavior of employees within an organization. Before the effective management of human resources, research in organizational behavior demands empirical research evidence to understand the complex behavior of professionals. Performance at job is the primary aspect of an individual reflecting not only the progress of the individual but of the whole organization. An individual is recognized by multiple variables which constitute the overall concept of professionalism of employees. Therefore, for harmonious development of any organization it becomes necessary to study all the possible variables related to human resource development.

1.2. PERCEIVED JOB PERFORMANCE

Self-rated job performance is known as "perceived job performance". It is the measurement of the outward and public manifestation of an individual's underlying and internal structures of job competence (Graf, 1992 p.7). It is summarized from the reviews of perception and evaluation of staff on their own actions or relevant behaviors and characteristics that influence organizational objectives and responds to organization's tasks (Saetang, Sulumnad, Thampitak, & Sungkaew, 2010 p.35). Moreover, these behaviors are also in agreement with the organizational goals. Definition of performance is very flexible as everyone chooses the concept that suits their study best and letting the context take care of the definition. Job performance commonly deals with the workplace. It commonly refers to whether an employee performs the assigned job well. Job performance is the quality of productivity over a specific period of time. This productivity of the human resources has been often conceptualized in various contexts by different researchers such as Job Performance (Vishwesvaran, Ones, & Schmidt, 1996; Smith, Ford, Kozlowski, Quinones, & Ehrenstein, 1997; Pulakos, Arad, Donovan, & Plamondon, 2000; Muchinsky, 2003; Rothmann & Coetzer, 2003; Smithikrai, 2007; Sonnentag, Volmer, & Spychala, 2008), Employee Performance **(**Kambiz & Majid, 2013; Khan & Afzal, 2014), Individual Performance (Sonnentag & Frese, 2003; Sonnentag et al., 2008), Work Performance (Grote, 2002; Vanderlinde, 2005; Jacobs, Tytherleigh, Webb, & Cooper, 2007; Colquitt, Lepine, & Wesson, 2009; Loi, Ngo, Zhang, & Lau, 2011; Yusoff, Khan, & Azan, 2013) and Perceived Job Performance (Veloutsou & Panigyrakis, 2004; Lin, Chen, & Wang, 2011; Kakayi, 2013; Chung, Lee, & Choi, 2015; Bal & DeLange, 2015).

Job performance is one of the vital elements in organizational behavior research, it is considered as a primary indicator for an effective organization (Yusoff, Ali, & Khan, 2014 p.35). Smithikrai (2007) revealed that employee's job performance is an important factor of an organization that pushes it forward to be an excellent one. From past two decades, the term job performance has become the key component of the human resource management, Organizational and Industrial psychology. According to Lin et al. (2011) performance at work is a critical issue of the present competitive world and how to

improve performance and how to retain best performers is one of the biggest challenge for human resource management in every organization.

Job performance is generally referred as to an important outcome which facilitates an organization in predicting and rewarding the behavior of its members (Chen, Yuan, Cheng, & Seifert, 2016). It is of high applicability for both stakeholders and organizations of educational society, it is a fundamental component of the educational industry, behavioral research, reform and effective environment (Bhat & Beri, 2016a). Colquitt et al. (2009) asserted that success and failure of any organization depends on the job performance of its employees, it is considered as an important component of organizational behavior research and also acts as an indicator for effective organizations. In present era quality and products of educational society is categorically predisposed by job performance of teachers. The ineffective performance of a teacher will imbalance the whole educational society. Therefore, for the development of a robust educational system, it is obligatory that teachers' must display dynamic job performance.

Job performance is one of the critical endogenous construct for researchers of different fields like; behavioral sciences, business, education, organizational psychology and society in general. Over a couple of decades, different researchers have attempted to define the term "Job Performance" in behavioral context like Jex (2002) defined job performance as a set of behaviors that employees engage in during their work. Muchinsky (2003) defined Job performance as a set of employee behaviors which can be measured, monitored and assessed. Rothmann and Coetzer (2003) added to the list and described job performance as a multi-dimensional concept which described how one completes a task focusing on efficiency, skills, initiatives, and utilizing resources. Babin and Boles (1996); Ellinger, Ketchen Jr, Hult, Elmadag, and Richey Jr (2008) asserted job performance generally refers to relevant behaviors of an employee towards the organizational goals. Similarly, Job performance is well explained from the behavioral point of view by Grote (2002) where an individual concentrates on job-related tasks, with the ability to evaluate job performance precisely by eliminating rating bias, as it can be achieved only when output criteria of a working environment is clearly defined. Schepers (2008) considers job performance as a multi-dimensional construct which indicates how well an employee performs work along with the degree of initiatives taken, behavior

reflected, with human resources and ingenuity showed while finding a solution to problems encountered.

Vishwesvaran et al. (1996) described job performance in terms of observable and non-observable behaviors that can be appraised. While, Vanderlinde (2005) described work performance as an act which involves both processes as well as product. Whereas, Wigdor and Green Jr (1991) shifts their focus to the skills of an individual and defined job performance as proficiency i.e. how well an incumbent can do the job. Similarly, Campbell (1990) defined job performance as an action or behavior possessed by an employee at the individual level. On the other hand, Judge, Bono, Thoresen, and Patton (2001) delineated job performance as an essential outcome of core-self-evaluation (CSE). They further stressed that employees with high scores of CSE seems more motivated while performing their jobs due to increase in their confidence and abilities. The crux of all these definitions is that, first job performance is a multi-dimensional construct. Second, job performance is individual behavior related to organizational goals. Third, individual acts and actions carried over a specific time period. Lastly, it comprises of behaviors that can be appraised. Consequently, these individual activities are consistent with the goals of organization and are influenced by the basic factors which control the behavior of an individual i.e. emotions (Kambiz & Majid, 2013).

The origin of job performance is as old as the origin of the human resources development. An account of the concept can be traced from the pioneered studies conducted in early 20th century in the present field (Houser, 1927). According to Brayfield and Crockett (1955), a little interest of researchers towards job performance was found till the 1940's until 'surveillance' of employee attitudes began to flourish (Kornhauser & Sharp, 1932; Raube, 1951). Viteles (1953) argued that from 1950's a continuous surge in the literature of job performance has been observed. This surge in the field of job performance continues to grow at a rapid speed. From the post-World War II situations the researchers of human resource show keen interest towards studying the effect of various job design approaches (Trist & Bamforth, 1951), role theory (Kahn et al. 1964), sociotechnical system theory (Cherns, 1976), job design and job characteristics (Fried & Ferris, 1987) on job performance of human resources. Validating the notion, Wall and Clegg (1981) revealed that job performance is positively affected by job design

and job characteristics. During early 1990's Borman and Motowildo (1993) asserted that job performance is multi-dimensional in nature. This concept was further supported by various researchers (Motowildo, Borman, & Schmit, 1997; Organ, 1997; Griffin, Neal, & Neale, 2000; Kennedy, Lassk, & Burns, 2001; Rothman & Coetzer, 2003; Hanif & Pervez, 2004; Yonghong & Chongde, 2006; Greenslade & Jimmieson, 2007; Schepers, 2008; Johari & Yahya, 2012; Yusoff et al., 2014). Apart from its multi-dimensionality, research conducted by Sonnentag and Frese (2003) reported job performance as a dynamic concept and argue variability in job performance has been due to the learning process and changes (long term/temporary) in individual work activities. They put forth the way various trends (constant learning, proactivity, encouragement in teamwork, technological advancement and globalization) are escalating the dynamic nature of job performance. Evidence of measuring job performance of teachers in various educational organizations can be traced from the studies conducted in late 80's (Ferris, Bergin, & Wayne, 1988; Fleming & Sulzer-Azaroff, 1989; Uthayasuriyan, 1989). In an educational organization, the job performance measurement proceeded at a slow pace due to its complex nature and its measurement received less attention from researchers as compared to other organizations (Al-Turki & Duffuaa, 2003).

Viswesvaran and Ones (2000); Sonnentag et al. (2008) stated that Job performance among organizations holds a key position. It is considered as a reliable and valid measure to evaluate work related behavior of an individual. Classically, the job performance was measured by using different methods, Houser (1927) evaluated job performance by measuring attitude towards different components related to the job (attitude towards supervisors, the speed of work, representativeness, policy and wages provided). While, Kornhauser and Sharp (1932) used questionnaire and interviews to evaluate the job performance of factory employees. Likewise, Gadel and Krieat (1952) assessed job performance using rank order rating. Brayfield and Crockett (1955) conducted a meta-analysis study where various researchers used individual and group analysis to evaluate job performance. Whereas, Arvey and Dewhirst (1979) made use of salary data to access the job performance instead of rating. During 1980's and 1990's diverse range of measures to assess job performance have been employed like tests of knowledge about

the job, rating scales, saved accounts (Campbell, 1990). Peer rating, self-rating and supervisor rating (Woehr, Sheehan, & Bennett, 2005).

According to Viswesvaran, Ones, and Schmidt (1996) ratings given by peers and supervisors are more frequently used to assess employee job performance. Whereas researchers asserted that evaluating job performance through ratings involve personal judgments (Campbell, 1990) and measuring it through supervisors rating (Liden & Graen, 1980) and subordinate level rating (Simon & Soliman, 2003) is not appropriate and can be biased due to reasons of individual liking or disliking of supervisors and subordinates. While the researchers like Harris and Schaubroeck (1988); Viswesvaran et al. (1996); Conway and Huffcutt (1997); Woehr et al. (2005) worked on the similarity among the ratings of varied sources and revealed that outcomes were similar to an extent. Concluding its measurement issue Sonnentag et al. (2008) determined that a composite construct including various performance dimensions to measure job performance seems to be possible as long as it is justified theoretically.

Performance at the job is sum of behavioral episodes carried over a specific time interval, it is an act which involves both process as well as the product (Vanderlinde, 2005). Performance is not solely determined by individual actions but also certain external factors and performance capacity. It can be studied through different human perspectives like individual, situational and performance regulation (Ivancevich, Konoposke, & Matteson, 2005). Individual perspective emphasizes on disparities in performance on the basis of personality, ability and motivation of an individual. While situational perspective refers to factors related to employee environment due to which performance is either enhanced or hindered. Lastly, the perspective of performance regulation emphasizes the process of performance and conceptualizing it as an action process (Singh, 2015).

Various researches conducted by Organ (1988; 1997); Borman and Motowidlo (1992); Rothmann and Coetzer (2003); Schepers (2008) describe job performance as a multi-dimensional concept including components like skills, efficiency, initiatives and resource utilization. Viswesvaran (1993) found that Job performance consisted of ten dimensions which are total work performance, communication, effort, productivity, knowledge regarding job, interpersonal skills, performance, excellence/quality, rule following,

leadership and administrative skills. These overlap with eight factors proposed by Campbell, McCloy, Oppler, and Sager (1993) and are generally accepted-communication oral and written, effort of demonstration, non-job specific task proficiency, job specific task proficiency, maintenance of personal discipline, facilitating team/peer, management/administration and supervision/leadership. Likewise, Woehr et al. (2005) asserted integrity, leadership and technical knowledge as dimensions of job performance.

Motowildo et al. (1997); Griffin, Neal, and Neale (2000); Kennedy et al. (2001); Hanif and Pervez (2004); Yonghong and Chongde (2006); Greenslade and Jimmieson (2007); Johari and Yahya (2012); Yusoff et al. (2014) opine that job performance is divided into two components: Task and Contextual performance. Primary is referred to behaviors or activities which are related to duties and responsibilities as a part of job description, task performance comprises of actions/events which directly or indirectly contributes to organization's core processes (Williams & Anderson, 1991) and are directly connected with job completion comprised of implementation of technical process and maintenance and services based on requirements. While contextual performance includes behaviors that are voluntary like helping and cooperation or interpersonal behavior, actions that benefit the organization (Motowidlo et al., 1997; Borman & Motowidlo, 1997). Pulakos et al. (2000) found that due to modernization and dynamic approach to the work environment of the modern organizations employees are expected to adjust to the work environment because adaptive performance became essentially important. In order to justify the issue regarding the components of job performance, Sonnentag et al. (2008) classified job performance into three major components based on the extensive review of literature and proposed the theory of job performance inclusive of Task, Contextual and Adaptive Performance as major components of job performance which are further sub-divided into eighteen components by eminent researchers of organizational and industrial psychology and are reported below.

Task Performance is a person's contribution to organizational performance, it refers to the actions that are part of the formal reward system (i.e., technical core) and addresses the requirements as specified in job descriptions (Williams & Karau, 1991). According to Campbell (1990) this component comprises of five factors (job-specific task proficiency;

non-job-specific task proficiency; written and oral communication proficiency; supervision in case of leadership position and partly management/administration.

Contextual Performance consists of behaviors that does not directly contribute to organizational performance but supports the organizational, social and psychological environment. It indirectly contributes to an organization's performance by facilitating task performance (Sonnentag et al., 2008 p.428). It comprises of five factors as identified by Borman & Motowidlo (1993) (volunteering for activities beyond a person's formal job requirements; persistence of enthusiasm and application when needed to complete important task requirements; assistance to others; following rules and prescribed procedures even when it is inconvenient and openly defending organization objectives.

Adaptive Performance refers to the extent of adaptation to changes in the workplace (Griffin et al., 2007). Present domain includes eight dimensional taxonomy as proposed by Pulakos et al. (2000) (handling emergencies or crisis situations; handling work stress; solving problems creatively; dealing with uncertain and unpredictable work situations; learning work tasks, technologies and procedures; demonstrating interpersonal adaptability; demonstrating cultural adaptability and demonstrating physically oriented adaptability).

The performance of human resources is a vital element which decides the fate of an organization. According to Swanson (1999) better performance of an employee has become an obligation for every organization. The importance of the job performance can be understood by the notion, it is most extensively researched concept in the field of human resource development and is the basic tenet of success for any organization (Colquitt et al., 2009; Joo, Jeung, and Yoon, 2010). Like other organizations, educational industry is also dependent on the job performance of its employees i.e. teacher. The enhancement and quality of educational system is greatly influenced by the teacher’s job performance, hence job performance of a teacher is an important factor which improves not only the educational system but the whole society (Yusoff, Khan, & Azan, 2013). Several studies highlighted importance of some components such as, competency, accessibility, dedication, motivation, work stress etc. associated with effective functioning of teachers (OS, 2013; Maphalala, 2014; Nzulwa, 2014). Besides, the

involvement of a cutting-edge recruit, known as ICT enriches the positive elements and reduces negative ones that are related to teaching profession (Bhat & Beri, 2016a).

1.3. ICT ORIENTATION

Information Communication Technology is a varied collection of technological gears in the form of communication equipment's, tools and applications, which help in precise retrieving, using, storing, transmitting, disseminating and manipulating the information to enhance knowledge and improve the communication, decision-making and problem-solving ability of its users. In contemporary society where knowledge is considered as an asset for a nation and an important pillar of an economy, a reflection of its power and strength. ICT professional development is seen as a catalyst that enables constructive change in the teacher practices (Russell, 1999). Various approaches to ICT professional development orientate teachers to achieve desired knowledge and skills (Prestridge, 2008). Orientation towards ICT or ICT orientation is the "Basic tendency to apply knowledge, understanding and application of ICT in teaching and learning activities to support educational process" (Bhat & Beri, 2016b. p. 3124).

Since its inception, ICT is playing a significant role in daily life of each and every individual of the society. The work culture, social relations, ways of interacting, retrieving, storing, managing information has been enhanced and escalated (Tinio, 2003). The technological capability empowers the consumers and supports dynamic information exchange among organizations to establish global connections (National Research Council, 2000). At the same time technology also poses various challenges to those organizations which are lagging behind in its implementation. If we observe our surroundings modern gadgets have occupied an important place in our lives by facilitating routine tasks right from paying bills to purchasing vegetables (Bartleby.com, 2013). Sweeping penetration of elements and applications of ICT have been discussed as a powerful, critical and dynamic issue in day to day life of present society. Developments in technology like stable escalation in bandwidth, unique topology of communications, ability in computing, invention of social networking, digital libraries etc. enhanced the global relations among stakeholders of ICT right from the common man to top-notch intellectuals of the society (Ishida & Yanagisawa, 2003).

ICT has been defined in terms of benefits and applications by different researchers like Sarkar (2012) defined it as a collection of varied technological gears used in communication, generation, dissemination, collection and administration of information. ICT in educational fields refer to systems that enable gathering, manipulation, management, access and communication of information in different forms (Yunus, Nordin, Salehi, Embi, & Salehi, 2013). Similarly, Judi, Sahari, Zin, and Yusof (2013) defined it as a wide collection of devices and applications that serve to ease and enhance efficiency in daily activities. Pathak and Chaudhary (2012) affirmed that ICT refers to the creation, gathering, processing, storage, presentation and determination of information. Stephens (2007) states that ICT include technologies that handle information and enable communication among human actors. Whereas, Tinio (2003) defined ICT as diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information. Likewise, Malaysian Ministry of Education (2006) asserted ICT as a tool to revolutionize learning, to enrich the curriculum, to develop pedagogy, as well as to improve students' learning. The basic essence of these definitions is that, first ICT as a tool has changed basic nature of teaching learning process. Second, integration of ICT improved the curriculum and pedagogy. Third, it has revolutionized the way of gathering, storing, presenting and disseminating the information. Fourth, it has also equipped teachers with new pedagogy and teaching skills.

Mangal and Mangal (2009) stated communicating with others, gathering information and using it for specific purposes can be traced from the evolution of human civilization. Before the invention of print media, information was stored in the human memory and transmitted orally to others. Advancement of technology has a long history since the time of sending letters through birds and by hand, and later to transmitting information via wired gadgets. Mangal and Mangal (2009) further reported modern man has reached the present era known as the satellite or wireless communication era, equipped with the advanced technological gears for accessing, retrieving, collecting, storing, transmitting and manipulating of information, ICT is playing a significant role by contenting the human life, therefore it can be said that ICT has gained fame in all walks of life.

Traditionally ICT was used in military and scientific sector only, with the passage of time its application was implemented in the field of industry (Duque, Collins, Abbate,

Azambuja, & Snaprud, 2007). Its use and applications do not remained confined to any specific field, it encompassed diverse fields of professions and operations such as management, banking, healthcare, socio-economic, life security, judiciary and education (Dutta, Bilbao-Osorio, & Geiger, 2012; Duque et al., 2007). The history of growth and development of technology in education paints an interesting picture of how far education has come. ICT in education was introduced in mid-1600s, with the establishment of modern library and the pencil. After couple of centuries in later period of 1970s, first computer was integrated in the educational system with the passage of time by early 1980s IBM developed its first PC and nearly 20% education organizations in UK and US started using computers. An account of the history further revealed by the 2005, nearly 50% of educational organizations included computers in their technology budget and by this time more than 90% of educational organizations possesses internet access (Parson 2017).

Parson (2017) further reported that, apart from the modern library and pencil, other technologies like Slide Ruler (forefather of calculator), Hornbook (used to teach vowels, consonants and alphabets) and Magic Lantern (to enhance learning and engagement) was also introduced in 1600s. In 1700s Jacquard Loom was introduced that marked the beginning of computer programming. Likewise, in 1800s technologies like Slates, Chalks, Blackboards, Calculating Engine and Typewriter was introduced. During the early 1900s technological advancement was at its peak, technologies like Stereoscope, Film Projector, Radio, Overhead Projector, Mimeograph (printer) make their way in educational system. By 1950s use of technologies like Headphones, Slide Rulers, Videotape and Photocopier was started in educational system. Later period of 1900s is marked with many ground breaking technologies, inventions like Microfilm Viewer, Liquid Paper, Scientific Calculator, Scantron, Public Broadcasting System, Personal Computers, Internet and Interactive Whiteboards not just improved but revolutionized the whole educational system. This was not the end of inventions, in present century onset of various ICT tools like Social Networking, Podcasts, Web-sites and pages, Educational Blogs, Virtual Reality, and iClickers not just improved the ways of learning but also changed the role of a teacher from an instructor to facilitator.

With the advent of ICT, countries across the globe are witnessing significant traceable changes by identifying four broad approaches (emerging, applying, infusing, and transforming) through which their educational system proceed in the adoption and use of ICT (Anderson & Weert, 2002), these multi-dimensional changes can be seen in both spheres of life either personal or professional. In present techno-centric society, high-speed retrieval and dissemination of information is an essential requirement for both the sender and the receiver, as the traditional scientific communication system is transforming into a modern communication paradigm due to information exchange through electronic environment (Vrana, 2010). Supporting the view, Koteswara Rao (2001) reported due to technological revolution different players (authors, publishers, libraries, universities, and learned societies) of scientific communication system witnessed a major shift in communication paradigm. Besides, Genoni, Merrick, and Willson (2006) stated that, implementation of ICT in knowledge society changed the ways of work for academicians of different areas, ICT improved the way of conducting literature review, library access, collection, storage and retrieval of data, publishing process, communication and maintenance of informal networks. Likewise, Harris (1999) reported that tele-collaboration is playing an important role in the present educational scenario, it is immensely helpful and provides assistance to people (students, researchers, teachers, counselors, etc.) connected with different aspects of education in fulfilling their responsibilities.

Due to rapidly change in educational environments as compare to traditional teaching, teachers of present society rely on both online and offline resources (Bhat & Bashir, 2017), because modern man is in need of enhanced and updated knowledge, so that he can survive in the present competitive world with full access and control over the processes of gaining and disbursing knowledge (Bhat & Beri, 2016a). ICT is used in almost every aspect of education thereby harnessing its power as an effective medium for transmission of different forms of education (formal, informal and non-formal). Besides it also serves the great cause of educational revolution in a great way by facilitating participation learning and removing the geographical barriers in all forms of education (Olofsson & Ola Lindberg, 2005). With its expansion and implementation in educational system educational organizations of present society have been forced to respond to the

growing demands of technocentric society in order to transform it into knowledge economy (Bhat & Beri, 2016a). Integration of ICT in education has placed heavy demands on educational organizations with beneficial implications for teaching and research especially on dynamic forms of education (Siddiqui, 2004).

ICT revolution is one of the major challenge faced by Indian educational system. To counter the challenges posed by knowledge society, teachers of present society needs ample competency in ICT, so that they can integrate it effectively in their educational practices. Due to these consequences Indian policy planners adopted ICT to enhance growth and development of the country (Rastogi & Malhotra, 2013). In the present era where educational world is rapidly changing and bringing innovative challenges and realities to Teacher Educational Institutions (TEI's) with the new inventions, the ICT possesses commendable educational implications (Khan, 2012). In India Teacher Education is being restored and redesigned to adapt the changes taking place worldwide and minimize teaching and learning technological gap (Kanshal, 2012; Sivakumar & Singarvelu, 2016) but due to difference in pedagogical practices or types and levels of ICT skills, actual ICT integration in pedagogy gets hindered (Rastogi & Malhotra, 2013), supporting the view various studies suggest that people still differ in knowledge, usage, skills and level of ICT. Different researchers suggest different reasons to explain these disparities, such as locale, gender, age group, access, specialization, culture, level of education, belief, usefulness, anxiety etc. (Obaidah, Bakar, Hamza, & Asmiran, 2012; Becker, 2006; Broos, 2005; Carlsson, Carlsson, Hyvonen, Puhakainen, & Walden, 2006; Chatzoglou, Sarigiannidis, Vraimaki, & Diamantidis, 2009; Cho, Cheng, & Lai, 2009; Colley & Comber, 2003; Hargittai, 2010; Lee, 2008, 2010; Lee, Yoon, & Lee, 2009; Obaidah, Bakar, Hamzah, & Asmiran, 2012; Rodriguez, 2012; Salajan, Schonwetter, & Cleghorn, 2010; Teo, Lee, Chai, & Wong, 2009; Wu, Tao, & Yang, 2007; Wang, Wu, & Wang, 2009).

Due to globalization and surge in technological advancement every individual of present techno-centric society is in need of higher qualifications that impacts the educational institutions resulting in increased enrollment and over populated classrooms. In order to handle diverse audience teachers can make effective use of various technological innovations like web conferencing, videoconferencing, teleconferencing, overhead

projectors, PowerPoint presentations, virtual classrooms etc. to provide students with ability to collaborate in real time learning (Narasingappa, 2017). Tinio (2003) suggested components of ICT like internet, world wide web, virtual learning, e-learning, digital libraries, online lecture, recorded audio video media, web 2.0, 3.0 technologies, Blogs, Podcasts, YouTube and so on, not only enhance teaching methods both formally as well as informally but also enables and increases outreach anytime anywhere, providing access to huge resources available online for almost every subject in any discipline.

An increasing trend of ICT in the field of teaching as pedagogy over the years has been observed. Stakeholders of education have adopted the use of computers and various software's in the education process rather than traditional audio-visual aids, due to its enormous potential to enhance knowledge which is the core motive of academicians. ICT plays a role of an active organizer and manager for educational organizations, it provides an enjoyable learning environment for student and teachers as well, thereby developing a creative and interactive environment (Khan, 2012). Yuan and Lee (2012) asserted that technological exposure among teachers' escalates ICT competency, integration and assistance as compared to their counterparts. Adding to the discussion Shaikh and Khoja (2011) revealed that status of the present knowledge-based economy can be enhanced with integration and implementation of the ICT and a robust educational system can be developed. Likewise, Oner and Nilay (2012) explored the positive effect of ICT on teacher's professional development program. They suggested that teachers ICT competency must be enhanced so that they can use ICT effectively in their classrooms. Therefore, implementation and practice of ICT during service has become the need of the hour. Teachers and students of present era consider the internet as a resource for the teaching-learning process and not just a complementary tool to the textbooks. They consider ICT as a useful instrument in the process of education (Rodriguez, 2012). Supporting the view Ameyaw and Sarpong (2011) reported teachers' generally using internet resources as material for teaching and learning process have achieved enough satisfaction and confidence in the use of computers.

The present educational system has made it imperative for teachers to adopt new technologies for imparting education, as students require up-to-date information, skills and knowledge for their survival and development in the present competitive world

(Rajsekhar, 2013). Supporting, the view Hayat (2010) highlighted that utilization and awareness of ICT in educational process can improve quality of teaching. Similarly, Rajsekhar (2013) stressed that transformation in the teaching-learning process is mainly predicted by the use of ICT. It also helps in reducing the gender bias among female teachers by allowing unprecedented entry of women into ICT build special technical skills and leadership capacity (Raji & Arun, 2009) and serve as a chief resource for pupil development program (Mereku & Akomolefe, 1999). The modern world follows the student-centered approach of education as there is need of active and aware students in the classrooms as well as at competitive levels. Teachers play the most important role in spreading the awareness of right educational concepts with the help of technology to address the required needs (Demirel, 2005). The onset of technology integration worked as a tool for the uplift of the educational process as students and teachers are able to obtain teaching learning material with lesser efforts and without purchasing it from the market. Restructuring of education is highlighted by technology integration in each and every aspect of education. Teachers who lack knowledge about ICT are motivated to improve their knowledge and skills. Before the onset of technology integration in education, knowledge of teachers regarding ICT was not encouraging enough but after due familiarization with ICT morale and enthusiasm of the participants was raised because of exposure to technology and improvement in the satisfaction level and this reinforced the integration of technology as a means to an end, but not an end itself (Forcier, 1999).

With the expansion of signal based technology and networks, ICT submerged extensively in daily routine of day to day life (Huang, 2012). It has become the need of the hour for every individual related with the dynamic educational system by acting as a vital component of its progress. It acts as an important instrument for preparing and presenting lectures. According to Khan (2012) despite being a part of teaching and learning process, ICT as an instrument facilitates academicians in other tasks related with enhancement of the education process. The development and implementation of ICT propells present educational system to respond advanced trends in the modern society which helps in the transformation of society into knowledge economy (Bhat & Beri, 2016a). Usage of ICT has gained utmost importance for educational institutions across the globe as it possesses

potential to foster teaching-learning process (Vanderlinde, Aesaert, & Braak, 2015). In the present era, ICT plays a pivotal role among various essential elements (educational, economic and social) of society which characterize the present knowledge society (Kozma, 2008). One defining feature of ICT is that it transform asynchronous learning into synchronous learning with the help of various technologies like teleconferencing, online course material, educational programming which enhances the knowledge opportunities of dispersed learners thereby reducing the geographical barriers and encourages sportsmanship among teachers by allowing them to work in collaboration and bridging the knowledge gap (Tinio, 2003). Besides onset of technology also facilitated the dropouts who were not able to attend regular classes or who have left the formal education due to paucity of time and resources.

Although many assumptions have been made about the impact of ICT on work life, research on human resource and issues in a variety of settings, sectors and occupational groups is surprisingly limited. The literature on ICT suggests modern technological innovations, offers numerous benefits to the work/professional life of an employee (Dorothy, 2004). ICT acts as an inherent fragment of work, assuring competitiveness of various organizations (Majchrzak & Borys, 1998), Besides it also offers endurable technological exposure to employees which not only improves their work but also shows a positive relation with their work engagement (Salanova & Llorens, 2009).

1.4. WORK ENGAGEMENT

The cognitive connection of employees with their work/job attained a significant importance in the present knowledge economy. Work society of present era depends on creativity for its progress and prosperity. Creative ideas act as the agents of advanced quality and efficiency in society. In order to persist and prosper in present competitive era, organizations in different fields should not just hire talented employees, but they should also inspire them to apply their professional competencies in their work otherwise valuable resources within them and around them will remain unexplored. Organizations of modern society expect their employees should be active, take initiatives and responsibility for their professional development and also be committed to maintain the

quality standards of performance. Therefore, every organization requires dedicated and energetic employees (Leiter & Bakker, 2010).

Work engagement is one of the key factors which positively contributes to the strong base of organizations (Demerouti & Cropanzano, 2010). It has been extensively used in the field of business consultancy. Usually the term "work engagement" is interchangeably used with "employee engagement" the former refers to employees' relation with work, while lateral may also comprise relation with the organization also (Bakker & Leiter, 2010). According to Schaufeli and Salanova (2007) engaged individuals are better able to deal with job demands, feel connected with their work and are always energetic while performing their job. Supporting the view Schaufeli et al. (2002) and Crabtree (2005) revealed that engaged employees are more productive as engagement is positively related with the mental and physical health. On similar lines, White paper (2011) proclaimed that employees who are engaged, take pains for their organization and always try to contribute to its success, besides they remain focused towards customers, ensures their happiness so that profits are maximized.

The term "Work Engagement" has been defined by various authors based on different aspects of an employee. Kahn (1990) conceptualized engagement as, "harnessing of organizational members selves to their work roles". In the engagement, people employ and express themselves physically, cognitively, emotionally and mentally during role performances" (p. 694). Maslach and Leiter (1997) asserted that work engagement is characterized by energy, efficacy and involvement of an employee. Rothbard (2001) proposed a different viewpoint of work engagement and defined it as a two-dimensional concept including attention and absorption of an employee regarding his/her work. On similar lines, Schaufeli and Taris (2005) considered its two factors: vigor and dedication as the opposite of two fundamental burnout symptoms exhaustion and cynicism respectively. On similar lines, Gonzalez-Roma et al. (2006) labeled vigor and exhaustion as "energy", while dedication and cynicism as "identification". Schaufeli et al. (2001) on the basis of critical analysis of in-depth interviews included absorption as a third fundamental component of work engagement. Continuing the voyage Schaufeli et al. (2002) affirmed that work engagement is, "positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption" (p.74). Vigor is represented by mental

resilience, energy, persistence and willingness to invest one's effort, while the sense of significance, enthusiasm, inspiration, challenge and pride represents dedication and the extent to which one is absorbed in its work and level where it is impossible for him to detach from his work represents absorption. Various other researchers have defined work engagement as an individual's mental (emotional and intellectual) commitment with the organization (Baumruk, 2004; Richman, 2006; Shaw, 2005). On the other hand, Frank, Finnegan and Taylor (2004) defined it as the subtotal of discretionary efforts that an employee exhibits during the job. Likewise, Truss et al. (2006) defined it as a passion for work, a mental state encompassing all the three dimensions given by the Kahn (1990). Similarly, Bates (2004); Gubman (2004) referred to work engagement as an individual's sensitive emotional attachment towards work, organization, seniors and subordinates. For creating the particular definition of employee engagement researchers emphasized one or two of the three factors over the others. It is emphasized by some definitions that work engagement is cognitive connection with work or organization and successive behaviors that employees demonstrate on the job. Further, these researchers are in agreement that work engagement is composed of interaction between cognitive, emotional and behavioral factors, which reveals the connection between an employee and organization. Focusing on cognitive aspects researches like Council (2004); Blessing White (2005); Smythe (2005) reported that concepts like commitment and satisfaction enhance the employee work engagement. While, Bates (2004); Baumruk (2004); Gubman (2004) stressed that cognitive and emotional factors are straddled while defining engagement as a situation where employees are committed both emotionally and intellectually. Another group of researchers stated that irrespective of causes the behavioral outcome of employee is primary focus for engagement which shows willingness of an employee to invest flexible efforts at work (Towers Perrin, 2002, 2005; Shaffer, 2004). Supporting the behavioral view Blessing White (2005) declared retention as behavioral outcome of work enagement.

The origin of research on work engagement can be traced from the construct of job burnout examined in the 1970s (Maslach, Schaufeli, & Leiter, 2001). It is defined as the state of exhaustion in which an employee is not confident about his/her performance abilities and is under stress about occupational values (Maslach, Jackson, & Leiter,

1996). Maslach et al. (2001) further stated that job burnout is a well-known concept as it explores an individual's experiences at the workplace. Defining work engagement as an antipode of burnout Schaufeli et al. (2006) considered work engagement as positive state of human resources. Focusing on optimistic approaches Lopez, Snyder and Rasmussen (2006) reported that work engagement improves both mental and physical health of the employees. Later on, Schaufeli and Salanova (2007) found that study of work engagement coincides with the emergence of positive psychology.

From past decade, research on the work/employee engagement has geared up and attained utmost importance in the field of academics and industry, in India as well as on global level. It is visible from the studies conducted by various researchers who have contributed to the concept of work engagement either by exploring its psychometric properties or by comparing it with psychometric properties of other constructs (Shimazu, Schaufeli, Kosugi, Suzuki, Nashiwa, Kato, & Goto, 2008; Muilenburg-Trevino, 2009; Chaudhary, Rangnekar, & Barua, 2012; Alok, 2013; Kataria, Garg, & Rastogi, 2013; Ugwu, 2013; Yusoff, Ali, Khan, & Bakar, 2013; Sulaiman & Zahoni, 2016), relation with organizational factors (Salanova, Agut, & Peiro, 2005; Naruse et al., 2013; Chaudhary, Rangnekar, & Barua, 2014), work-related factors (Airila et al., 2012; Leijten et al., 2015), with physical factors (Leijten et al., 2015), with psychological factors (Woods & Sofat, 2013; Rothmann & Baumann, 2014), with social resources (Weigl et al., 2010) and personal resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009; Fiabane, Giorgi, Sguazzin, & Argentero, 2013).

It has been argued that work engagement always emphasizes the optimal function of employees at the workplace. According to Maslach et al. (2001) engaged employees are connected energetically and effectively with their work role. Therefore, engagement refers to physical as well as psychological presence of an employee while performing organizational roles. Kahn (1990) reported existence of a dynamic two-way relationship between a person and the work role. On one hand, the worker assigns physical, cognitive, emotional and mental energy to work role and in return work role allows them to express themselves. Further, Kahn (1992) distinguished between the concept of work engagement and psychological presence of an employee by reporting presence of attention, connection, integration and focus during their role performance.

The concept of work engagement is a novel area in the field of human resource management and education. It not only focuses on enhancing the employees' well-being, but also emphasize a great practical utility since its inception (Kataria, Garg, & Rastogi, 2013). It has become one of the essential components of organizational psychology. Work engagement according to Sonnentag, Dormann, and Demerouti (2010) is a wide concept encompassing diversified multidimensional constructs. Right from its evolution, various researchers have tried to explore its multidimensional nature by focusing on its varied components. Kahn (1990) focused on the performing roles of an employee and advocated engagement comprises use of cognitive, affective and psychomotor domains of employees. Likewise, Schaufeli et al. (2002) put it as a positive state of mind comprising of vigor, dedication and absorption as its dimensions. Schaufeli and Bakker (2004) focused on the time perspective of employees and specified trait and state concepts of work engagement. The former comprises of stable optimistic views regarding work and life, while the latter comprises of feeling of energy at work. Similarly, Macey and Schneider (2008) defined work engagement as an umbrella term comprising of 'trait', 'state' and 'behavioral' engagement. Further, Sonnentag et al. (2010) revealed that work engagement comprises of motivational dimension and attitudinal dimension. Some of the business organizations have also tried to define work engagement according to their individual perspectives like Hewitt association; conceptualized work engagement on the basis of three behaviors, Say, Stay and Strive during 'say' an employee consistently speaks positively regarding the organization, the employees, the customers and the coworkers. In 'stay behavior', an employee shows passionate desire to remain a member of their organization in-spite of having opportunities to work elsewhere and while demonstrating 'strive behavior' an employee puts in extra initiative, time and effort in organizations success. Likewise, Development Dimensions International conceptualized work engagement on the basis of three personal aspects Cognitive, Affective and Behavioral. Cognitive refers to support and belief towards the organizational goals and values, affective refers to attachment and pride of an employee in the organization and behavioral refers to the intention to stay and willingness to work beyond formal work contracts.

In the present study ‘state’ work engagement is center of focus, according to the Sonnentag et al. (2010) in order to project an employees’ empirical state of work engagement instantaneous presence of all the three factors (vigor, dedication and absorption) is necessary. Although, when any individual recalls his experience over an extended period of time e.g. a couple of days back, possibly he/she could score high on all factors of work engagement without simultaneously experiencing them. Therefore, if anyone aims to investigate the complete phenomenological know how, one has to focus on its state nature rather than trait which fluctuates within a short span of time i.e. minute or an hour or a day perhaps.

Discussing its empirical importance Sonnentag et al. (2010) propound that state work engagement is possibly more bound with practical and behavioral outcomes and events related to work rather than judgmental outcomes which require collective preceding experiences over a long time period. Therefore, stronger evidence of previous experiences may be produced by state work engagement than its counterpart (trait like). Further investigation of state work engagement may also provide accounts for various non-formal previous conditions and experiences since it includes less human judgment processes and errors than its counterpart trait. Consequently it may reflect causal relations with more accuracy. Last but not the least, investigation of state work engagement holds more significance over trait work engagement, state work engagement acts as an experimental state of constant stream of reflections of our work-life therefore, it acts as a part of real existence, on the other hand, trait work engagement is possibly present in those periods of time when we actively reflect previous work experiences. In other words, trait engagement may be understood as a perceived cognitively constructed phenomenon based on biased recall of former experiences. Hence, trait work engagement stress on attitude reflection, whereas state work engagement reflects clear experience.

In present era, work engagement has generated a great deal of interest for researchers of organizational psychology. Many researchers claimed that work engagement predicts employees work outcome, financial performance, well-being and organizational success (Deepika & Thiruchelvi, 2013; Koyuncu, Burke, Fiksenbaum, & Lisa, 2006). Supporting these opinions Markos, Sridevi, and Waltair (2010) reported work engagement as a strong predictor of organizational performance showing a visible two-way relationship

between employee and employer. Further, Markos et al. (2010) found that engaged employees show strong emotional attachment with their organization and high involvement of their jobs with great enthusiasm for their employer's success by going beyond the limits of formal job agreement. Engagement is also being shaped by energy, efficacy and involvement in a role. Employees differ in their work engagement on the basis of the perception of received benefits. To create willingness among its employee's, an organization must design jobs to motivate their employee's and make them get the work done reflecting a link between levels of engagement and organizational climate. Therefore, better the climate employee's work in, more they feel engaged and motivated in their roles this in turn increases the organizational performance (Deepika & Thiruchelvi, 2013).

In fluctuating environment of this competitive world, organizations are devoted to improvement of their workforce in order to survive and gain competence this motivates employees to invest extra effort, keeping them more engaged. The engagement of employees depend on many factors. One of the important factors is the ethical climate in any organization. It supports socially responsible intentions of employee and their ethical and moral values which aid an alignment between employee values and organizational values to ensure the maximum strategic impact on engagement (Shaun, Mark, & Danielle, 2014). On the other hand, work engagement and ethical climate are concepts from management which show significant positive relation and are in mutual interaction. Mujdelen et al. (2012) revealed that dedication domain of work engagement is more affected by social responsibility domain of ethical climate than other two. Work engagement is a level of commitment and involvement that an employee possesses towards the organization. An engaged employee keeps up-to-date knowledge of the work and cooperates with the colleagues to improve work performance which in turn benefits their organization. Here, organizations should also play a positive role by developing and nurturing the work engagement by adopting and maintaining a two-way relationship between employee and employer. Work engagement acts as a "Barometer" determining the association between a person and the organization. Iqbal, Khan, and Iqbal (2012) reported from past 10 years concept of work engagement is gaining a substantial importance, engaged employees of present era have become strategic competence tools in

the hands of organizations, in order to compete with their counterparts. But intense competition and the effort to maintain top position among organizations bring complex challenges, increased responsibilities and substantial workload on employees which in turn leads towards occupational stress. Likewise, researchers Coetzee and De Villiers (2010); Padula et al. (2012) asserted that engagement at work is significantly related with occupational/work stress of employees and various demographic factors. Ways to deal with occupational stress also plays an important role in determining the relationship of work engagement and occupational stress of employees.

1.5. OCCUPATIONAL STRESS

Stress is a common problem faced among occupations, high level of stress is highlighted as distress for the job performance, while mild one as eustress (Gupta & Chandwani, 2009). In certain ways, one of the easy explanation for all ills is stress (a 'whipping boy') which obfuscates instead clarifying work experience of employees (Rizvi, 2013). Stressors varied and they are in the form of major events, problematic work situations, day to day worries or arise from various thoughts, perceptions and ideas which induce negative emotions such as the position for which one aspire is not able to achieve it may lead to stress, this advocates that specific occupation possesses specific type of stressors (Buunk & Janssen, 1992). Stress experienced by the employees across various organizations has been explored and various physical and demographic factors like physical structure, work climate, gender, locale, length of service, work experience, extra time spent in work and level of qualification has been found responsible for causing different levels of occupational stress (Wilson, et al., 1998; Lee & Wang, 2002; Debbie & Jeffery, 2003; Akpochafo, 2012; Rizvi, 2013).

In the contemporary world of work, occupational (workplace, work or job) stress is one of the most serious health issue (Lu, Cooper, Kao, & Zhou, 2003). It is present from decades ago and can occur in any job/work, present work society differs from that of thirty years ago regular changes in structure and culture, loss of career paths and proliferation in working hours leads to enhancement of occupational stress (Cooper & Locke, 2000). Rizvi (2013) asserted that experts of organizational research use occupational, work, job and organizational stress interchangeably due to the minute

discrepancies among the phenomena of these terms. Rizvi further stressed that structure and climate of organizations give rise to organizational stress. Physical conditions at working results in job stress, similarly employees work performance gives rise to work stress. While intrinsic job aspect, structure and climate of the organization as well as organizational roleplay are the components of occupational stress. Workplace stress has been significantly explored and it is empirically verified that continuous exposure to intense stress affects the physical and mental well-being of an employee. It is asserted that employees with high overcommitment, easily manages occupational stress and are able to manage with health problems (Ljiljana, Dagmar, Olaf, & Johannes, 2002). Organizational behavioral researchers reveal that an employee could suffer from various health complications if subjected to stress at work over a long time. It is related to psychological and physical problems (Susan & Fishbein, 1988) and it also affects the physiological and mental performance of employees (Smith, 2000).

It is not surprising that job and career are central sources of stress. Some of the factors producing stress in a job setting are obvious; discrimination, extreme overload, role ambiguity, role conflicts, relationship with co-workers, political pressure etc. According to Fiona, Kevin, Ranald, William, and Eleanor (2007) organizational and operational stressors like anxiety, depression, somatic complaint, the perception of inadequate staff, social dysfunction, lack of resources, insufficient time, lack of communication and work overload are associated with the self-perceived stress of employees. Researchers like Greenberg and Baron (1995); Matteson and Ivancevich (1982) found that work stress is becoming one of the protruding and pervading factors in modern organizations due to its diverging demands and increasing work complexities. Work/occupational stress is associated with impaired functioning at the workplace of an individual, decreased capacity to perform, less interest in work, increase in rigidity of thoughts, loss of responsibility, less concern for organization and colleagues and reduced initiative are its negative effects. Researchers Williams and Hazer (1986); Sullivan and Bhagat (1992); Tett and Meyer (1993); Naumann (1993) asserted that occupational stress of an employee is either positively or negatively associated with occupational outcomes like job satisfaction, organizational commitment and employee withdrawal behavior. Teachers who regretted their career choice differ in perceived occupational stress from those who

were gratified, they remain absent more often and reported stress as a factor in their absences (Moracco, 1983).

Various researchers argued that there are number of causes which contributes to work stress among different organizations like; work overload, lack of time, interpersonal relationships and financial problems (Bland, 1999); lack of communication and decision-making, unsympathetic culture, lack of resources, frequent changes and bullying (Tehrani, 2002) job insecurity, weak interrelationships, poor job design, substandard environment (Buchanan & Huczynski, 2004); perceived job insecurity and job loss, longer working hours, safety concerns, job complexity (Botha & Piennar, 2006); increased workload (Topper, 2007); roles and demands, culture of an organization, autonomy, support and relations (Nwaogazie & Ekwemuka, 2015). Researchers like Swanson, Power, and Simpson (1998) and Manshor (2000) reported that apart from job, occupational stress is also related to the various other factors like personal, financial, family, socio-economic and psychological factors.

Various researchers attempted to define occupational stress according to varied work situations of employees like; Frese and Zapf (1988) defined it as a process through which an employee perceives, appraises and responds to adverse job demands. Comish and Swindle (1994) defined occupational stress as a mental and physical condition which affects an individual's productivity, effectiveness, personal health and quality of work (p.26). Similarly, Dollard, Winefield, and Winefield (2001) stated that occupational stress is transitional excited state among stressors and strain where strain acts as a reaction to stressful conditions. Sharma and Kaur (2015) call it a feeling of tension, posed pressure on mind and body and dissatisfaction, which arise due to occupational demands of a person (p.4). On the same lines, Anjali (2015) defined it as an inability of an individual to meet the demands of a job due to the imbalance in the 'person-environment' perceptions (p. 2). While relating occupational stress with environment Beehr and Newmann (1978) job stress refers to a situation wherein job-related factors interact with a worker to change his or her psychological and/or physiological condition such that the person is forced to deviate from normal functioning. (p. 669-670). Similarly, Gibson, Ivancevich, and Donnelly (2011) defined it as a response to adjustment mediated by individual differences and/or psychological processes, environmental consequences of each action

taken, situation or events that define excessive psychological and/or physical demand to someone (p. 339). On the other hand, Sumangala (2009) defined it as a state of tension that is created when a person responds to the demands and pressures that come from work, family and other external sources, as well as those that are internally generated from self-imposed demands, obligations and self-criticism (p. 55). According to Peter and Cary (2001) despite of being used in handsome number of scientific articles since 1990s, meaning and definition of occupational stress is still a debatable issue whether it should be defined in terms of environment, individual, or both, as the scientific community has not reached yet to an agreed meaning and definition of occupational stress.

Occupation is one of the fundamental component of life. Suitable work situation provide a feeling of personal importance to employees. If an employee is not at peace with work his outcomes are adverse and it escalates dissatisfaction which in turn makes the employee frustrated and adversely affecting his efficiency. In 1990's, advent of globalization brought a huge surge in Information Technology all over the globe, this surge affected different aspects (educational, social, cultural, developmental and economical) of society and gave a little time for technological adaptation resulting in both 'on' and 'off' field stress (Samangala, 2009). In the present era, stress is considered as a fundamental hazard of health covering situations like psychosomatic disorders and behavioral swings as chief contributors for disturbing different aspects like social, emotional, family and work life of an individual (Sapountzi-Krepia, Antonakis, Sgantzos, & Lionis, 2003). Earlier Kahn (1987) acknowledged eight categories of work stressors which can help in understanding work-stressors among various occupations. The first category is composed of deprivations at work including insecurity and loss of a job. Various occupational characteristics such as heavy lifting or sitting for longer hours, lack of autonomy, repetitiveness and job complexity pertains to the second and third category of work stressors. The fourth category includes role ambiguity, role overload and role conflict. The fifth category include interpersonal relations at work. Other categories include factors like lack of equipment's, hectic work schedules, lack of resources and climate of the organization.

Occupational stress is a global issue with implications for all key players (economies, organizations and employees) of the present society (Newton, Teo, Pick, Ho, & Thomas,

2016). It has become a matter of great concern for the hierarchical chain of organizational member's right from lower level of employees to the top management (Ongori & Agolla, 2008). According to Monga (2013), organizational behavior research revealed that an employee can suffer severe health complication if exposed to stress and may initiate negative behavioral changes like chain smoking, liquor consumption, nerve and cardiac diseases etc. In contemporary world of work, globalization and technological advancement put has an extra burden on the organizations due to the increasing demand of compatible products in every sector which in turn burdened the work culture of the employees. Validating this notion Taap Manshor, Fontaine, and Siong-Choy (2003) revealed that due to globalization an increase in recruitment of employees and enhancement in the global communication has been observed. Technological innovations like integrated satellite communication, wireless technology and the internet, introduced dynamic working styles such as the sleepless office (24 hours-a-day) and telework which increased the occupational stress among the employees. Further, Ongori and Agolla (2008) reported that advancement of technological innovations in organizations and keeping pace with these technologies are some of the visible factors of occupational stress. Similarly, Haratani and Kawakami (1999) reported that due to industrialization an increase in occupational accidents and illnesses has been observed due to increased occupational stress. Likewise, Newton and Teo (2014) asserted that occupational stress costs a vast range of attributes. It increases the negative aspects of an employee like poor attitudes to health related problems. On similar lines, Anjali (2015) found that changes induced due to modernization and globalization in living styles and working nature of employees increased stress in general and occupational stress in particular.

Stress in general and occupational stress in particular, is a problematic issue within organizations resulting substantial cost to employees and organizations all over the world. The dynamic work culture has placed ample demands on employees and raised concerns pertaining to effects caused on health and well-being of organizations and employees. The period of the 1990s, brought on a dramatic economization, technological innovation and globalization among various organizations resulting in enhanced mobility and flexible working environment on one hand and on the other hand raised concerns regarding work-demands, loss of connectedness and job security which pushed the

employees towards less secure employment. Due to globalization and technological development, organizations pushed their employees for competitiveness and work efficiency. This changing climate placed employees under pressure and created varied work organizations, producing higher levels of occupation stress (Peter & Cary, 2001). In globalized society, stress has become an unavoidable situation for an individual. Despite various facilities such as technological developments, increased information accessibility, availability of resources, increased economic growth and luxury sources etc. the majority of people over the globe seems to experience a degree of stress in different spheres of life. Rizvi (2013) found that globalization and liberalization have spurred complaints of increased occupational stress among the employees all over the globe. From last couple of decades due to globalization higher education has gone through various rapid changes like privatization, policy modifications, computerization, technological adaptation etc. These changes took place due to increased competition and privatization of education. The emergence of technological innovation and globalization brings a drastic change in existing policies that renovated the conventional interaction and work pattern of employees. Use of modern approaches and technology-based teaching in the educational industry changed conventional work pattern of (employees) teachers and make it reduce the number of teachers. Globalization forced the present education system to develop and adapt a competitive framework in order to cope with global society. Occupational stress is a result of interaction between three components of education process i.e. teacher, student and environment. Due to increase in number of educational organizations, academic staff may face more problems at work as management of these organizations are facing more competition (Kayastha & Kayastha, 2012). Similarly, Barkhuizen and Rothmann (2008) reported that among various professions, the academic profession is a highly stressful occupation. Teachers over the globe deal with a significant amount of stress in their occupation as they are lesser paid employees as compared to employees working in commercial sectors. From past couple of decades due to erosion of many benefits (flexibility, light workloads, perks and benefits) higher educational organizations have been labeled as ‘stress factories’. Supporting the view, Rani and Singh (2012) argued that teaching is a challenging job in which teachers work in varied working conditions affecting their psychosomatic state. Occupational stress of academicians is a

disruptive component for classroom productivity, posing serious implications on performance and mental health. Both of these components play a vital role in the education process. If the mental health of teachers is unsound, it will adversely affect the nation. Kaur (2011) pointed out that teaching in present era is a profession of multitasked role and responsibility as compared to past years. Due to advanced teaching culture and managerial responsibilities a teacher has to take varied responsibilities like planning and executing the instructional lessons, being accountable for student performance, maintaining discipline, managing classroom, play supervisory role, conducting and monitoring of extracurricular activities etc. Due to these multiple roles teachers of present era are not just perceived as knowledge dispensers but also as managers and facilitators of knowledge. Likewise, Nagra and Kaur (2014) asserted that teachers of present era are not only expected to work as pedagogues rather they have to perform other essential duties as a resource person, an administrator, counselor, manager and facilitator of knowledge which leads to high levels of occupational stress. According to Kumar, Wani, and Parrey (2013) future of a nation is shaped in the educational organizations, to run an educational organization which is under stress is expensive both in terms of financial aids and well-being of teachers. Besides, the hostile effect on teachers own health occupational stress experienced by teachers may adversely affect students and learning environment of educational organizations and cause escalation in teaching costs both financial as well as social.

1.6. REVIEW OF RELATED LITERATURE

Former studies carried laid the foundation for present systematic scientific inquiry. The prime focus of the present section is to highlight the information, both theoretical and empirical concerned with present endeavor. Recapitulation of previous related knowledge will act as a precursor for present research and will help in comparing empirical findings with previous studies.

1.6.1. ICT Orientation and Job Performance

The onset of technology influenced each and every sphere of life, it has not just revolutionized the professional life but routine tasks of personal life also of a common man right from knowledge dissemination to purchasing household entities. Dynamic

approach of ICT enhanced the work culture and structure of organizations all over the globe which directly or indirectly affect the individual performance either by enhancing various elements related to performance or by suppressing the negative elements which hinder it, following literature provides an account of such studies which have explored the connection between ICT and performance.

Eva-Hagsten and Sabadash (2014) studied the importance of ICT skilled employees for enhancing the productivity and performance. Use of ICT may affect the productivity at every stage and initiates the demand for skilled and dynamic labor (Bartel, Ichniowski, & Shaw, 2007). Bloom, Nicholas, Draca, Kretschmer, and Sadun (2010) asserted that organizational readiness is the base factor for enhancing the effect of ICT on productivity. Similarly, Palvalin, Lonnqvist, and Vuolle (2013); Seo, Lee, Hur, and Kim (2012) studied the impact of ICT on work productivity and profitability of employees and revealed that ICT can act as an asset to eradicate insignificant activities thereby improving the welfare of employees and enhance the performance of both organizations and employees. Likewise, Tarafdar, and Ragu-Nathan (2010) reported that factors like employee involvement in ICT, use and support for innovation reduces factors creating techno-stress, enhance satisfaction and productivity of employees.

Implementation of ICT in organizations indirectly increases the profitability and performance by enhancing factors like differentiation and quality (Mihalic & Buhalis, 2013). Various researchers asserted that components of ICT are significantly and positively related to job/work performance like Gupta, Dasgupta, and Gupta (2008) found that ICT usage is positively related to performance expectancy, social influence, facilitating conditions and effort expectancy of employees working in government organizations. On similar lines, Bayo-Moriones, Calleja-Blanco, and Lera-Lopez (2015) asserted that ICT usage is significantly related to high-performance work practices which act as an essential element to foster employee job performance. Similarly, Bayo-Moriones, Billon, and Lera-Lopez (2013) reported that ICT adoption indirectly affects performance through better communication and also shows a significant positive relation with all performance measures. Rezaei, Rezaei, Zare, Akbarzadeh, and Zare (2014) studied effects of information technology on the human resource indices and reported that information technology is positively related to all the eight human resources indices

(competitiveness, cost reduction, motivation, innovation, creativity, work time reduction, quality improvement and satisfaction).

In case of exploring the effect of ICT on job performance researches which contribute to the literature are by Elsaadani (2014) who studied the effect of ICT on employee productivity and reported that workforce productivity of employees is significantly affected by various dimensions (the internet, intranet, Information Technology, Office automation etc.) of ICT. On similar steps, Al-Dabbagh (2015) studied the effect of ICT connectivity and self-discipline on productivity and revealed that ICT connectivity shows a positive impact on productivity and ICT self-discipline influence positively and also moderates the employees work productivity. Similarly, Kaluyu, Wambugu, and Oduor (2015) studied the impact of ICT proficiency on job performance and found that levels of ICT proficiency significantly effects the job performance of quality management employees. ICT has a great potential as innovation and determinant for improving efficiency and facilitate innovations in organizations. It positively affects both processes and products of an organization in comparison with traditional processes (Arvanitis, Loukis, & Diamantopoulou, 2013). Ahmad (2012) analyzed the importance of various ICT factors with job performance of teachers and found that variables of ICT are important for enhancing job performance of employees. On similar lines, Polo Pena, Frias Jamilena, and Rodríguez Molina (2011, 2013) explored the employee job performance in tourism sector and reported technology innovations significantly effects the job performance.

ICT helps to improve the knowledge-based economy through enhancing the various fundamental elements of an educational system like staff training, ICT policy, curriculum, pedagogy etc. Integration and implementation of ICT in teaching-learning helps in developing a robust education system which may improve the performance of human resources (Shaikh & Khoja, 2011). Ondieki Makori (2013) studied the use of ICT in education and training and revealed that professionals and departments of library information science should redefine and redesign curriculum in accordance with ICT curriculum which may improve needs, demands and performance requirements of library professionals. Zhang and Venkatesh (2013) studied the communication element of ICT

and reported that online direct and indirect communication significantly affects the workplace communication and enhances the performance of employees.

Hassle free any-time any-where accessibility of ICT cannot be neglected as it has increased the job opportunities and has enhanced the work performance. Tulejova (2009) focused on one of the emerging components of ICT viz. telework and reported that apart from having many benefits like increasing motivation, satisfaction and concentration of employees teleworking also helps to reduce cost-effectiveness and absenteeism and can positively affect the job performance. Similarly, Birchall and Giambona (2008) publicized that ICT implementation increased personal effectiveness by providing anytime anywhere work facility. Focusing on technology enhanced areas Yoo, Choi, and Lee (2014) asserted that technological area of ICT industry employees is more useful and significant factor in getting jobs and subsequent performance than types of qualification.

While studying ICT and job performance contribution of various demographic factors cannot be neglected because of their active roleplay. Koning and Gelderblom (2006) studied the effect of age on the use of ICT and its effect on job performance and found that older workers face difficulty in using ICT. This disadvantage of ICT usage harms the position of aged workers in both manufacturing and service sectors thereby affecting their job performance. Similarly, Hendehjan and Noordin (2013) studied the effect of gender and age on the ICT usage among teachers and reported that female and younger teachers use more ICT than their male counterparts, they further found that technology usage helps in efficient completion of work related tasks. ICT skills are personal and important characteristics of an individual which help him to be more competent and to fulfill the required needs of job market (Buarki, Hepworth, & Murray, 2011). On the other hand, some researchers explored negative side of this relationship and reported that ICT plays a negative role in determining the performance like Al-Hannif, Cox, and Almeida (2014) reported ICT as dictator in work process and performance management, leading to various quality issues thereby adversely influencing the employee performance and productivity. Chee (2003) revealed there is no relationship between the job performance and computer literacy level, although employees report above average level in both constructs (job performance and computer literacy). Likewise, Venkatesh, Bala, and Sykes (2010) studied effect of implementation of ICT on job characteristics of employees

and revealed that despite of ICT placing a significant impact on employees' job characteristics like, task identity, task significance, skill, feedback and autonomy ICT enriched employees reported lower job performance due to interplay of various contextual forces (environmental, learning, culture and valuation). Similarly, Badau, and Sakiyo (2013) emphasized on incorporation of ICT in teaching to enhance job performance but found lower ICT competency due to lack of certain resources and factors like inadequate financial provisions, out of date hardware, erratic electricity, inadequate information and poor experience.

1.6.2. Work Engagement and Job Performance

Why should organizations invest in work engagement? It is because Work engagement is related to outcomes of the individual and organizational performance. In the present section, investigator experiences how work engagement influences the job/work performance in the context of previous studies. Gorgievski, Bakker, and Schaufeli (2010) studied salaried and self-employed workers on workaholism, work engagement and job performance and reported that work engagement of both groups shows a positive relationship with innovativeness and task performance, however, the excessive working of both groups shows a positive relation with innovativeness. Shimazu, Schaufeli, Kubota, and Kawakami (2012) distinguished between two types of hard workers the bad workers (workaholics) and the good workers (engaged) and reported that workaholism enhances ill-health and decreases satisfaction and performance, while work engagement decreases ill-health and enhances satisfaction and performance of employees. The motivation for hard work is the reason for such performance in work, irresistible obsessive inner drives propel workaholics on one hand and on the other hand engaged ones are propelled by intrinsic motivation. Similarly, Schaufeli, Taris, and Bakker (2006) examined work engagement and job performance and surprisingly found that workaholic (employees working excessively and compulsively) employees demonstrate higher extra-role performance.

Researchers of organizational behavior reported that individual and organizational outcome (performance) measures like customer satisfaction, safety measures, productivity, loyalty, profitability, retention of employees are positively related to work

engagement of employees (Coffman, Gonzalez-Molina, & Gopal, 2002; Heintzman & Marson, 2005; Ellis & Soresen, 2007; West & Dawson, 2012). Whereas, Markos et al. (2010) asserted that work engagement is a strong predictor of institutional performance clarifying its two-way relation between employees and employer in comparison of other variables (commitment and Job satisfaction). Likewise, Harter, Schmidt, Killham, and Garwal (2009) asserted that work engagement is related to all of nine performance outcomes. On similar lines, Kular, Gatenby, Rees, Soane, and Truss (2008) delineated work engagement as individual level of construct which impacts employees' individual outcomes. Other researches also relate engagement to various individual factors like safety, availability and meaningfulness (May, Gilson, & Harter, 2004); reward, recognition, restrained workload and justice (Maslach et al., 2001); employee retention (Blessing White, 2005); mental and physical health (Lopez et al., 2006); cognitive and emotional energy, work quality and experience (Kahn, 1992); customer loyalty (Gallup organization, 2004) all these factors are positively related to work engagement and contribute to the output of the individual i.e. performance. In the same way White paper (2011) asserted that engaged employees are high on positive factors like focus, motivation, employee retention, productivity, loyalty, safety and low on negative ones like absenteeism, thereby contributing to the performance of employees and employer.

Bakker and Bal (2010) studied work engagement, job resources and performance on weekly basis and reported that work engagement of employees and factors of job resources (autonomy, developmental opportunities and exchange with supervisor) shows a positive relationship which in turn is positively related to weekly job performance. Fredrickson and Losada (2005) asserted that work engagement facilitates behavioral urges by enhancing flexible behavior to accomplish better performance. Likewise, Chung and Angeline (2010); Breevaart, Bakker, Demerouti, and van den Heuvel (2015) proclaimed that work engagement enhances the relationship between the job resources and job performance by fostering two components (social support and developmental opportunities) of job resources. Bakker and Demerouti (2007) found that job performance of an employee is at the peak if the mind of an employee is in a motivational state known as work engagement.

In organizational psychology, researchers focused on improvement of job performance with the intervention of work engagement on in-role and extra-role behavior of employees. In one of the studies, Reijseger, Schaufeli, Peeters, and Taris (2012) found that work engagement and job performance are related through the dynamic interface of open-mindedness and behavioural readiness. It indicates higher levels of work engagement marks better job performance by improving in-role, extra-role behaviors and reducing counter-productive behaviors. In another study, Jackson (2014) reported a direct impact of work engagement on both in-role and extra-role performance. The study shows that workers who are positively engaged perform well on both the job roles. Likewise, Schaufeli et al. (2006) conducted a cross-sectional analysis between trait work engagement and job performance and found a positive relation between work engagement and innovativeness, in-role and extra-role performance. Similarly, Xanthopoulou, Baker, Heuven, Demerouti, and Schaufeli (2008) focused on roleplay of work engagement in predicting relationship of job performance with self-efficacy and reported work engagement as a vital component in mediating the relationship of (in-role and extra-role) performance. On similar lines, Rich, Lepine, and Crawford (2010) found that work engagement mediates the relationship between antecedents (value congruence, organizational support and self-evaluation) and performance outcomes. Council (2004) highlighted the importance of work engagement for both organizations and employees and reported that engaged employees are more committed towards their organizations, they perform 20% better than the less-engaged employees and shows 87% job retention. Similarly, West (2012) reported that work engagement in health sector is significantly related to the individual and organizational outcomes i.e. organizational performance and individual job performance.

In management literature, an increase in the claims have been recorded for the need of work engagement for higher performance and productivity (Andrew & Sofian, 2012). Dodge & DAnaleze (2012) found a strong longitudinal synergistic relation between engagement and performance. They asserted that engaged employee show better performance by pushing harder, smarter and longer at the job. They work vigorously, offer productive suggestions and achieve work objective by crossing hurdles. These behavioural values vary from organization to organization. The presence of engaged

employees contributes a lot to the success of an organization. Managing engagement is one of the crucial issues of present organizations. Yalabik, Popaitoon, Chowne, and Rayton (2013) found that work engagement plays a pivotal role in predicting job performance by mediating the relationship between commitment, intention to quit and job performance.

In a meta-analysis, Demerouti and Cropanzano (2010) reviewed relationship between work engagement and job performance in the light of diverse theories and researches and reported that engagement may enhance the performance through diversified mechanisms. They asserted in three-factor model vigor is most significant predictor of performance, but combined value of all the three factors (vigor, dedication, and absorption) is greater rather than the individual. Demerouti and Corpanzo (2010) further reported explanations provided by stimulus-organism-response process are inadequate to justify the relationship of work engagement with job performance. Rather, individual and environmental work experiences along with work engagement act as contingency factors affecting job performance.

1.6.3. Occupational Stress and Job Performance

The process of globalization and modernization is not just related to financial or business aspects of present society, but it has a strong affinity with each and every aspect (personal, social and professional) of life and role played by these aspects. One of the main effects of globalization is replacement of public sector with private one which results in role deterioration of individuals and discrimination of vulnerable groups (Anjali, 2015). According to Ali, Ishtiaq, and Ahmad (2013) global society is filled with competition and modern life with challenges. Challenge that surpasses its bearable limit results in stress. Despite the proliferation of health organizations in government and private spheres physical and mental health issues caused by stress and tension are visible across occupations. Citing stress as a product of employment, Cincotta (2005) emphasized that work stress is a chronic condition raised by workplace situations that may cause an adverse effect on the job performance of an employee. Cincotta further reported a counter relation between effectiveness and levels of occupational stress. In one study, Kumar and Deo (2011) studied the effect of gender and experience on occupational stress and revealed that as compared to seniors, junior teachers significantly

experience more stress on maximum number of dimensions, while females experience stress on inter-role and role overload than their male counterparts. In another study, Jehangir, Kareem, Khan, and Jan (2011) referred to work stress as an epidemic in work environment and reported female public sector employees (nurses) experience high levels of stress, low job satisfaction and performance depicting the negative relationship between occupational stress and job performance. While, Nahar, Hossain, Rahman, and Bairagi (2013) reported that job stress depends upon the type of job in which a person is employed. They further reported that employees working in private organizations feel more work stress due to less job security and high workload. In contrast, Chen and Silverthorne (2008) explored the relationship between various behavioral factors on job stress, satisfaction and performance and they revealed that employees with cognitive control over work situations displays less job stress and better job performance, they further reported that male employees report higher satisfaction and performance than their counterparts. On the other hand, Wang (2010) reported complex contrary results of the positive relationship between job stress and job performance through the mediation of work pressure. Similarly, Chen, Silverthorne, and Hung (2006) found that moderate levels of occupation stress is positively related to employee commitment and job performance. Likewise, researchers Nhundu (1999); Borg and Riding (1993) reported contrary results for gender perception of occupational stress. They reported that male employees generally found work to be more stressful than their female counterparts.

Various researchers suggest that work stress may act as an occupational health hazard affecting both physical and mental health of employees through various factors related to their work environment such as; increased absenteeism, interpersonal problems (Hourani, Williams, & Kress, 2006), organizational pressure (Jones, 2006), job culture and climate (Pflanz & Ogle, 2006), turnover and productivity (Ongori & Agolla, 2008), lack of work life balance (Samartha, Lokesh, & Karkera, 2010), interrelationship, work pressure, home interference, management roleplay (Bhatti, Hashmi, Raza, Shaikh, & Shafiq, 2011), lack of social support, higher job demands, less physical exercise and high efforts (Chen et al., 2011), role ambiguity and conflict, lack of decision making, participation and authority, poor interpersonal relations (EL-Shikieri & Musa, 2012), role conflict and ambiguity, qualitative and quantitative role overload, dominant supervisory and exam pressure

(Kelly & Barrett, 2011), role overload, role boundary (Shirazi, Rasekhnia, & Ajdari Goosh, 2011), poor interrelationship, risky job and work overload (Ali et al., 2013) and so on. Due to these factors employees suffer from various health issues like depression, brain tumors and cardiac problems, they also adopt unpleasant behaviors like heavy smoking, drinking, fraudulent tendencies, lies, work shirking and lame excuses in order to fulfil prerequisite job requirements and are unable to balance their work and family life creating chaos in their social and personal life. Therefore, overstress at workplace contributes to dissatisfaction and hinders the performance of employees which in turn reduces productivity, efficiency and performance of individual as well as organization.

1.7. NEED OF THE STUDY

Taking insight from available literature the research on the job performance in educational sector is still at budding stage. The advent of technological innovations is one of basic driving agents for surge of academic literature on job performance. A survey of review certainly reflects proliferation in research on job performance in the education sector and active interest of researchers in this area. Globalization and advent of technology has put new challenges and demands on the job performance of teaching professionals. Over the past twenty years, institutes of higher education are in a state of rapid change to address such challenges and demands. This change affects the nature of work and behavior of professionals working in educational organizations.

Keeping in mind modernization of education around the globe, there is need to explore job performance of teaching professionals due to various reasons. First, there is little research available regarding job performance in the education sector as most of the studies have been carried out in business and industrial sectors. Thus, the present study attempts to give an insight into job performance in teaching process by exploring the impact of technological orientation, cognitive engagement and stress exerted by working conditions among public and private teaching professionals. Second, in comparison with literature available, almost 80-90% of the research on job performance has been carried out in business and industrial sectors leaving education sector far behind which is a vital component of society. Out of 10-20% studies conducted in the education sector, most of the studies are carried out in the primary, secondary and a few at the college level. Third,

most of the studies have explored job performance mainly on the basis of either one or two factors i.e. task and contextual performance, ignoring the third factor, adaptive performance which is the need of the hour in present dynamically changing organizations. Fourth, there is a dearth of studies which measure ICT orientation, work engagement, occupational stress and job performance of teaching professionals in combination while taking both public and private organizations of the educational sector into account. Last but not least, the literature reveals there is no such study available in the Indian context which measures job performance of public and private university teachers simultaneously along with ICT orientation, work engagement and occupation stress.

1.8. SIGNIFICANCE OF THE PROBLEM

Education leads to accomplishment of the goals of progress and growth of every nation, it is the resource which provides well qualified and well-adjusted teachers who form the base of every nation, it is necessary for every society that it must possess a strong base so that present and future of the nation will develop in harmony. The development of every nation depends upon the performance of teachers. The modern world is focused on enhancing the job performance and reduce the occupational stress of the human resource to increase productivity by drawing out an individuals full potential. Every society is exploring the means to enhance the job performance so they can exist in this competitive world.

On the basis of previous studies, it has been observed that a professional is recognized by performance at work. Perceived job performance is influenced by many factors including job stress, physical conditions, professional motivation, professional training, love for the profession, ICT skills, engagement towards their work and so on. There are many studies which have explored the relationship between stress and performance (Susan & Fishbein, 1988; Smith, 2000; Ljiljana et al., 2002), Work Engagement and Performance (Koyuncu et al., 2006; White Paper, 2011; Deepika & Thiruchelvi, 2013), ICT and Performance (Khan, 2012; Yuan & Lee, 2012).

These studies highlight the gaps that the present study endeavors to fill and find the relationship between Perceived Job Performance, ICT Orientation, Work Engagement

and Occupational Stress which is totally unexplored from the Indian point of view. The study further shows the gap that there is hardly any study which has explored the combined relationship between all the four variables (Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress) from the higher educational point of view. Another gap which has emerged is that most of the studied have measured job performance either from supervisors or subordinates perspectives which could be biased (Liden & Graen, 1980; Simon & Soliman, 2003) and no such study has been found so far (in education sector) which measures job performance at perceived level. To summarize, the facts, different studies so far are conducted on other dimensions and proportions, therefore, there is a need for documentation in this area as a way of advancing the same. The purpose of the proposed study is to fill the vacuum in knowledge by providing an insight in exploring the relationship and comparison between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Teachers.

The present study will act as empirical evidence for further researches because work needs to be done in this field since there is a great need to explore this area. Findings of the present research will be of great help to teachers as it will guide them to manage their job-related stress, maintain their interest and develop their ICT skills so that they can perform better in their profession. This study will be helpful to all those who are concerned with planning and implementation of educational strategies. It will help in opening new frontiers in educational practices.

1.9. STATEMENT OF THE PROBLEM

The problem under investigation reads as under:

PERCEIVED JOB PERFORMANCE IN RELATION TO ICT ORIENTATION, WORK ENGAGEMENT AND OCCUPATIONAL STRESS: A STUDY OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS

1.10. OPERATIONAL DEFINITIONS

Perceived Job Performance: It refers to “perceived belief of total expected value to the organization of the discrete behavioral episodes that individual carries over a specific

period of time" (Vasquez-Colina, 2005). It is measurement of characteristics displayed by an individual at work in accordance with job competency. It is difference between manifestations of employee behavior in accordance with expected organizational value. Moreover, it is also summarized from self-reviews of perception and evaluation of staff on their own behaviors and characteristics which influences organizational objectives.

In present study perceived job performance has been considered as, "An individual's belief towards expected organizational value of work related behaviors carried over a period of time represented by task, contextual and adaptive performance".

ICT Orientation: Information communication technology (ICT) generally refers to varied collection of technological gears which are used to communicate and disseminate the information. It encompasses devices, applications and resources that enhances efficiency of daily activities. As a process ICT refers to creation, gathering, processing, storage, presentation and propagation of information to enhance knowledge and improve the communication, decision-making and problem-solving ability of its users. Moreover, ICT is considered as a tool which has changed the basic nature of teaching learning process, it influenced the overall curriculum and improved the way information is being stored, gathered, processed and presented.

On the other hand orientation means a person's attitude or natural tendency, to familiarize with new situations, it provide a primary purpose or focus of attention. It signifies a position in relation to something else, it is the alignment of oneself or ones ideas to surroundings of circumstances. Moreover, it is an individual's awareness of self with respect to time, position, place and process. It is represented with the basic beliefs or preferences of knowledge of one's own temporal, social, and practical circumstances in life.

In present study ICT orientation have been considered as, "Basic tendency to apply knowledge, understanding and application of ICT in teaching and learning activities to support the educational process characterized by ease of use, motivation, advantage, effectiveness & communication, compatibility, facility, avoidance and perception".

Work Engagement: It is the cognitive connection of an employee with work/job it refers to an employees' relation with his/her work. It is considered as an antipode of burnout as

it is assumed a positive state of human resources, it is an optimistic approach which improves mental and physical heath of an individual. In the engagement, an individual employ and express himself physically, cognitively, emotionally and mentally during role performances. Therefore, engagement refers to physical as well as the psychological presence of an employee while performing organizational roles. It has become one of the essential components of organizational psychology, as it not only focus on enhancing the employee's well-being, but also tout a great practical utility since its inception (Kataria, Garg, & Rastogi, 2013).

In present study work engagement have been considered as, "Constructive work related state of mind represented by vigor, dedication and absorption".

Occupational Stress: Problematic work situations which arise from various thoughts, perceptions and ideas which induce negative emotions such as the position for which one aspire is not able to achieve. Occupational stress is one of the most serious health issue as it negatively effects the physical, psychological, physiological and mental performance of employees (Susan & Fishbein, 1988; Smith, 2000). Due to diverging demands and increased work complexities occupational stress has become one of the protruding and pervading factor in modern organizations. Various researchers like Lee and Wang (2002); Debbie and Jeffery (2003); Akpochafo (2012); Rizvi (2013) reported various physical and demographic factors like physical structure, work climate, gender, locale, length of service, work experience, extra time spent in work and level of qualification are responsible for causing different levels of occupational stress.

In present study occupational stress have been considered as, "feeling of tension, posed pressure on mind and body and dissatisfaction, which arise due to occupational demands of a person characterized by workload, role ambiguity, groupism and external pressure, responsibility, powerlessness, work relationships, personal inadequacy and lack of motivation.

Public and Private Universities: Public Universities are those universities which are directly governed and funded by state government whereas, private universities are self-financed and are under the governance of private management. Established under the state Government Act and listed with UGC as state universities.

1.11. OBJECTIVES OF THE STUDY

1. To explore Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.
2. To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public University Teachers.
3. To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private University Teachers.
4. To compare Perceived Job Performance of Public and Private University teachers on the basis of Gender, Experience and Stream.
5. To compare ICT Orientation of Public and Private University teachers on the basis of, Gender, Experience and Stream.
6. To compare Work Engagement of Public and Private University teachers on the basis of, Gender, Experience and Stream.
7. To compare Occupational Stress of Public and Private University teachers on the basis of, Gender, Experience and Stream.
8. To study the affect of ICT Orientation, Work Engagement, Occupational Stress (Predictor Variables) on Perceived Job Performance (Criterion Variable) of University teachers.

1.12. HYPOTHESES OF THE STUDY

1. There is no significant interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of public university teachers.
2. There is no significant interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of private university teachers.
3. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
4. There is no significant difference in perceived job performance of university teachers on the basis of gender.

5. There is no significant interaction effect of type of university and gender on perceived job performance of university teachers.
6. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
7. There is no significant difference in perceived job performance of university teachers on the basis of experience.
8. There is no significant interaction effect of type of university and experience on perceived job performance of university teachers.
9. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
10. There is no significant difference in perceived job performance of university teachers on the basis of stream.
11. There is no significant interaction effect of type of university and stream on perceived job performance of university teachers.
12. There is no significant difference in ICT orientation of university teachers on the basis of type of university.
13. There is no significant difference in ICT orientation of university teachers on the basis of gender.
14. There is no significant interaction effect of type of university and gender on ICT orientation of university teachers.
15. There is no significant difference in ICT orientation of university teachers on the basis of type of university.
16. There is no significant difference in ICT orientation of university teachers on the basis of experience.
17. There is no significant interaction effect of type of university and experience on ICT orientation of university teachers.
18. There is no significant difference in ICT orientation of university teachers on the basis of type of university.

19. There is no significant difference in ICT orientation of university teachers on the basis of stream.
20. There is no significant interaction effect of type of university and stream on ICT orientation of university teachers.
21. There is no significant difference in work engagement of university teachers on the basis of type of university.
22. There is no significant difference in work engagement of university teachers on the basis of gender.
23. There is no significant interaction effect of type of university and gender on work engagement of university teachers.
24. There is no significant difference in work engagement of university teachers on the basis of type of university.
25. There is no significant difference in work engagement of university teachers on the basis of experience.
26. There is no significant interaction effect of type of university and experience on work engagement of university teachers.
27. There is no significant difference in work engagement of university teachers on the basis of type of university.
28. There is no significant difference in work engagement of university teachers on the basis of stream.
29. There is no significant interaction effect of type of university and stream on work engagement of university teachers.
30. There is no significant difference in occupational stress of public and private university teachers on the basis of type of university.
31. There is no significant difference in occupational stress of university teachers on the basis of gender.
32. There is no significant interaction effect of type of university and gender on occupational stress of university teachers.

33. There is no significant difference in occupational stress of university teachers on the basis of type of university.
34. There is no significant difference in occupational stress of university teachers on the basis of experience.
35. There is no significant interaction effect of type of university and experience on occupational stress of university teachers.
36. There is no significant difference in occupational stress of university teachers on the basis of type of university.
37. There is no significant difference in occupational stress of university teachers on the basis of stream.
38. There is no significant interaction effect of type of university and stream on occupational stress of university teachers.
39. There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of public university teachers.
40. There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of private university teachers.

1.13. DELIMITATIONS

1. Keeping in view the paucity of resources present study is delimited to three states of northern India viz. Haryana, Himachal Pradesh and Punjab.
2. The study is confined to teachers working in the university campus of different public and private universities of these states.
3. The study is confined to three major streams viz. Arts (Arts and Humanities), Commerce (Commerce, Management, and Economics) and Science (Science and Engineering).

1.14. STRUCTURE OF THE THESIS

This thesis is structured into following four chapters.

CHAPTER 1: THEORETICAL ORIENTATION OF THE PROBLEM

The theoretical orientation highlights overview, origin, existence, and surge in related literature of different variables of present study like perceived job performance, ICT orientation, Work engagement and Occupational stress. Further present chapter highlights the need, significance, study objectives, hypotheses and delimitations. The researcher makes an attempt to develop a framework on the variables of the present study and their usefulness and importance in academic society highlighting research gaps and justifying the reasons for conducting present research.

CHAPTER 2: METHOD AND PROCEDURE

Present chapter discusses details of methods and procedure for study. This chapter provides a complete overview of sampling (selection, distribution, technique, frame work) and research design. The present chapter highlights scoring procedure, reliability and validity of already standardized research instruments used to measure work engagement and occupational stress. Further, the chapter highlights the development and validation procedure of two self-development research instruments to measure ICT orientation and perceived job performance.

CHAPTER 3: DATA ANALYSIS AND INTERPRETATION

Present chapter deals with achieving the framed objectives and validation of various hypotheses with the help of different statistical techniques besides this chapter also highlights the interpretation and discussion of the obtained results. This chapter also presents a complete overview of relationships, differences, affect of independent constructs and demographic factors on perceived job performance and all the key findings of the main objectives.

CHAPTER 4: CONCLUSIONS, IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This chapter deals with the conclusion of the results obtained, implications, suggestions for future research and limitations.

BIBLIOGRAPHY

CHAPTER II

METHOD AND PROCEDURE

Previous chapter presents the development of the research problem in light of hypothetical and research background. The present chapter deals with the method and procedure that researcher has applied in order to collect and evaluate the data in accordance with the goals of present study. Method and procedure is one of the most significant part of a research. It sets the stage in formulation of hypothesis and its operational implications to analysis of data. It comprises of decisions regarding what, why, where, when and how of an inquiry. So, it refers to overall strategy that a researcher chooses to integrate into different components of the study in a coherent and logical way. Nature of the problem determines the appropriate method and procedure and how the design should be tailored to meet the needs of an investigation. Nowadays number of data analysis tools and research methods are available, but it is necessary that the researcher should make a wise and judicious decision while selecting the tools required for the study. The present chapter highlights the methods and procedure adopted by the researcher at different levels of this study including design, sampling, tools and techniques used.

2.1. RESEARCH DESIGN

The research design is a fundamental aspect of any research project. It is the blueprint upon which any research is based. It comprises of pre-established plan and procedure for procuring required information, the way through which it is processed and presented as results, in order to address the research problems. Thus research design may be defined as a sequence of steps taken ahead of time to ensure that the relevant data will be collected in a way that permits objective analysis of formulated hypotheses with respect to the research problem. In fact, it is the detailed procedure of testing the hypotheses and analyzing the obtained data. Although there are a number of research designs, the present study is based on quantitative descriptive research design, as the researcher does not have any control on the variables and it is also cross-sectional in nature, as information is gathered from respondents at a particular time. The study also seeks to find the causal relationship between the variables.

2.2. SAMPLING

Sample Size: To determine the sample size for this study the investigator explored the UGC website, the university websites and prospectus. The investigator personally contacted the concerned authorities for the purpose. The investigator obtained the approximate population size i.e. 9116 university teachers. The sample size for the present study was calculated with online sample size calculator to be 370 which constitutes 5% of the total population. Barlett, Kotrlik, and Higgins (2001 p. 48) reported a sample size of 370 is sufficient up-to the population size of 10,000 respondents at 0.05 level of confidence. Number of teachers employed per state university is shown in Table 2.1.

Sample: For the present study approximately a sample of 400 public and private university teachers from different streams i.e. Arts, Commerce and Science, have been selected through convenient sampling technique. Panneerselvam (2011) said that the researcher can choose sampling at their convenience because many respondents do not cooperate, some refuse to answer and some respondents either do not return the questionnaire or return an incomplete one. Supporting Pannerselvam, Ahuja (2014) said in research situations where appropriate list of the respondents is not available probability sampling will be difficult and inappropriate. For present investigation 6 state universities (3 public and 3 private), comparable in terms of choice of streams and faculty strength have been selected from three states of North India i.e. Haryana, Himachal Pradesh and Punjab. For the selection of recognized universities the investigator consulted the UGC website (**Appendix V)** and after obtaining the list of universities, two state universities (one public and one private) having highest number of faculty members (criteria) were selected. Initially, the Manav Bharti University, Himachal Pradesh and the Maharishi Markandeshwar University, Haryana were selected but they did not grant permission for data collection, hence, Arni University and Al-Falah University respectively were approached instead. 720 questionnaires were distributed (120 per university and 40 per stream) in six selected universities (Figure 2.1). Out of 720 questionnaires 401 questionnaires were returned after repeated personal reminders. The questionnaires were then thoroughly checked for completeness, respondent disengagement, missing values and outliers (Hair et al., 2010). 32 questionnaires got discarded during cleaning process. The cleaned data set consisted of 369 responses giving a response rate of 51%.

Table 2.1. Table showing approximate number of faculty members employed in different public and private universities.

UGC Approved State Universities with availability of Sample					
States	**Name of University**	**Type**	**Teachers/ Uni.***	**Teachers/ State***	**Selected Universities**
Himachal Pradesh	1. Himachal Pradesh University.	Public	371	**1375**	H. P. University
	1. Manav Bharti University.	Private	315		Arni University
	2. Arni University.		287		
	3. Eternal University.		174		
	4. Abhilashi University.		130		
	5. Career Point University.		98		
Punjab	1. Guru Nanak Dev University.	Public	350	**4534**	Punjabi University
	2. Punjabi University.		580		
	1. Lovely Professional University.	Private	1350		Lovely Professional University
	2. Chandigarh University.		750		
	3. Desh Bhagat University.		450		
	4**.** Rayat-Bahra.		350		
	5. Guru Kashi University.		318		
	6. RIMT.		200		
	7. Guru Granth Sahib University.		170		
	8. Baba Bhag Singh University.		101		
	9. Akal University.		65		
Haryana	1. Ch. Bansi Lal University.	Public	210	**3207**	Kurukshetra University
	2. Indira Gandhi University.		200		
	3. Kurukshetra University.		530		
	4. Mahareshi Dayanand University.		400		
	5. B. P. Singh Mahila Vidyalaya.		177		
	6. Chaudhary Devi Lal University.		135		
	7. Chaudhary Ranbir Singh Uni.		217		
	1. Maharishi Markandeshwar Uni.	Private	389		Al-Falah University
	2. Al-Falah University.		310		
	3. K.R. Manglam University.		102		
	4. Baba Mast Nath University.		90		
	5. Ashoka University.		80		
	6. SGT University.		78		
	7. Jagannath University.		72		
	8. PDM University.		65		
	9. Apeejay Stya University.		60		
	10. Manav Rachna University.		52		
	11. Starex University.		40		
Total population of present study			**9116**	**9116**	

***** Approximately as on November 2015.

Questionnaire distribution:

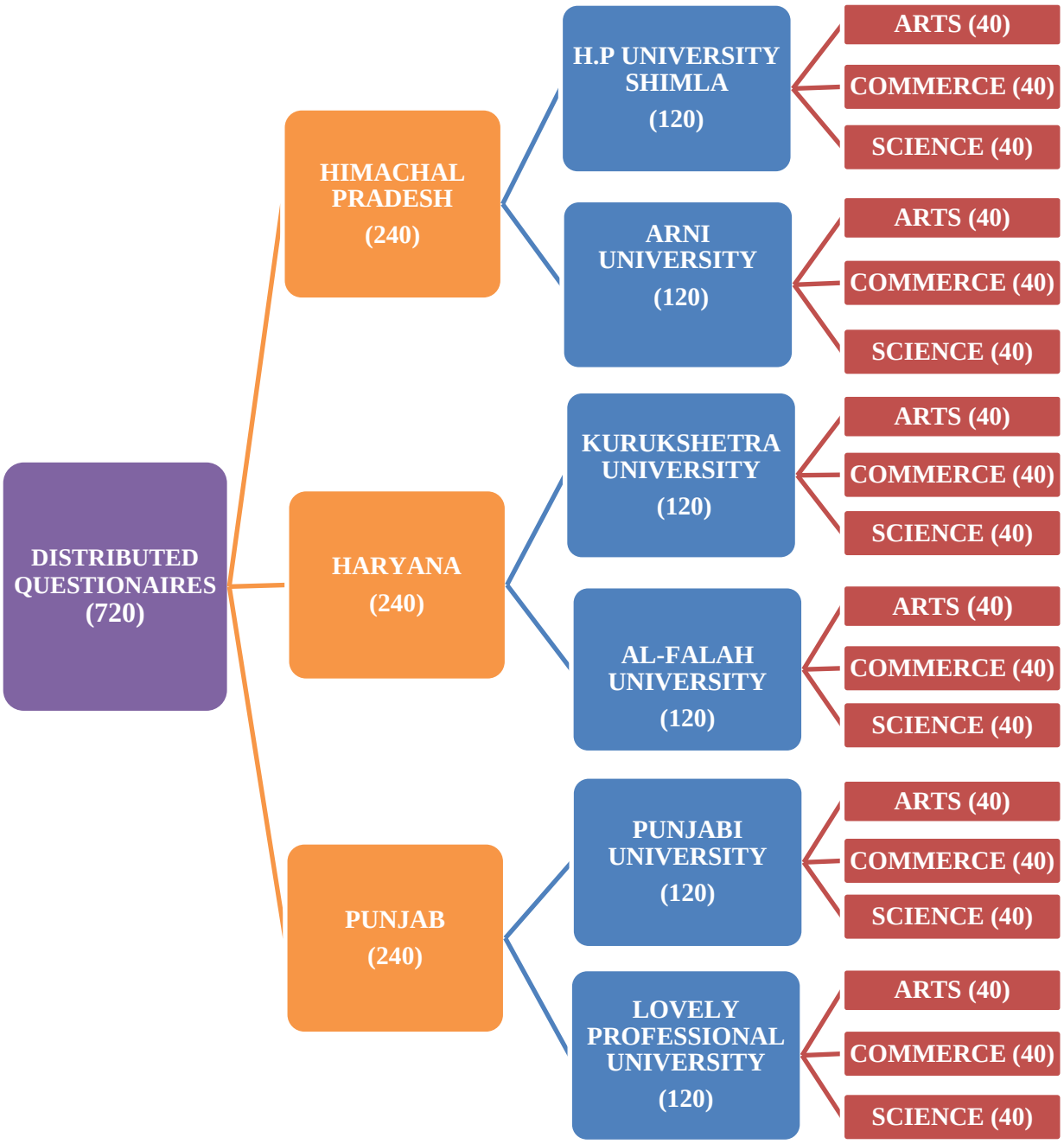

Figure 2.1. Distribution of questionnaires

2.3. DESCRIPTION OF TOOLS

In present era, there are numerous approaches and research tools/instruments available for collecting responses from the respondents on designated constructs. In the present study Likert scale has been used in order to collect the required information, it is found to be most reliable and valid technique. For a particular study, the selection of tests/tools is based on certain criteria like nature of objectives, type of sample, appropriateness of tools, feasibility of time and competence of the researcher. Keeping these criteria in mind the researcher used the following tools.

a. *Perceived Job Performance Scale.*

b. *ICT Orientation Scale.*

c. *Work Engagement Scale.*

d. *Occupational Stress Scale.*

2.3.1. Description Perceived Job Performance Scale (PJPS)

In the present study to assess Teachers Perceived Job Performance a self-developed and standardized scale was used. The development and validation process was carried out by adopting highly reliable and valid scale development procedure, various steps of validation process of perceived job performance scale are listed below.

- **Need for scale development**

The discussion on job performance is confined within its components. Different researchers have different opinions while defining components of job performance. Vishwesvaran et al. (1996) described job performance in terms of observable and non-observable behaviors that can be appraised. Organ (1988, 1997); Borman and Motowidlo (1993); Rothmann and Coetzer (2003) described job performance as a multi-dimensional concept including skills, efficiency, initiatives and resource utilization. Vishwesvaran (1993) asserted that Job performance consists of ten dimensions i.e. total work performance, communication, effort, productivity, knowledge regarding job, interpersonal skills, performance, excellence/quality, rule following, leadership and administrative skills, which overlap with eight components proposed by Campbell et al. (1993) and are generally accepted i.e. communication oral and written, effort of demonstration, non-job specific task proficiency, job specific task proficiency,

maintenance of personal discipline, facilitating team/peer, management/administration and supervision/leadership.

From the analysis of literature, it is evident that traditionally Job Performance was measured on the basis of only two components Task Performance and Contextual Performance which mostly covers the components discussed above (Yonghong & Chongde, 2006; Motowildo et al., 1997; Griffin, Neal, & Neale, 2000; Kennedy et al., 2001; Hanif & Pervez, 2004; Greenslade & Jimmieson, 2007; Johari & Yahya, 2012; Yusoff et al., 2014) ignoring Adaptive Performance which has become an essential component of Job performance due to dynamic work environments of different organizations (Smith et al., 1997; Pulakos et al., 2000). In order to address the issue regarding the components of job performance, Sonnentag et al. (2008) classified job performance into three major components i.e. Task, Contextual and Adaptive Performance as major components of job performance, which are further sub-divided into the eighteen sub-components. Therefore a need is felt to develop an instrument covering all components of job performance.

- **Scaling of items.**

Likert scales are mostly used in survey research which has several "points" with a continuum defining amount or levels of attributes or variables to be measured (Hinkin, Tracey, & Enz, 1997). Therefore summated evaluation technique proposed by Likert (1932) has been employed for developing the present scale. Each statement is rated on five sequential points, "Always", "Frequently", "Sometimes", "Rarely" and "Never". It is recommended that five or seven consecutive points should be used to scale new items, as a significant variance has been observed among measure possessing five or seven-point scale, which is compulsory to examine correlation among items and generate passable internal consistency (Hinkin et al., 1997).

- **Item Generation**

An initial pool of 84 statements was prepared by discussing and taking opinions from research experts, scholars and university teachers, statements were prepared in English and were sorted in the item format. Selected items were shown to 14 subject experts from eight Universities across India. For the purpose of critical evaluation, accuracy, coverage and relevance of content present in the scale based on a fixed criteria 'R' for Acceptable

items. 'M' for items that needs modification. 'D' for Unacceptable items" (refer to Table 2.2) based on the feedback of experts, 29 items were deleted and some were modified. For the evaluation of content validity of 55 items Lawshe (1975 p.567) criteria for calculating content validity ratio (CVR) was followed. $\text{CVR} = \frac{Ne - N/2}{N/2}$. (Ne is no. of panelists who consider item positive and N is total no. of experts). The CVR coefficient for 55 items ranges from 0.57 to 0.85, which indicates the PJP construct possesses good content validity.

Table: 2.2. Item format

Sr. No.	Statement	Retain 'R'	Modify 'M'	Delete 'D'

Accordingly, a primary draft containing 55 statements was prepared for initial 'try-out'. Division of the statements in three domains is as follows; (i) Task Performance -18 (ii) Contextual Performance -14 and (iii) Adaptive Performance - 23. Out of 55 statements, 41 were of Positive nature and 14 statements were of Negative nature.

- **Initial Try-Out**

The preliminary draft of the scale was administered on a sample of 100 university teachers of various streams from three states (Punjab, Haryana and Jammu & Kashmir) out of which only 80 forms were considered and the rest were discarded due to measurement error. The sampling of the initial try-out was carried out by employing convenient sampling technique.

- **Scoring**

Perceived Job Performance is on a five-point Likert scale, in order to obtain the value of score for each statement, response category of the present scale is assigned a specific number (refer to Table 2.3). The total score can be derived from the sum total of scores of responses after reversing negative statements. Higher the score obtained by a respondent on all statements higher the perceived job performance is considered.

Table: 2.3. Scoring procedure for Perceived Job Performance Scale

Nature of statement	Always	Frequently	Sometimes	Rarely	Never
Positive	5	4	3	2	1
Negative	1	2	3	4	5

- **Item Evaluation.**

After completing the initial try-out, statements were assigned numbers according to the aforementioned scoring procedure and the scores were arranged in descending order. Top 20 respondents (upper 25%) with highest total score on the scale and lower 20 respondents (lowest 25%) with lowest total score on the scale were extracted in order to form criterion groups so that each individual statement of the scale can be evaluated as suggested by Edwards and Kilpatrick (1948). After the extraction of upper and lower scores data was analyzed using SPSS 21, by employing independent sample t-test. After observing t-value, only those items were retained having t-value equal or greater than 2 (refer to Table 2.4) which is significant at 0.05 level of significance with a degree of freedom (df) 78 (Garrett & Woodworth, 2007) indicating average responses of lower and upper criterion group for each item varies significantly. Thus out of 55 statements, 12 statements were discarded and remaining 43 were selected for final try-out.

Table 2.4. t-value of 55 statements for Perceived Job Performance scale (Initial try-out)

Sr.	Task Performance (Statements)	t-value
1	I feel I am enough proficient in my teaching skills while delivering lectures.	2.77
2	I believe in my problem solving and decision-making skills.	2.65
3	I believe that knowledge regarding job helps in handling job-based challenges.	3.87
4	I believe, effective teaching methodology is useful for facilitation of student's experiences.	5.34
5	I believe it is not necessary to maintain interpersonal relationships with others at work. *	4.24
6	**I accept criticism from my high-ups in a professional manner.**	**0.69**
7	I believe in my expertise to complete new job assignments.	4.43
8	I believe I should maintain a congenial atmosphere by co-operating with other colleagues in the organization.	5.93
9	Maintaining good rapport with colleagues, supervisors and Sub-ordinates is necessary for my job.	7.50
10	I believe, it is necessary to use clear and understandable language with others.	3.82
11	I believe involvement in work related discussions is wastage of time. *	4.04
12	I feel lack of communication during working hours. *	3.59
13	I believe supervisory tasks are hectic. *	2.14
14	**I slip away whenever any supervisory task is assigned. ***	**1.02**

15	I suggest an alternative to my colleagues that may help them to solve their problem.	4.91
16	I feel I am capable of making workable suggestions in absence of supervisor.	2.85
17	I believe managing situations is an interesting area of maturity.	3.70
18	**I believe speaking up for new changes in the organization is not important. ***	**1.11**
	Contextual Performance	
19	I voluntarily participate in social welfare activities apart from my formal job.	3.84
20	I believe, it is good to assist new colleagues in adjusting to new work environment.	5.38
21	**I take initiative to orient new employees to the department even though not part of my job description.**	**1.14**
22	I work hard to increase my quality of work.	7.25
23	**I arrive early and start work immediately.**	**1.31**
24	I make changes in my work procedures to meet the needs of my colleagues & students.	3.25
25	I believe providing assistance to colleagues is merely important. *	2.23
26	**If I have time, I help colleagues with heavy workloads.**	**1.90**
27	I believe, it is my responsibility to comply with the rules and regulation even in unfavorable situations.	4.49
28	I keep myself up to date with the changing environment of my organization.	5.10
29	**I believe I should follow the prescribed policy of organization even if it inconvenient for me.**	**0.29**
30	I willingly attend meetings/functions that are not compulsory but are considered important for the organization.	3.04
31	I am aware of behavior that affects the image of my organization.	3.68
32	I blame unfavourable organizational objectives. *	4.93
	Adaptive Performance	
33	Under crisis, I am able to shoulder more responsibility than specifically assigned.	4.92
34	I am able to handle my workload under various situations.	2.78
35	**I readily accept responsibilities.**	**1.46**
36	I don't compromise with my work in any situation.	2.21
37	I am unable to cope up with difficulties in the organization. *	3.73
38	I feel restlessness/anxious during working hours. *	2.05
39	I use my expertise/experiences whenever I face any problem.	2.37
40	I feel crippled in problematic situation. *	4.61
41	I prefer to handle tasks individually without consultation for procedures from colleagues. *	3.47

42	**I complete my routine work even having emergency meetings & duties.**	**1.79**
43	I complete my work assignments in time, even if they are difficult.	5.33
44	I integrate modern techniques & audio-visual aids to teach my students.	2.85
45	I make teaching process interesting by integrating subject matter with daily examples.	4.66
46	I believe that using multiple techniques for teaching is wastage of time. *	3.81
47	I am sympathetic towards students irrespective of any personal factor.	3.23
48	I maintain courteous and respectful approach while dealing with others at work.	3.32
49	I respect the ideas of others and express a willingness to learn from these.	5.38
50	I remain cautious & respect the cultural sentiments of colleagues/students.	2.45
51	**I treat others honestly irrespective of cultural differences.**	**1.58**
52	I feel irritated due to language accent of my colleagues. *	3.96
53	**I can manage with insufficient stationary supply.**	**0.69**
54	I am able to work in any allotted cabin either spacious or compact.	5.09
55	**I pay attention towards minor issues like working of fan, electricity supply etc. in the organization.**	**0.81**

Note: ***Boldfaced items indicates rejected items.***

Accordingly, final draft of the present scale was finalized comprising 43 statements out of which 32 are of positive nature and 11 are of negative. Table 2.5.

Table 2.5. Distribution of Positive and Negative items domain wise.

Sr.	Dimension	Nature of Statement	Serial No. of Statements	Total	No. of Items per Domain
I.	Task Performance	Positive	1, 2, 3, 4, 6, 7, 8, 9, 13, 14, 15.	11	15
		Negative	5, 10, 11, 12.	4	
II.	Contextual Performance	Positive	16, 17, 18, 19, 21, 22, 23, 24.	8	10
		Negative	20, 25.	2	
III.	Adaptive Performance	Positive	26, 27, 28, 29, 31, 34, 35, 36, 38, 39, 40, 41, 43.	13	18
		Negative	30, 32, 33, 37, 42.	5	
		Total Positive Items		32	
		Total Negative Items		11	43

- **Validity Assessment**

The validity of the present scale was established with the help of the following procedures: (i) Content Validity, (ii) Convergent Validity.

(i) Content validity: As discussed earlier content validity of PJP scale was established by calculating CVR. The coefficient of CVR ranged from 0.57 to 0.85 for 14 subject experts, which is in line with the suggestions of Lawshe (1975 p.567).

(ii) Convergent Validity: Convergent validity of three factor job performance scale (refer to table 2.6) was computed via correlation between factors and composite score of perceived job performance which is in line with the suggestions of Overbeek, Scholte, Kemp, and Engels (2007); Ghanizadeh and Jahedizadeh (2017).

Table 2.6**.** Convergent Validity for Perceived Job Performance Scale.

Scale	Task Performance	Contextual Performance	Adaptive Performance	Total PJP
Task Performance	--	.604**	.675**	.886**
Contextual Performance		--	.602**	.804**
Adaptive Performance			--	.901**
Total PJP				--

Correlation is significant at the 0.01 level (2-tailed)

- **Internal Consistency**

To estimate the internal consistency of present scale another try-out was conducted on a sample of 210 university teachers, out of which only 160 forms were considered and rest were discarded due to incomplete information. According to Gliem and Gliem (2003) reliability coefficient Alpha '**α**' normally ranges from 0 and 1. However, there is no lower limit to the alpha coefficient. Therefore closer the value of alpha to 1.0 greater will be the internal consistency (p.87). The thumb rule stated by George and Mallery (2003) for the interpretation of Alpha is: "0.5 < Unacceptable; 0.5 to 0.6 Poor; 0.6 to 0.7 Questionable; 0.7 to 0.8 Acceptable; 0.8 to 0.9 Good; and above 0.9 Excellent". For the

present scale, Alpha has been calculated using SPSS 21 and value of 'α'= 0.85 indicated that scale is internally consistent.

- **Development of Norms**

Respondents of the scale were selected from three states of India (Punjab, Haryana and J&K), using convenient sampling technique ensuring that respondents are appropriate in terms of representativeness and adequacy for proposed population.

Table 2.7. Descriptive results of Perceived Job Performance.

N	MEAN	SD
271	137.08	31.86

The range of individual respondents score calculated from the raw score on present scale is 43 to 215, on the basis of descriptive statistics, z-score norms based on 271 responses have been prepared by applying formula (R-score - Mean/SD). Interpretation of z – score and performance level of respondents have been reported in Table 2.8.

Table 2.8. Interpretation of Z - Score and Levels of Perceived Job Performance

Level of Performance	Range of Z-Score TP	Range of Z-Score CP	Range of Z-Score AP	Range of Z-Score Total PJP
Very High	1.93 & Above	1.88 & Above	1.95 & Above	1.96 & Above
High	0.98 to 1.92	0.94 to 1.87	0.97 to 1.94	0.98 to 1.95
Average	-1.00 to 0.97	-0.94 to 0.93	-1.01 to 0.96	-1.00 to 0.97
Low	-2.03 to -1.01	-2.00 to -0.95	-2.00 to -1.02	-2.00 to -1.01
Very Low	-2.04 & Below	-2.01 & Below	-2.01 & Below	-2.01 & Below

- **Applicability of the Scale**

The present scale is administrable on university teachers, to assess their perceived job performance as it sufficiently fulfills the reliability and validity criteria. The present scale can be employed to compare the Perceived Job Performance of respondents (teachers') classified on the basis of different socio-demographic variables.

2.3.2. Description of Information and Communication Technology (ICTOR) Orientation Scale

In the present study to evaluate ICT Orientation of University Teachers, a self-developed scale was used. The development and validation process was carried out by adopting highly reliable and valid scale development procedure, different steps involved in development and validation process of ICT orientation scale are sequentially provided.

- **Need for scale development**

Globalization and developments in technology has made modern educational society to incorporate the ICT to enhance its various elements, as the stakeholders of present education system requires up-to-date information for proper development. To serve this purpose various instruments measuring different elements of ICT have already been developed like ICT Usage, ICT Skills, Attitude Towards Computers, E-Learning Orientation, Perceptions and Attitude Towards ICT, developed by various eminent researchers (Smalley, Graff, & Saunders, 2001; MacKeogh, 2003; Albirini, 2006; Gulbahar & Guven, 2008; Usluel, Askar, & Bas, 2008; Christensen & Knezek, 2009; Kumar & Ratnakar, 2011; Oye, Iahad, & Rabin, 2011; Papaioannou & Charalambous, 2011; Blau & Peled, 2012; Edmunds, Thorpe, & Conole, 2012; Vandana, 2013; Vigneshwaran & Dange, 2013) but as such there is no instrument which measures basic orientation of employees towards ICT. Researches on ICT orientation is expected to have a huge applicability in the coming years and what researchers need is a methodologically valid and reliable instrument which measures ICT Orientation. Current study intends to measure the orientation of University Teachers towards ICT, to improve the quantum of knowledge and serve the purpose to solve problems of the concerned area and to sum-up general disposition of university teachers towards the orientation of ICT in their teaching profession. This study attempt to bridge this gap by developing a methodologically valid and a reliable instrument measuring ICT orientation thereby providing a roadmap for future research.

- **Method**

The present study uses deductive scale development approach (Hinkinet al., 1997 p.103). This study follows highly valid and reliable scale development procedures by Hinkin

(1995) which is in accordance with Churchill (1979). Data was collected by employing convenient sampling technique, in the form of two independent samples of 80 and 170. The sample constitutes university teachers of north India covering J&K, Punjab and Haryana. The procedure of scale development given by Hinkin (1995) is shown in the figure below.

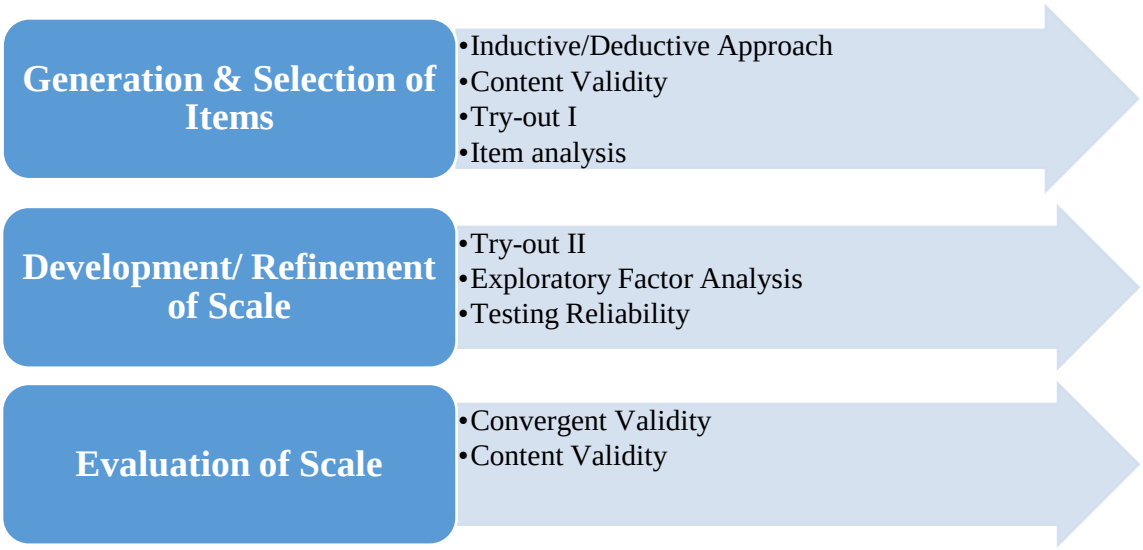

Figure 2.2. Scale development procedure.

Source: Verma and Bashir (2016)

- **Scaling of Items**

Mostly Likert scales are used in survey research, including several "points" with a continuum defining amount or levels of attributes or variables to be measured (Hinkin et al., 1997). Therefore summated evaluation technique proposed by Likert (1932) has been equipped for developing the present scale. Each statement is rated on five sequential points (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2 and Strongly Disagree = 1). It is recommended that five or seven consecutive points should be used to scale new items, as a significant variance has been observed among measure possessing five or seven-point scale which is compulsory to examine correlation among items and generate passable internal consistency (Hinkinet al., 1997). The composite score can be derived from the sum total of the scores of individual statements after reverse the numbering for

negative statements, Table 2.9. The sum total of all the scores obtained by a respondent on all statements is considered as total ICT Orientation score.

Table 2.9. Scoring Procedure for ICT Orientation Scale.

Nature of statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Positive	5	4	3	2	1
Negative	1	2	3	4	5

STAGE I: GENERATION AND SELECTION OF ITEMS

- **Item-Pool**

Apart from the rigorous analysis of literature, discussions were done with research scholars, field experts and university teachers with regards to diverse dimensions of ICT. The scales for ICT Usage, ICT Skills, Attitude Towards' Computers, E-Learning Orientation, Perceptions and Attitude Towards ICT developed by various eminent researchers like (Smalley, Graff, & Saunders, 2001; MacKeogh, 2003; Albirini, 2006; Gulbahar & Guven, 2008; Usluel, Askar, & Bas, 2008; Christensen & Knezek, 2009; Kumar & Ratnakar, 2011; Oye, Iahad, & Rabin, 2011; Papaioannou & Charalambous, 2011; Blau & Peled, 2012; Edmunds, Thorpe, & Conole, 2012; Vandana, 2013; Vigneshwaran & Dange, 2013) and their suggestions were kept in forefront while finalizing the item pool of the present scale. Finally, an initial pool of 60 items/statements for ICT Orientation scale were generated in English. The statements of the first draft were shown to 18 subject experts, including language experts belonging to eight Indian universities for the purpose of critical evaluation, accuracy, coverage and relevance of content present in the scale by requesting to adopt the following criteria 'R' for Acceptable Item. 'M' if item needs modification. 'D' for Unacceptable items. On the basis of expert suggestions 22 statements were deleted and few were modified. To evaluate the content validity of 38 items, Lawshe (1975 p.567) criteria for calculating CVR (content validity ratio) was followed. $\text{CVR} = \frac{Ne - N/2}{N/2}$. (Ne is no. of panelists who consider item positive and N is total no. of experts). The CVR coefficient for 38 items ranges from 0.66 to 0.88, which indicates the ICTOR construct shows good content validity.

- **Item Refining**

The first draft of the scale was administered on a sample of 100 university teachers covering three states i.e. Haryana, Jammu & Kashmir and Punjab through convenient sampling technique, out of which only 80 forms were retained and rest were discarded due to incomplete information. The sampling of the initial try-out was carried out by employing convenient sampling technique. After scoring, the scores were arranged in the descending order. Top 20 respondents (upper 25%) with highest total score and lower 20 respondents (lower 25%) with lowest total score on the scale were extracted in order to form criterion groups so that each individual statement can be evaluated as suggested by Edwards and Kilpatrick (1948). After the extraction of criterion groups, data was analyzed (SPSS 21) by employing independent sample t-test, t-value for all 38 items was calculated and only those items having significant t-value ≥ 1.99 at 0.05 level of significance with a degree of freedom (df) 78 (Garrett and Woodworth, 2007) were retained (refer to Table 2.10), indicating that average responses of criterion groups significantly varies for each item. Hence out of 38 statements, 4 statements were rejected and remaining 34 were selected for final try-out. Out of 34 items 22 are positive in nature and 12 are negative.

Table 2.10. t-value of 38 items for ICT Orientation scale (Initial try-out).

Sr. No.	t-value	Sr. No.	t-value	Sr. No.	t-value	Sr. No.	t-value
1	3.92	11	4.37	21	5.28	31	3.98
2	6.44	12	2.66	22	4.23	32	2.93
3	4.17	13	2.87	23	2.63	33	3.13
4	4.07	14	4.29	24	3.67	34	4.06
5	6.23	15	3.93	25	2.63	35	2.26
6	7.29	16	**1.84**	26	2.25	36	3.03
7	6.90	17	3.14	27	3.18	37	4.85
8	**1.23**	18	2.33	28	2.33	38	2.39
9	2.75	19	2.78	29	6.01		
10	3.89	20	**1.68**	30	**1.08**		

Note: ***Boldfaced items indicates rejected items.***

STAGE II: DEVELOPMENT/REFINEMENT OF THE SCALE

- **Exploratory Factor Analysis**

The final draft comprising of 34 items was administered on 200 university teachers by employing convenient sampling technique. Out of 200, only 170 forms were returned with complete information and the rest were incomplete and hence discarded. Before performing Exploratory Factor Analysis for validation of ICTOR Kaiser Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and Bartlett test of sphericity for factorability Bartlett (1954) were computed in order to test the suitability of data for exploratory factor analysis. The results indicated Kaiser-Meyer-Olkin Measure of sample adequacy (MSA) was found to be 0.680, depicting that the sample is adequate for further proceeding (Tabachnick & Fidell, 1996) and Bartlett's test of Sphericity revealed a statistically significant number of correlations among variables, χ^2 = 1752.808, means the sample is suitable for structure detection. Using Principal Component Analysis for data (N=170) ICTOR was assumed as a multidimensional construct, with dimensions represented by factors, therefore, Orthogonal Rotation with Varimax was employed to generate factors with a maximum dispersion of loading within factor Field (2009). Rotations converged in 25 iterations revealed 28 items loaded on eight underlying factors, with factor loading greater than or equal to (≥ 0.40 ignoring signs) as the amount of sample ranges in-between, 150 – 200 (Hair, Black, Babin, & Anderson, 2010) which accounted for 64.491% of total variance. The extracted eight factors are named appropriately on the basis of variables (Statements) representing each factor. The result of EFA is summarized in Table 2.11.

Table 2.11. Exploratory Factor Analysis for ICTOR Scale

Sr.	Factor	Variance	Statements	Loading
1	**EOU.**	16.195	It is difficult for me to explain the use of ICT to my students.*	0.717
			Libraries are better than ICT resources for transactional purposes.*	0.694
			Different aspects of ICT-based methodologies are very challenging in teaching learning process.*	0.646
			ICT facilities reduce book cultures among students. *	0.540

2	**MOT.**	24.616	ICT-based methodologies encourage integrated learning that promotes thematic classroom approach.	0.757
			Usage of multimedia techniques in teaching-learning process is a hectic job. *	0.649
			ICT-based methodologies promote conducive teaching & learning environment.	0.634
3	**ADV.**	30.889	Use of the ICT-based methodologies raise the curriculum standards.	0.757
			ICT-based methodologies are positively correlated with the academic performance of students.	0.615
			Application of ICT unlocks unfavourable sites for students. *	0.576
			Online surfing of learning material makes my students more effective day by day.	0.449
4	**E & C**	36.727	ICT enabled teaching methodologies build confidence for preparation & presentation of lectures.	0.626
			Interaction through ICT is less effective than face to face communication. *	0.575
			It is easier to communicate through ICT applications like online quizzes, educational blogs & common e-mails.	0.565
			Usage of ICT-based methodologies brings positive change in the classroom.	0.487
			ICT usage costs physical and social activities.*	0.438
5	**COM.**	41.700	ICT-based methodologies are very supportive in developing my working style.	0.745
			Availability of ICT resources increases my productivity and professional effectiveness.	0.597
			Using ICT-based methodologies is not appropriate for my profession.*	0.577
6	**FAC.**	46.364	Use of PowerPoint presentations during lectures enables me to clarify the basic concepts more effectively.	0.750
			ICT enabled teaching is better than traditional methods of teaching.	0.681
			Increased ICT usage makes our lives easier.	0.447
			Using ICT-based methodologies in teaching learning process make teachers casual & lenient.*	0.764

7	**AVO.**	50.492	ICT provides my students with opportunities to plagiarize content using copy & paste.*	0.666
			It is convenient to share assignments, lecture notes & study material through ICT.	0.411
8	**PER.**	54.443	Use of information technology is not related with the improvement of course quality.*	0.766
			Different learning preferences of students are properly handled with the help of ICT.	0.676
			I face difficulties while dealing with ICT equipments.*	0.419

- **Reliability Analysis**

Internal consistency was estimated by interpreting the calculated value of Cronbach's Alpha (α). According to Gliem and Gliem (2003) reliability coefficient Alpha 'α' normally ranges between 0 and 1. However, there is no lower limit to the alpha coefficient. Therefore closer the value of alpha to 1.0, greater will be the internal consistency (44, p.87). For the present scale Alpha has been calculated by SPSS 21 and the value of 'α'= 0.821. This reflects ICTOR has good internal consistency (George & Mallery, 2003).

STAGE III: EVALUATION OF SCALE

- **Convergent Validity**

Pearson's coefficient of correlation demonstrated higher levels of significant positive correlations among eight extracted factors (Ease of Use, Motivation, Advantage, Effectiveness & Communication, Compatibility, Facility, Avoidance, and Perceptions) and composite score of ICT orientation. The estimation values of correlation coefficient represents a good convergent validity of ICTOR scale, which is in line with the suggestions of Overbeek et al. (2007); Ghanizadeh and Jahedizadeh (2017) refer to Table 2.12.

Table 2.12. Convergent Validity for ICTOR Scale.

Scale	F1	F2	F3	F4	F5	F6	F7	F8	Total
F1	--	.073	.259**	.284**	.279**	.248**	.393**	.228**	.618**
F2		--	.276**	.200**	.248**	.130	.145	.095	.449**
F3			--	.170*	.339**	.301**	.151*	.346**	.603**
F4				--	.323**	.223**	.336**	.160*	.591**
F5					--	.414**	.315**	.220**	.673**
F6						--	.199**	.289**	.581**
F7							--	.175*	.554**
F8								--	.527**
ICTOR									--

/*. Correlation is significant at the 0.01 & 0.05 level (2-tailed).

- **Content validity**

Content validity of ICTOR scale was established by evaluating CVR value. The value of CVR coefficient ranged from 0.66 to 0.88 for 18 subject experts indicating ICTOR construct possess a good content validity which is in line with the suggestions of Lawshe (1975 p.567).

- **Development of Norms**

For the procedure of norm development, respondents were selected from three north Indian states (Punjab, Haryana and J&K), employing convenient sampling technique ensuring that respondents are appropriate in terms of representativeness and adequacy for proposed population. Calculated descriptive statistics from collected data is presented in Table 2.13 below.

Table 2.13. Descriptive statistics of ICT Orientation.

N	MEAN	S.D
210	87	17.15

The range of individual respondents' score calculated from the raw score on present scale is 28 to 140 on the basis of descriptive statistics given in the above Table, z-score norms based on 210 responses have been prepared. Interpretation of z–score and level of respondents towards ICT Orientation have been reported in Table 2.14 respectively.

Table 2.14. Norms for interpreting Z-Score and Levels of ICT Orientation

Level of ICTOR ↓	Range of Z-Score EOU	Range of Z-Score MOT	Range of Z-Score ADV	Range of Z-Score E&C	Range of Z-Score COM	Range of Z-Score FAC	Range of Z-Score AVO	Range of Z-Score PER	Range of Z-Score ICTOR
Very High	**1.77 & Above**	**1.62 & Above**	**1.78 & Above**	**2.00 & Above**	**1.81 & Above**	**1.98 & Above**	**1.89 & Above**	**1.67 & Above**	**1.95 & Above**
High	0.83 to 1.76	0.94 to 1.61	0.94 to 1.77	0.49 to 1.99	1.02 to 1.80	1.04 to 1.97	0.73 to 1.88	0.85 to 1.66	0.98 to 1.94
Average	**-1.05 to 0.82**	**-1.46 to 0.93**	**-1.02 to 0.93**	**-1.04 to 0.48**	**-0.98 to 1.01**	**-0.82 to 1.03**	**-1.20 to 0.72**	**-1.20 to 0.84**	**-0.99 to 0.97**
Low	-1.99 to -1.06	-1.80 to -1.47	-2.13 to -1.03	-1.95 to -1.05	-2.18 to -0.99	-2.20 to -0.83	-1.97 to -1.21	-2.01 to -1.21	-1.95 to -1.00
Very Low	**-2.00 & Below**	**-1.81 & Below**	**-2.14 & Below**	**-1.96 & Below**	**-2.19 & Below**	**-2.21 & Below**	**-1.98 & Below**	**-2.02 & Below**	**-1.96 & Below**
Mean	12.37	9.25	12.65	16.41	9.45	8.77	9.11	8.93	87
SD	3.19	2.86	3.57	3.28	2.49	2.14	2.59	2.44	17.15
Range	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Applicability of the scale:

The present scale is a reliable and valid instrument to measure the ICT Orientation of the University teachers of different streams. The present scale can be administered to compare the ICT Orientation of University Teachers on the basis of various independent variables and socio-demographic profile.

2.3.3. Description of Work Engagement Scale (WES)

In present research Work Engagement of University Teachers has been measured by work engagement scale developed by Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002). Initially, the scale has been validated on a sample 619 employees, after that further work on validation process was carried out in 2006 by Schaufeli, Bakker, and Salanova (2006) on a sample of 14,521 employees of different professions from 10 countries. Work Engagement scale was also validated on the Indian sample during two consecutive years by Alok (2013); Chaudhary, Rangnekar, and Barua (2012); Kataria, Garg, and Rastogi (2013). The present scale consists of three independent components (Vigor, Dedication and Absorption) that measure work engagement of an individual through different perspectives: cognitive, affective, psychomotor and social. Dimension wise item distribution of Work Engagement scale is provided below in Table 2.15.

Table 2.15. Dimension wise item distribution of Work Engagement.

Sr.	Components	Sr. No. of items	Total
1	**Vigor**	1,4,8,12,15,17.	6
2	**Dedication**	2,5,7,10,13.	5
3	**Absorption**	3,6,9,11,14,16.	6
	Total		17

- **Scoring procedure:**

Work Engagement is a 17 item self-reported construct based on 7 point Likert scale ranging from 0 to 6 for “Never”, “Almost Never”, “Rarely”, “Sometimes”, “Often”, “Very Often” and “Always” respectively. Out of seven alternatives, the respondent has to select one alternative which fits his opinion. All the responses are summed up to get the composite score of Work Engagement.

- **Reliability:**

In order to explore the reliability of the WES two aspects, Test-retest and Cronbach alpha (α) of reliability measure have been applied. The Test-retest reliability of WES ranges from .63 to .72 calculated over a period of one year. While Cronbach alpha ranges from .88 to .95 showing that WES possess a high-reliability index. The range of Test-retest and Cronbach's alpha is shown in the Table 2.16 below.

Table: 2.16. Test-retest and Cronbach's α for total WES scale 17 item.

	Reliability Type	**Range**
WES-17	Test retest reliability (One year interval)	.63 – .72
	Cronbach Alpha	.88 – .95

- **Norms of WES**

A range of five point category was used to establish the statistical norms for work engagement scale. The five categories and their interpretation is provided in Table 2.17 below.

Table 2.17. Norms for interpreting Level of work engagement.

Sr.	**Vigor**	**Dedication**	**Absorption**	**Total Score**	**Level**
1.	**5.61 & Above**	**5.80 & Above**	**5.36 & Above**	**5.54 & Above**	**Very High**
2.	4.81-5.60	4.91-5.79	4.41-5.35	4.67 to 5.53	Highly
3.	**3.21-4.80**	**3.01-4.90**	**2.76-4.40**	**3.07 to 4.66**	**Average**
4.	2.18-3.20	1.61-3.00	1.61-2.75	1.94 to 3.06	Low
5.	**2.17 & Below**	**1.60 & Below**	**1.60 & Below**	**1.93 & Below**	**Very Low**

2.3.4. Description of Teacher's Occupational Stress Scale (TOSS)

Occupational stress of university teachers was assessed by using Teachers' Occupational Stress Scale developed by Sharma & Kaur (2015). Teachers' occupational stress scale comprises of 30 items covering nine components viz. Workload, Role Ambiguity, Groupism and External Pressure, Responsibility, Powerlessness, Work Relationships, Working Conditions, Personal Inadequacy and Lack of Motivation. Dimension wise distribution of items has been presented in Table 2.18 below:

Table: 2.18. Dimension wise item distribution of Teachers Occupational Stress Scale

Sr.	Components (sub-scales) of TOSS	Sr. No of items	Total
1	Workload	1, 9, 17, 20, 28	05
2	Role Ambiguity	6, 11, 25	03
3	Groupism and External Pressure	7, 8, 24	03
4	Responsibility	13, 23, 30	03
5	Powerlessness	4, 10, 14, 22	04
6	Work Relationships	2, 5, 29	03
7	Working Conditions	3, 15, 18	03
8	Personal Inadequacy	12, 26, 27	03
9	Lack of Motivation	16, 19, 21	03
	Total		**30**

- **Scoring procedure:**

Teachers, occupational stress scale is a five point Likert scale, consisting of 30 items. All items are positively worded, therefore all items are given a score of 5, 4, 3, 2, 1 for 'Strongly Agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly Disagree' respectively. Sum of numeric values gives aggregate occupational stress score for a subject. A composite score of occupational stress scale ranges from 30 to 150 indicating lowest to highest level of Teachers occupational stress scale.

- **Reliability:**

To calculate the reliability of teacher's occupational stress scale test-retest approach of estimating reliability was adopted. The test-retest coefficient worked out to be 0.801 in a time interval of 21 days. Following Table records obtained reliability coefficient.

Table 2.19. Test-retest reliability coefficient of TOSS.

	Reliability Type	Value
TOSS	Test-retest reliability (21 days of interval)	0.801

- **Norms of TOSS**

Descriptive statistics for TOSS based on 1800 teachers is present in Table 2.20 below.

Table 2.20. Descriptive results for Teachers Occupational Stress Scale.

N	Mean	SD
1800	94.83	15.86

On the basis of above results, Z-score Norms has been prepared in Table 2.21 below.

Table 2.21. Z-score Norms for Teachers Occupational Stress Scale.

RAW SCORE	Z-score	RAW SCORE	Z-Score	RAW SCORE	Z-Score	RAW SCORE	Z–Score
55	-2.51	**75**	-1.24	**95**	0.01	**115**	1.26
56	-2.44	**76**	-1.18	**96**	0.07	**116**	1.32
57	-2.37	**77**	-1.12	**97**	0.13	**117**	1.38
58	-2.31	**78**	-1.06	**98**	0.19	**118**	1.44
59	-2.25	**79**	-0.99	**99**	0.26	**119**	1.51
60	-2.18	**80**	-0.93	**100**	0.32	**120**	1.57
61	-2.12	**81**	-0.86	**101**	0.38	**121**	1.63
62	-2.06	**82**	-0.80	**102**	0.44	**122**	1.69
63	-2.00	**83**	-0.74	**103**	0.51	**123**	1.76
64	-1.93	**84**	-0.67	**104**	0.57	**124**	1.82
65	-1.87	**85**	-0.61	**105**	0.63	**125**	1.88
66	-1.81	**86**	-0.55	**106**	0.69	**126**	1.94
67	-1.74	**87**	-0.49	**107**	0.76	**127**	2.01
68	-1.68	**88**	-0.42	**108**	0.82	**128**	2.07
69	-1.62	**89**	-0.36	**109**	0.88	**129**	2.13
70	-1.56	**90**	-0.30	**110**	0.94	**130**	2.19
71	-1.49	**91**	-0.24	**111**	1.01	**131**	2.26
72	-1.43	**92**	-0.17	**112**	1.07	**132**	2.32
73	-1.37	**93**	-0.11	**113**	1.13	**133**	2.38
74	-1.31	**94**	-0.05	**114**	1.19	**134**	2.44

Range of seven point category to has been adopted to establish the statistical norms for occupational stress scale (refer to Table 2.22).

Table: 2.22. Z - Score and Level of Attitude towards Teachers Occupational Stress

Sr.	Range of Z – Score	Ranking	Level
1.	**+2.01 & Above**	**A**	**Extremely High**
2.	+1.26 to +2.00	B	High
3.	+0.51 to +1.25	C	Above Average
4.	**- 0.50 to + 0.50**	**D**	**Average/Moderate**
5.	-0.51 to -1.25	E	Below Average
6.	-1.26 to -2.00	F	Low
7.	**-2.01 & Below**	**G**	**Extremely Low**

2.4. PROCEDURE FOR DATA COLLECTION

Prior to data collection the investigator laid a well-prepared plan for university selection with required sample for the present study by exploring available data from the UGC

website and by adopting criterion sampling technique for university selection. After that, the investigator visited the selected universities. Eventually, the investigator contacted the concerned authorities (Registrars and HOD's) to seek their permission for interaction with teachers and administration of the research instruments on teachers (conveniently). Finally, the investigator established rapport with the teachers through persuasive discussion before actual administration of the research instruments. The purpose of the study was briefly and distinctly explained to every single respondent. The respondents were requested to read the instructions carefully and fill general/demographic information on the first page of the booklet. Keeping in view their busy schedule, respondents were given time according to their convenience. Hence each research instrument was administered personally on individual basis. Every respondent was assured that his/her response will be kept confidential. Due care was taken while checking the filled scale some of the scales were discarded due to incomplete information. The overall response rate remained good as the respondents were teaching professionals and were aware about the research process.

2.5. STATISTICAL TECHNIQUES

Once the data was collected and tabulated in database format, data analysis was carried out using SPSS 21. Examination of missing frequencies, scoring on negative items and identification and removal of significant outliers was carefully carried out. To address the 1st objective of the study, (i.e. exploring of study variables) mean, standard deviation and percentage were computed on different dimensions and composite scores of Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.

To study the 2nd and 3rd objectives related to interrelationship, Pearson's bivariate correlations were computed to examine strength and direction of the interrelationships between study variables.

Two-way analysis of variance (ANOVA) was conducted to address the 4th, 5th, 6th and 7th objectives. That compares the study variables i.e. Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress, on the basis of demographic factors like gender, experience and stream.

To ascertain the contribution of predictor variables (independent variables) to criterion variable (dependent variable) multiple regression analysis was conducted following the order followed by previous researches to address the 8th objective.

CHAPTER III

ANALYSIS AND INTERPRETATION

This chapter propounds on analysis and interpretation of collected data in order to achieve formulated objectives and validate the hypothesis of present study by applying suitable statistical techniques. Data was collected according to predetermined method and procedure. Present chapter highlights the use of various statistical tools for analysis of the data. Data is a meaningless heap of information unless a researcher does not classify it systematically, analyze scientifically, interpret intelligently and conclude rationally. The data analysis was carried by quantitative analysis techniques applying both descriptive and inferential statistics. Apart from percentage statistics data was analyzed by applying multiple correlation, two-way ANOVA and multiple regression analysis. The data analysis for present study has been carried out as per following breakups.

3.1. SECTION A: DATA CLEANING

In quantitative research despite adapting careful procedures in methodology, design, sampling, instrument selection etc. occurrence of errors is still a possibility. Before proceeding with data analysis, the investigator must rigorously analyze the data for identification of missing values and outliers (responses falling outside the range). According to Van den Broeck, Cunningham, Eeckels, and Herbst (2005) data cleaning is a process of quality assurance which facilitates a researcher with screening/monitoring, diagnosing and eliminating abnormalities of a data set. Due to its diverse benefits data cleaning has attained a substantial attention of researchers (Hadi, 1992). The main purpose of data cleaning is to identify and remove the errors and minimize their effect on obtained results. In the present study prior to analysis and result generation data was rigorously analyzed for missing values and outliers using SPSS 21. Various descriptive statistics like skewness, kurtosis, normality plots, histogram, Q-Q plots and box plots were studied to identify the missing values and removing of outliers from the data. During the data cleaning process, 32 outliers were detected and removed. Further Kolmogorov, Shapiro-Wilk and Levene Test of Homogeneity were also calculated to ensure the normality and equal variance of the data. Calculated statistics for different normality tests is presented in Table 3.1.

Table 3.1. Tests of normality (Kolmogorov & Shapiro-Wilk) and equal variances of the data (N=401).

Tests	**Kolmogorov-Smirnov[a] Test**			**Shapiro-Wilk Test**			**LeveneTest of Homogeneity of Variances**			
Variables	Statistic	df	p-value	Statistic	Df	p-value	Levene Statistic	df1	df2	p-value
PJP	.025	369	**.200***	.998	369	**.986**	.416	1	367	**.519**
ICTOR	.030	369	**.200***	.998	369	**.925**	.230	1	367	**.632**
WE	.024	369	**.200***	.997	369	**.755**	1.677	1	367	**.196**
OS	.026	369	**.200***	.998	369	**.981**	.556	1	367	**.456**

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3.1 revealed the p-value of study variables i.e. Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress is greater than threshold value of 0.05, providing sufficient evidence for data normality and homogeneity of equal variances. Therefore it is clear from the statistics calculated in Table 3.1 the researcher can proceed for further analysis of the data.

3.2. SECTION B: DESCRIPTIVE ANALYSIS

3.2.1. Overall sample distribution on Perceived Job Performance.

Table 3.2. Percentage-wise distribution of overall sample on different levels of perceived job performance.

Sr.	**Levels of Perceived Job Performance**	**N**	**%age**
1	Very High	9	2.44
2	High	53	14.36
3	Average	248	67.20
4	Low	52	14.10
5	Very Low	7	1.90
Total		**369**	**100**

Perusal of Table 3.2 shows percentage-wise distribution of overall sample on different levels of perceived job performance. The data analysis revealed that 2.44% of overall sample reported in the very high category of perceived job performance. Almost a similar percentage i.e. 14.36% and 14.10% of the total sample reported in high and low level of

perceived job performance respectively. The Table 3.2 further revealed that highest percentage of total sample i.e. 67.20% reported in average level and 1.90% of employees reported in very low level of perceived job performance. The overall results revealed the highest percentage of the sample reported in average level followed by high, low, very high and very low level of perceived job performance respectively, for further understanding refer to Figure 3.1.

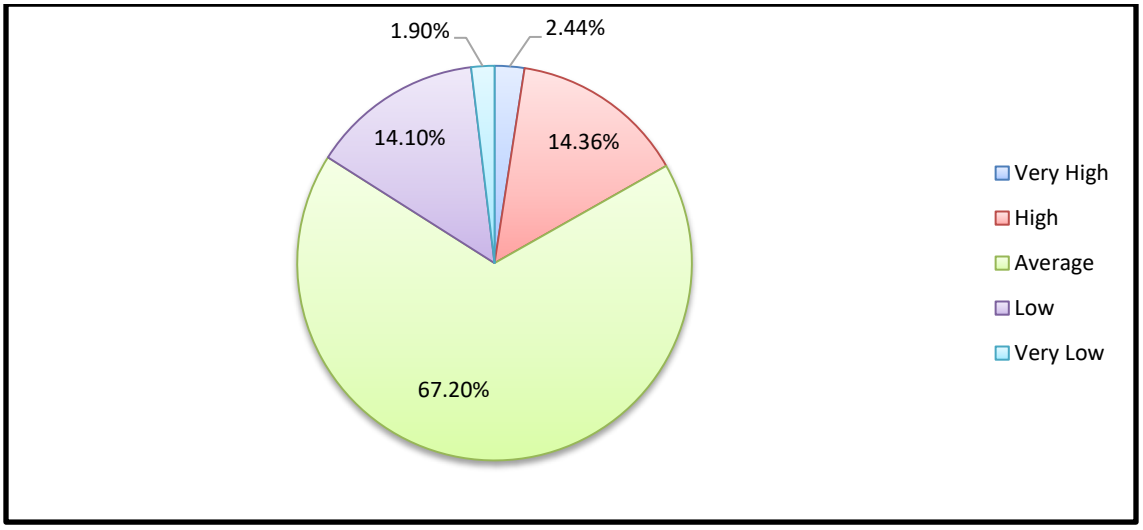

Figure 3.1 Percentage-wise distribution of overall sample in different levels of perceived job performance.

3.2.2. Perceived Job Performance of Public and Private University teachers.

Table 3.3. Domain and overall percentage-wise distribution of public university teachers on different levels of Perceived Job Performance.

Levels →		Very High	High	Average	Low	Very Low	Total
Dimensions ↓							
Task	**N**	3	41	124	24	3	195
Performance	**%**	**1.54**	**21.03**	**63.59**	**12.30**	**1.54**	100
Contextual	**N**	9	44	101	40	1	195
Performance	**%**	**4.61**	**22.57**	**51.79**	**20.52**	**0.51**	100
Adaptive	**N**	3	28	138	19	7	195
Performance	**%**	**1.54**	**14.36**	**70.77**	**9.74**	**3.59**	100
Perceived Job	**N**	6	32	128	26	3	195
Performance	**%**	**3.08**	**16.41**	**65.64**	**13.33**	**1.54**	100

Table 3.4. Domain and overall percentage-wise distribution of private university teachers on different levels of Perceived Job Performance.

Levels →		Very High	High	Average	Low	Very Low	Total
Dimensions↓							
Task Performance	**N**	3	24	117	25	5	174
	%	**1.72**	**13.80**	**67.24**	**14.37**	**2.87**	100
Contextual Performance	**N**	6	14	109	42	3	174
	%	**3.45**	**8.05**	**62.64**	**24.14**	**1.72**	100
Adaptive Performance	**N**	2	33	109	28	2	174
	%	**1.15**	**18.97**	**62.64**	**16.09**	**1.15**	100
Perceived Job Performance	**N**	3	21	120	26	4	174
	%	**1.72**	**12.06**	**68.97**	**14.95**	**2.30**	100

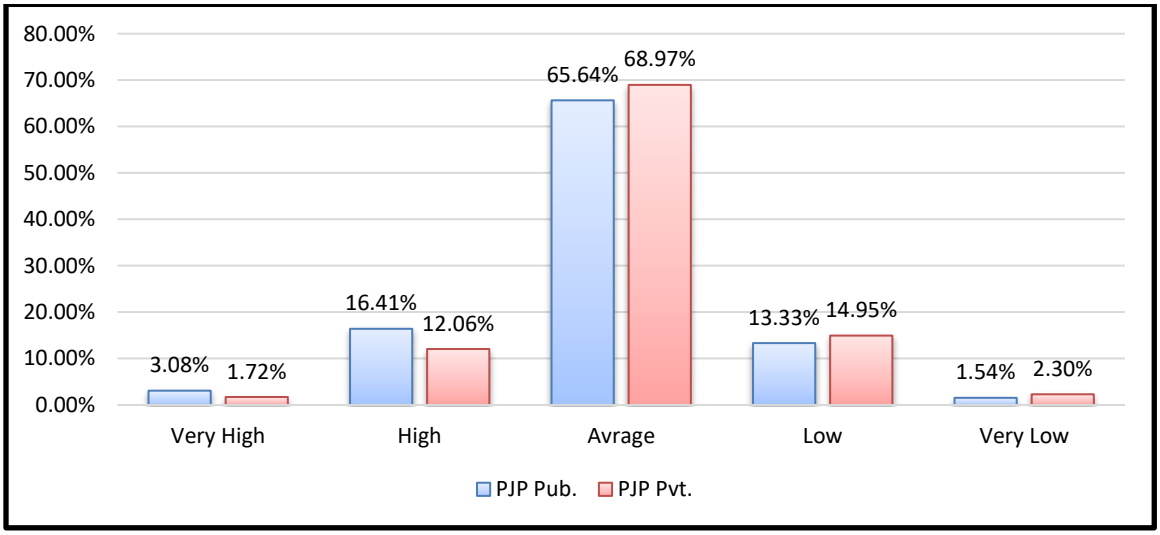

Figure 3.2. Percentage-wise distribution of public and private university teachers in different levels of perceived job performance.

Table 3.3 and 3.4 provide details of percentage-wise distribution of public and private university teachers on different dimensions (Task, Contextual and Adaptive performance) of perceived job performance. Statistics present in Table 3.3 and 3.4 reveals public university teachers reported slightly less percentage i.e. 1.54% in very high level of task performance as compare to private university teachers (1.72%). Results further revealed that public university teachers reported a percentage of 21.05% in high level of task

performance which is greater than the percentage reported by private university teachers (13.80%). While, observing the average level of task performance the results revealed that private university teachers reported higher percentage i.e. 67.24% in average level as compared to public university teachers (63.59%). On the other hand, comparing the below average levels of task performance the results revealed that public university teachers reported less percentage i.e. 12.30% and 1.54% in low and very low level of task performance respectively as compared to their private counterparts who reported a percentage of 14.37% and 2.87% in low and very low level of task performance.

On exploring the contextual performance the results revealed (refer to Table 3.3 and 3.4) that public university teachers reported higher percentage i.e. 4.61% and 22.57% in very high and high level of contextual performance respectively as compared to their private counterparts who reported 3.45 (very high) and 8.05 (high) in above average levels of contextual performance. In case of average level the results revealed that private university teachers reported a higher percentage (62.64%) in average level as compared to public university teachers (51.79%). While examining the below average levels of contextual performance, the statistics presented in Table 3.3 and 3.4 revealed that public university teachers reported a lower percentage in low (20.52%) and very low (0.5%) level of contextual performance as compared to private university teachers who reported 24.4% in low and 1.72% in very low level of contextual performance.

In case of adaptive performance, the perusal of Table 3.3 and 3.4 further revealed that public university teachers reported 1.54% in very high level of adaptive performance which is slightly higher than private university teachers (1.15%). The results further revealed that public university teachers reported 14.36% in high level of adaptive performance which is less than the percentage (18.97%) reported by private university teachers. The statistics on the average level of adaptive performance revealed public university teachers reported a percentage of 70.77% which is greater than the percentage reported by private university teachers (62.64%). While observing the below average levels of adaptive performance the results revealed that public university teachers reported 9.74% in low level of adaptive performance which is less than the percentage reported by private university teachers (16.09%). Surprisingly, public university teachers

reported 3.59% in very low level of adaptive performance which is greater than the percentage reported by their private counterparts (1.15%).

The overall result revealed that public university teachers possess more inclination towards the above average levels of perceived job performance i.e. 16.41% for high and 3.08% for very high than private university teachers i.e. 12.06% for high and 1.72% for very high level. Further the results also revealed average percentage of private university teachers is slightly more (68.97%) than the public university teachers (65.64%). The overall performance result shows a significant percentage of employees both public and private falls in the average level of perceived job performance. Figure 3.2 provides a further understanding of the results.

3.2.3. Overall sample distribution on ICT orientation.

Table 3.5. Percentage-wise distribution of overall sample on different levels of ICT orientation.

Sr.	Levels of ICT Orientation	N	%age
1	Very High	10	2.72
2	High	43	11.65
3	Average	257	69.64
4	Low	52	14.09
5	Very Low	7	1.90
Total		**369**	**100**

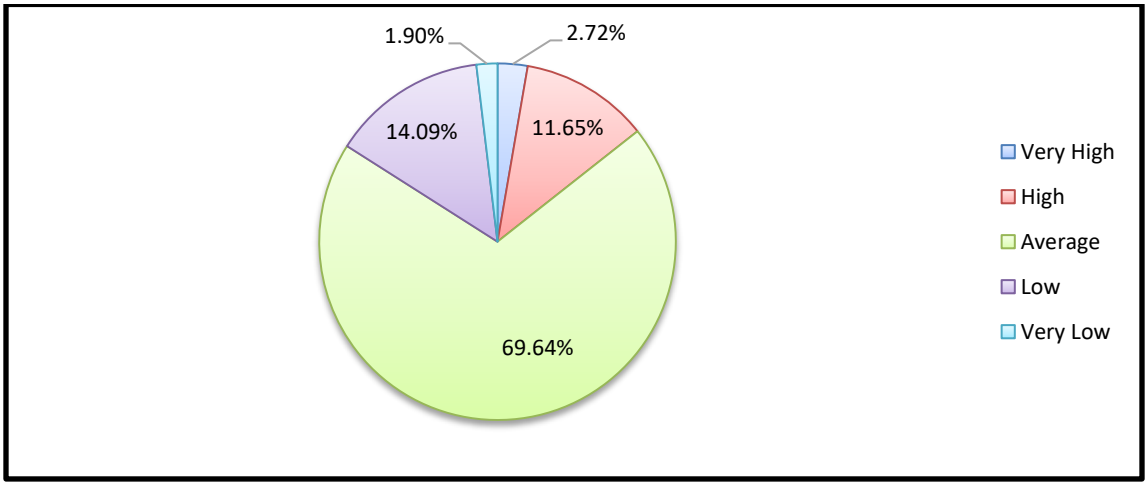

Figure 3.3. Percentage-wise distribution of overall sample in different levels of ICT orientation.

A perusal of Table 3.5 represents percentage-wise distribution of overall sample on different levels of ICT orientation. The Table revealed that 2.72% of the overall sample reported in the very high level of ICT orientation and 11.65% of respondents reported in the high level of ICT orientation. The Table 3.5 further revealed that highest percentage of total sample i.e. 69.64% reported in average level. While, 14.09% of employees reported in low level and 1.90% of employees reported in very low level of ICT orientation. The overall results revealed the highest percentage of the sample reported in average level followed by low, high, very high and very low level of ICT orientation respectively, for further understanding refer to Figure 3.2.

3.2.4. ICT Orientation of Public and Private University teachers.

Table 3.6. Domain and overall percentage-wise distribution of public university teachers on different levels of ICT Orientation.

Levels →		**Very High**	**High**	**Average**	**Low**	**Very Low**	**Total**
Dimensions ↓							
Ease of use	**N**	13	19	129	30	4	195
	%	**6.66**	**9.75**	**66.15**	**15.39**	**2.05**	100
Motivation	**N**	00	10	170	00	15	195
	%	**00**	**5.13**	**87.17**	**00**	**7.70**	100
Advantage	**N**	3	24	143	19	6	195
	%	**1.54**	**12.31**	**73.33**	**9.75**	**3.07**	100
Effectiveness &	**N**	3	61	102	19	10	195
Communication	**%**	**1.54**	**31.29**	**52.30**	**9.54**	**5.12**	100
Compatibility	**N**	00	28	136	26	5	195
	%	**00**	**14.36**	**69.74**	**13.34**	**2.56**	100
Facility	**N**	00	18	143	27	7	195
	%	**00**	**9.24**	**73.33**	**13.84**	**3.59**	100
Avoidance	**N**	8	26	132	29	00	195
	%	**4.10**	**13.33**	**67.69**	**14.88**	**00**	100
Perception	**N**	4	38	123	20	10	195
	%	**2.06**	**19.49**	**63.07**	**10.26**	**5.12**	100
ICT	**N**	3	16	136	34	6	195
Orientation	**%**	**1.54**	**8.21**	**69.74**	**17.44**	**3.07**	100

Table 3.7. Domain and overall percentage-wise distribution of private university teachers on different levels of ICT Orientation.

Levels → / Dimensions ↓		Very High	High	Average	Low	Very Low	Total
Ease of use	**N**	12	25	114	23	00	174
	%	**6.90**	**14.37**	**65.51**	**13.22**	**00**	100
Motivation	**N**	20	15	136	00	3	174
	%	**11.50**	**8.62**	**78.16**	**00**	**1.72**	100
Advantage	**N**	12	21	123	11	7	174
	%	**6.90**	**12.07**	**70.69**	**6.32**	**4.02**	100
Effectiveness & Communication	**N**	6	63	80	19	6	174
	%	**3.44**	**36.21**	**45.98**	**10.93**	**3.44**	100
Compatibility	**N**	00	42	112	18	2	174
	%	**00**	**24.14**	**64.37**	**10.34**	**1.15**	100
Facility	**N**	00	28	107	37	2	174
	%	**00**	**16.10**	**61.49**	**21.26**	**1.15**	100
Avoidance	**N**	8	45	104	17	00	174
	%	**4.60**	**25.86**	**59.77**	**9.77**	**00**	100
Perception	**N**	5	46	112	9	2	174
	%	**2.88**	**26.43**	**64.36**	**5.18**	**1.15**	100
ICT Orientation	**N**	7	27	121	18	1	174
	%	**4.02**	**15.52**	**69.54**	**10.35**	**0.57**	100

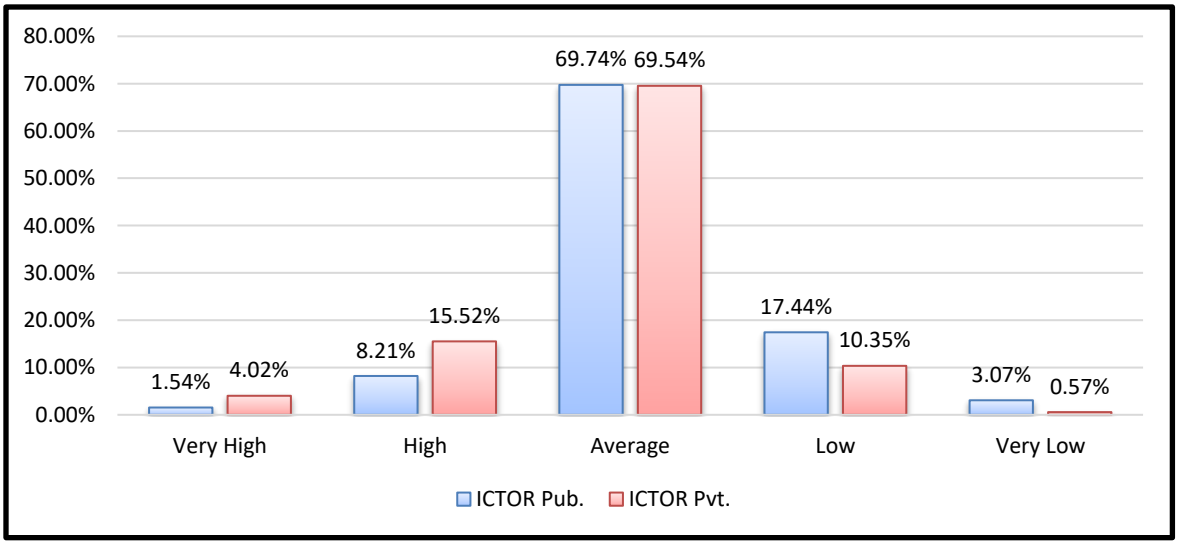

Figure 3.4. Percentage-wise distribution of public and private university teachers in different levels of ICT Orientation.

On analyzing domain wise percentage distribution of public and private university teachers on different levels of ICT Orientation (refer to Table 3.6 and 3.7), the results revealed that private university teachers reported higher percentage i.e. 6.90% (very high) and 14.37% (high) in the higher level of EOU as compared to public university teachers i.e. 6.66% in very high and 9.75% in high. The maximum percentage of the sample can be observed in the average level of the EOU i.e. 65.51% for private university teachers and 66.15% for public university teachers. The Tables 3.6 and 3.7 further revealed that private university teachers reported less percentage i.e. 13.22% and 0.00% in the low and very low level of EOU in comparison to public university teachers who reported 15.39% in low and 2.05% in very low level respectively.

While, observing the Motivation domain of ICT orientation results revealed that private university teachers show higher motivation reporting 11.50% (very high) and 8.62% (high) in above average levels as compared to public university teachers who reported 0% (very high) and 5.13% (high) in above average levels. The analysis further showed teachers of both groups reported a higher percentage of motivation i.e. 78.16% (private) and 87.17% (public) in the average level. While comparing public and private university teachers on below average levels of motivation Tables 3.6 and 3.7 reveals (0%) none of the respondent from both groups reported in the low level of motivation but surprisingly more percentage (7.70%) of public university teachers has been observed in the very low level of motivation as compared to private university teachers (1.72%).

Exploring the Advantage domain the results showed both employee categories reported maximum percentage in the average level i.e. 73.33% (public) and 70.69% (private). The results further revealed that private university teachers reported higher percentages in above average levels i.e. 6.90% in very high and 12.07% in high respectively as compared to public university teachers who reported 1.54% in very high and 12.31% in high level. On comparing below average levels of advantage domain it could be noted 9.75% and 3.07% of employees from public universities reported in the low and very low levels of advantage respectively, on the other hand, 6.32% and 4.02% of private university teachers reported in the low and very low level of advantage domain.

A closer view of the analysis on effectiveness and communication (E&C) domain of ICT orientation revealed, that 3.44% and 36.21% of private university teachers falls in very high and high level of E&C respectively, whereas in case of public university teachers relatively a lower percentage i.e. 1.54% and 31.29% of employees fall in very high and high levels of E&C. Although a higher percentage of public university teachers i.e. 52.30% reported in average level of E&C as compared to private university teachers (45.98%). On the other hand, analysis of below average levels of E&C showed both type of employee's reported almost same percentage in a combination of low and very low levels of E&C with a slight difference of 0.29% more reported by public university teachers.

Going deeper into the analysis, percentage-wise distribution of public and private university teachers on different levels of compatibility (refer to Table 3.6 and 3.7), revealed that none (0%) of the employees from both the groups fall in the very high level of compatibility. The analysis further revealed that 24.14% of teachers from private universities reported in the high level of compatibility which is nearly 10% more than the percentage reported by public university teachers (14.36%). Whereas, public university teachers show 5% more inclination towards average (69.74%) level as compared to private university teachers (64.37%). Analyzing the lower end of the compatibility domain the results revealed that public university teachers reported higher percentage in low (13.34%) and very low (2.56%) levels of compatibility in comparison to private university teachers i.e. 10.34% and 1.15% respectively.

Further analysis of Table 3.6 and Table 3.7 shows the percentage-wise distribution of public and private university teachers on different levels of facility domain of ICT orientation. The results revealed none of the respondents from both the group's falls in very high level of the facility domain. The analysis further revealed that private university teachers reported higher percentage i.e. 16.10% in high level of facility domain than public university teachers (9.24%). The results on average level of facility domain revealed that public group of teachers reported 73.33% of respondents in average level which is more than the percentage reported by the private group of teachers (61.49%). The analysis of Table 3.6 and 3.7 further revealed that 21.26% of private university teachers reported in low level of the facility domain which is comparatively higher than

public university teachers (13.84%). Further out of two groups public university teacher reported a higher percentage (3.59%) in very low level of facility domain as compared to private university teachers (1.15%).

The analysis of avoidance domain (refer to Table 3.6 and Table 3.7) revealed that both the groups of sample (public and private) were found with almost equal distribution of respondents in very high (4.10 and 4.60%) and very low (0%) levels respectively. Further analysis of Table 3.6 and Table 3.7 reveals higher percentage (25.86%) of private university teachers falls in the high level of avoidance domain as compared to public university teachers (13.33%). On observing the average and low level of the avoidance domain, the results revealed a higher percentage of public university teachers i.e. 67.69% and 14.88% reported in average and low level, as compared to private university teachers 59.77% and 9.77% respectively.

The group analysis on the perception domain of public and private university teachers revealed, that private university teachers reported a higher percentage in the above average levels i.e. 2.88% in very high level and 26.43% in the high level as compared to public university teachers 2.06% and 19.49% respectively. Comparing the results of perception from below average levels it is evident that higher percentage of public university teachers fall in the low (10.26%) and very low (5.12%) level of perceptions as compared to private university teachers i.e. 5.18% and 1.15% respectively. The results further revealed that private university teachers reported high percentage (64.36%) of employees in the average level of perception as compared to public university teachers (63.07%).

While exploring the overall percentage of public and private university teachers in different levels of ICT orientation it has been observed that private university teachers reported higher percentage in above average levels i.e. 4.02% in very high and 15.52% in high levels as compared to public university teachers who reported 1.54% and 8.21% respectively. While, comparing the below average levels of public and private university teachers on ICT orientation it has been observed that public university teachers reported higher percentage i.e. 17.44% and 3.07% on low and very low levels as compared to private university teachers who reported 10.35% and 0.57% respectively. Further, the

analysis revealed a slight difference of 0.20% in the average level of public (69.74%) and private (69.54%) university teachers. The overall results of public and private university teachers on ICT orientation revealed that private university teachers show higher orientation towards ICT as compared to public university teachers. For further understanding refer to Figure 3.4.

3.2.5. Overall sample distribution on work engagement.

Table 3.8. Percentage-wise distribution of overall sample on different levels of work engagement.

Sr.	Levels of Work Engagement	N	%age
1	Very High	35	9.48
2	High	189	51.22
3	Average	142	38.49
4	Low	3	0.81
5	Very Low	0	0
Total		**369**	**100**

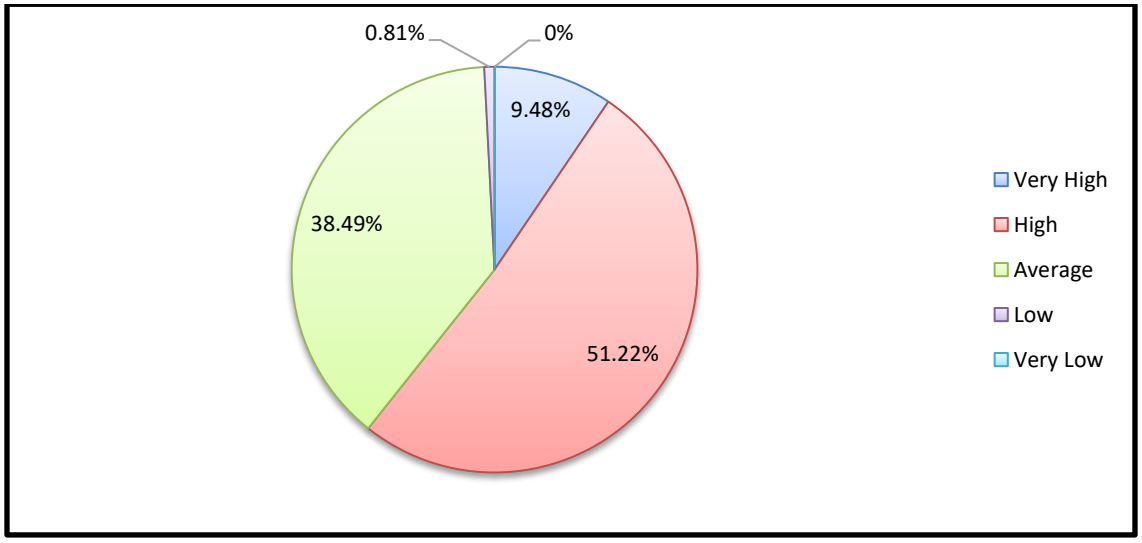

Figure 3.5. Percentage-wise distribution of overall sample in different levels of work engagement.

Table 3.8 represents percentage-wise distribution of overall sample on different levels of work engagement. The results revealed that 9.48% of the overall sample reported in very high category of work engagement. The highest percentage of sample i.e. 51.22% falls in

the high category of work engagement, and 38.49% of total sample reported in average level. A very small percentage i.e. 0.81% of employees reported in low level and none of the employees reported in the very low level of work engagement. The overall results revealed that the highest percentage of the sample is reported in high level followed by average, very high, low and very low level of work engagement respectively, a graphical representation of sample is presented in Figure 3.5.

3.2.6. Work Engagement of Public and Private University teachers.

Table 3.9. Domain and overall percentage-wise distribution of public university teachers on different levels of Work Engagement.

Levels →		**Very High**	**High**	**Average**	**Low**	**Very Low**	**Total**
Dimensions ↓							
Vigor	**N**	26	70	93	6	0	195
	%	**13.33**	**35.90**	**47.70**	**3.07**	**0**	100
Dedication	**N**	40	80	75	0	0	195
	%	**20.51**	**41.03**	**38.46**	**0**	**0**	100
Absorption	**N**	58	93	41	0	3	195
	%	**29.74**	**47.69**	**21.03**	**0**	**1.54**	100
Work Engagement	**N**	26	127	42	0	0	195
	%	**13.33**	**65.12**	**21.55**	**0**	**0**	100

Table 3.10. Domain and overall percentage-wise distribution of private university teachers on different levels of Work Engagement.

Levels →		**Very High**	**High**	**Average**	**Low**	**Very Low**	**Total**
Dimensions ↓							
Vigor	**N**	11	51	90	22	0	174
	%	**6.32**	**29.31**	**51.72**	**12.65**	**0**	100
Dedication	**N**	18	55	99	2	0	174
	%	**10.34**	**31.61**	**56.89**	**1.16**	**0**	100
Absorption	**N**	16	80	76	2	0	174
	%	**9.20**	**45.97**	**43.67**	**1.16**	**0**	100
Work Engagement	**N**	9	62	100	3	0	174
	%	**5.17**	**35.63**	**57.47**	**1.73**	**0**	100

A perusal of Table 3.9 and 3.10 provides the classification of percentage distribution of public and private university teachers on different levels of work engagement construct and its three sub-constructs namely Vigor, Dedication, and Absorption. Exploring the first sub-construct (vigor) it is revealed from Table 3.9 and Table 3.10 higher percentage of public university teachers fall in very high (13.33%), high (35.90%) and average (47.70%) levels as compared to private university teachers i.e. (6.32%) very high (29.31%) high and (51.72%) average level respectively. While observing the below average levels none of the employees from either group fall in the very low level of vigor. Although, 12.65% of private university teachers fall in the low level as compared to public university teachers (3.07%).

Exploring the second domain of work engagement i.e. dedication, the results revealed that (refer to Table 3.9 and 3.10) 20.51% and 41.03% percentage of public university teachers fall in the above average levels i.e. very high and high which is higher as compared to public university teachers who reported a less percentage i.e. 10.34% (very high) and 31.61% (high) in above average levels of dedication respectively. Comparing the average level of both groups it has been observed that private university teachers reported higher percentage (56.89%) as compared to public university teachers (38.46%). Further observation of Table 3.09 and Table 3.10 reveals that no employee (0.00%) from public sector falls in the low and very low level of dedication. While 1.16% of private sector employees reported in the low level and no employee from private sector reported in very low level of dedication domain.

The group analysis on absorption domain reveals that public university teachers reported higher percentage i.e. 29.74% (very high) and 47.69% (high) in above average levels than private university teachers who reported 9.20% in very high and 45.97% in high levels respectively. The analysis further revealed that private university teachers reported a percentage of 43.67% in average level, which is double than the percentage reported by public university teachers i.e. 21.03%. While comparing the below average levels (low and very low) of the absorption domain, the results revealed that 1.16% of private university teachers fall in the low level and no employee from public sector reported in low level, but surprisingly public universities reported 1.54% of employees in very low

level, while private universities reported 0% of employees in very low level of absorption domain.

While exploring the percentage of overall scores on work engagement of public and private university teachers it has been observed that public university teachers reported higher percentage i.e. 13.33% (very high) and 65.12% (high) in above average levels in comparison to private university teachers who reported 5.17% in very high and 35.63% in high level of work engagement. Like other domains, private university teachers reported a higher percentage (57.47%) in the average level as compared to public university teachers (21.55%). The statistics on below average levels revealed that only private university teachers reported a percentage of 1.73% in the low level of work engagement while none of the employees from public sector reported in low level and an equal distribution of 0% has been observed in the very low level of overall work engagement. Therefore overall results revealed that public university teachers show more inclination towards above average levels of work engagement and are more engaged as compared to private university teachers. For further understanding of percentage, distribution refer to Figure 3.6.

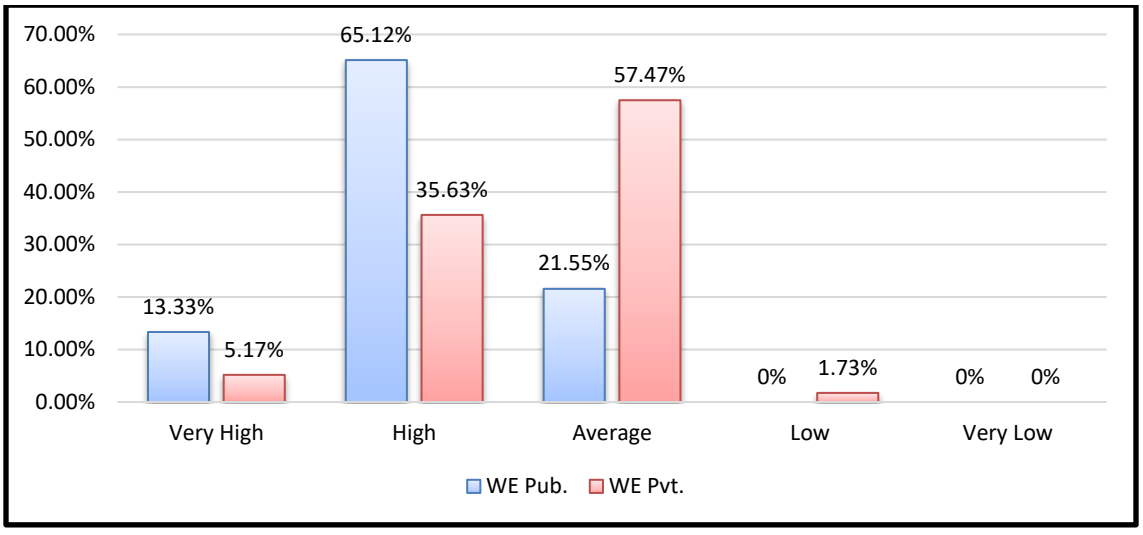

Figure 3.6. Percentage-wise distribution of public and private university teachers in different levels of Work Engagement.

3.2.7. Overall sample distribution on occupational stress.

Table 3.11. Percentage-wise distribution of overall sample on different levels of occupational stress.

S. No	Levels of Work Engagement	N	%age
1	Extremely High	12	3.25
2	High	32	8.68
3	Above Average	72	19.51
4	Average	122	33.06
5	Below Average	104	28.19
6	Low	23	6.23
7	Extremely Low	04	1.08
Total		**369**	**100**

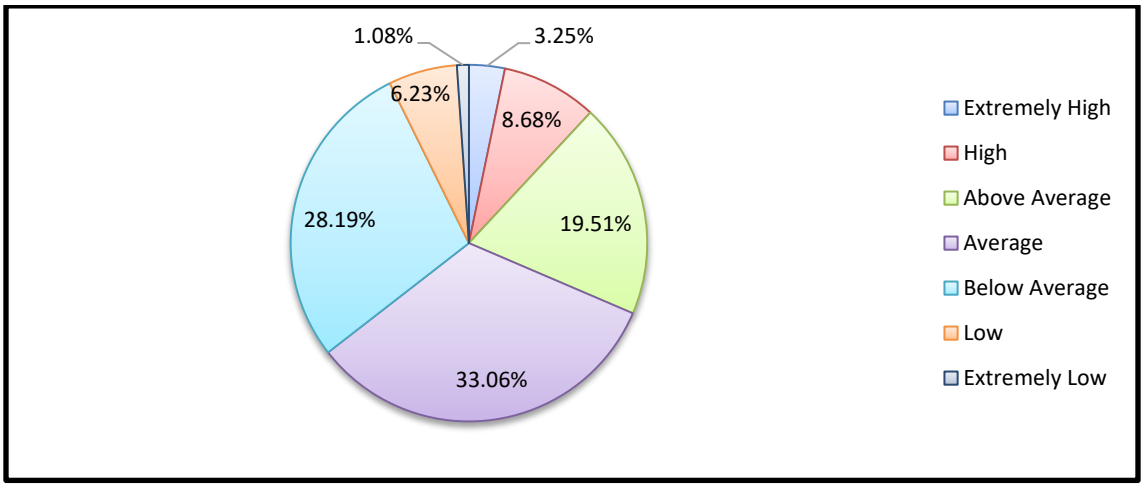

Figure 3.7. Percentage-wise distribution of overall sample in different levels of occupational stress.

Table 3.11 represents percentage-wise distribution of overall sample on different levels of occupational stress. The table 3.11 revealed that 3.25% of the overall sample reported in the extremely high level of occupational stress. While, 8.68% of employees reported in high level of occupational stress. The Table 3.11 further 19.51% of employees reported in above average level of occupational stress. The highest percentage of sample i.e. 33.06% was found in average level of occupational stress. The Table 3.11 also revealed 28.19% of the total sample reported in below average of occupational stress. Further 6.23% of employees reported in low level and a small percentage of 1.08% of employees reported

in extremely low level of occupational stress. The overall results revealed that the highest percentage of the sample reported in average level followed by below average, above average, high, low, extremely high and extremely low levels of occupational stress respectively, for further understanding of percentage distribution refer to Figure. 3.7.

3.2.8. Occupational Stress of Public and Private University teachers.

Table 3.12. Percentage-wise distribution of public and private university teachers in different levels of Occupational Stress.

Levels of Occupational Stress	Public University Teachers		Private University Teachers	
	Number	**Percentage**	**Number**	**Percentage**
Extremely High	3	1.53	9	5.17
High	14	7.18	18	10.35
Above Average	24	12.31	48	27.59
Average	70	35.90	52	29.88
Below Average	62	31.80	42	24.14
Low	18	9.23	5	2.87
Extremely Low	4	2.05	0	0
Total	**195**	**100**	**174**	**100**

Table 3.12 provides a detailed description of percentage-wise distribution of public and private university teachers on seven decreasing levels of occupational stress. Comparing the above and below average levels of public and private university teachers, it has been observed that public university teachers reported lowest percentage i.e. 1.53% in the extremely high category of occupational stress followed by high (7.18%) and above average levels (12.31%). While private university teachers reported a higher percentage in extremely high (5.17%) level followed by high (10.35%) and above average (27.59%) level respectively, clarifying that private university teachers experience more occupational stress in various above average levels. On the other hand, public university teachers show more inclination towards the below average levels of occupational stress. Public university teachers reported 31.80%, 9.23% and 2.05% in below average, low and extremely low levels of occupational stress respectively, whereas private university teachers reported lesser percentage i.e. 24.14%, 2.87% and 0% in below average, low and extremely low levels respectively. Examining the average level it has been observed that public university teachers show more inclination (35.90%) towards average level of occupational stress than private university teachers (29.88%). The overall results revealed

that public university teachers experience less occupational stress as compared to private university teachers, for further understanding refer to Figure no 3.08.

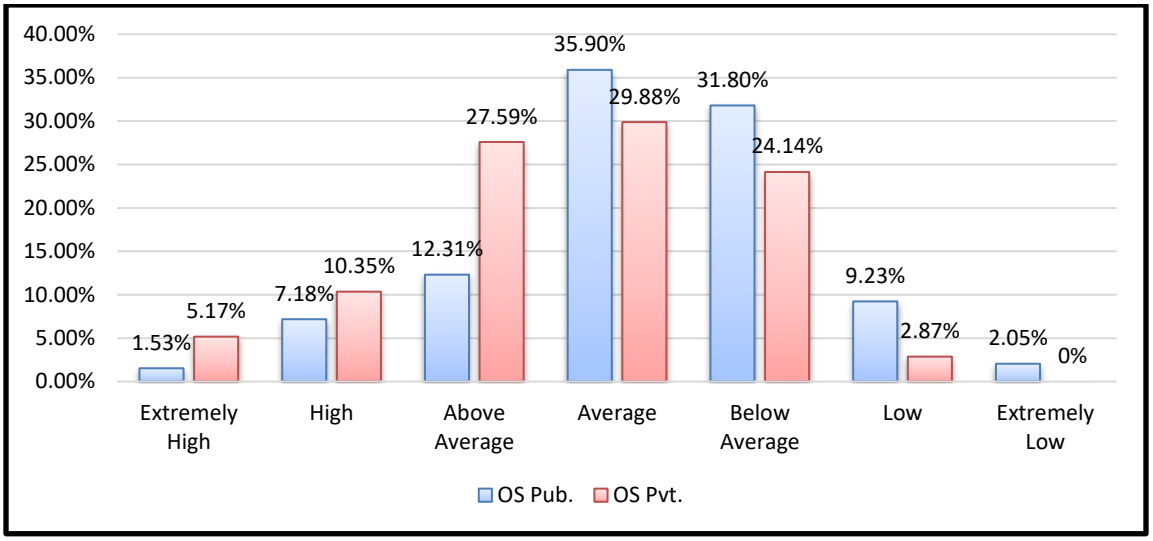

Figure 3.8. Percentage-wise distribution of public and private university teachers in different levels of Occupational Stress.

3.3. SECTION C: CORRELATION ANALYSIS

3.3.1. Interrelation among Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public university teachers.

In order to evaluate the interrelationship among perceived job performance, ICT orientation, work engagement and occupational stress of public university teachers bivariate Pearson's correlation using SPSS 21 was applied. The statistics calculated is present in the Table 3.13.

Table 3.13. Interrelationship among Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public university teachers.

		PJP	ICTOR	WE	OS
PJP	Pearson Correlation	1	.386**	.508**	-.138
	p-value		**.000**	**.000**	**.054**
ICTOR	Pearson Correlation		1	.177*	-.260**
	p-value			**.013**	**.000**
WE	Pearson Correlation			1	-.118
	p-value				**.101**
OS	Pearson Correlation				1

*/**. Correlation is significant at the 0.05 & 0.01 level (2-tailed).

The Table 3.13 revealed p-values for perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and occupational stress is .000 and .013 for ICT orientation and work engagement respectively which are found less than the threshold value at 0.01 and 0.05 level of significance, depicting existence of a significant interrelationship. On the other hand, the p-value for perceived job performance and occupational stress, work engagement and occupational stress is .054 and .101 respectively which are greater than the threshold value of 0.05 level of significance depicting insignificant relationships.

The perusal of Table 3.13 revealed that the calculated value of r = .386** between perceived job performance and ICT orientation of public university teachers confirms a positive significant relationship. Similarly, a positive significant relationship was found between perceived job performance and work engagement (r = .508**). Likewise, ICT orientation and work engagement of public university teachers also show a positive significant correlation at 0.05 level of significance i.e. r = .177*. While a significant negative relationship has been observed between ICT orientation and occupational stress of public university teachers ($r = -.260^{**}$).

On the other hand Table, 3.13 further revealed that that occupational stress shows an inverse but insignificant relationship with perceived job performance and work engagement 'r' being minus .138 and .118 respectively. The results confirm that perceived job performance, ICT orientation, and work engagement shows a significant positive interrelationship. While in the case of occupational stress, a significant negative relationship with ICT orientation has been observed which means that technology implementation decreases the occupational stress of public university teachers. The Table 3.13 further revealed occupational stress is not significantly related to perceived job performance and work engagement. Therefore in the light of results the set hypothesis. No. (1), **"*There is no significant interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public university teachers*",** is partially accepted and partially rejected. The results indicate that relationship between perceived job performance, ICT orientation, work engagement and

occupational stress of public university teachers is found positive as well as negative in nature.

3.3.1.1. Discussion on Results

Perceived Job Performance and ICT Orientation

The analysis of Table 3.13 revealed that perceived job performance of public university teachers is significantly related to ICT orientation. Our estimates indicate that teachers who showed higher levels of perceived job performance also reported high levels of ICT orientation as they believed that use of multimedia techniques such as PowerPoint presentation, online quizzes, and educational blogs are positively related to academic performance of their students and use of ICT in educational activities promote conducive teaching learning environment. They feel that use of ICT builds confidence for preparation and presentation of lectures and brings positive change in the classroom. Besides public university teachers also perceive that orientation towards ICT helps in better job performance by enhancing various job related factors like interpersonal relations, communication skills, classroom management, teaching skills, job assignments which directly enhance the task performance of employees. These findings are in line with the host of researches conducted in this field like, (Ahmad, 2012; Bayo-Moriones et al., 2015; Eva-Hagsten & Sabadash, 2014; Otaghsara & Mohseni, 2012; Seo et al., 2012; Gupta et al., 2008). The study of Ahmad (2012) correlated the findings of the present study and asserted the importance of various ICT factors with the job performance of teachers and revealed that variables of ICT are important for enhancing job performance of employees. Bayo-Moriones et al. (2015) reported that ICT is significantly related with high-performance work practices and work practices act as an essential element to foster employee job performance. Eva-Hagsten and Sabadash (2014) reported that increase in the intensity of ICT enhances the job performance by boosting the productivity of the employees. Otaghsara and Mohseni (2012) reported that education through ICT improves the learning efficiency, upgrades skills, increases knowledge level and effectiveness among the employees working in public sector. Seo et al. (2012) studied ICT, work productivity and profitability of employees and revealed that ICT can act as an asset to eradicate insignificant activities thereby improving the welfare of employees and

performance of both organizations and employees. Gupta et al. (2008) found that ICT usage is positively related to performance expectancy of employees working in government organizations. While, some of the researchers reported a negative relation between job performance and ICT (Al-Hannif, Cox, & Almeida, 2014; Badau & Sakiyo, 2013) they blamed dictatorial behavior of ICT, interplay of various contextual forces and lack of various resources like outdated hardware, inadequate financial provisions, poor experience etc. responsible for such relationships.

Perceived Job Performance and Work Engagement

Perusal of Table 3.13 further revealed that there is a significant positive relationship between perceived job performance and work engagement of public university teachers. It was observed that teachers with higher performance reported high energy levels and mental resilience, they show more willingness to invest their efforts in their work, these teachers show less signs of fatigue, and also show persistence in facing difficulties at work. High performing teachers usually show more energy, zest and stamina while working. These teachers derive a sense of significance from their work, they are more enthusiastic and have a feeling of pride in their job, they feel inspired and challenged by their work. Therefore it can be concluded that teachers teaching at the university level are found more dedicated and absorbed in their job. The findings also confirmed that dedicated employees takes initiatives to improve their performance by creating a congenial atmosphere, coordinating with colleagues, following procedures, defending their organization and so on. These findings are in line with the various researches carried in the field such as (Deligero & Laguador 2014; Dodge & DAnaleze, 2012; Demerouti & Cropanzano, 2010; Bakker & Demerouti, 2007). In their study, Deligero & Laguador (2014) reported teachers working in higher educational institutes showed high work engagement with highly satisfied performance evaluation, they demonstrate competency, credibility, commitment and collaboration. Likewise, Dodge and DAnaleze (2012) reported a strong longitudinal synergistic relation between work engagement and job performance. They asserted that an engaged employee shows better performance by pushing harder, smarter and longer at the job. Such an employee works vigorously, offers productive suggestions and achieves work objectives by overcoming hurdles. Demerouti and Cropanzano (2010) reviewed the relationship between work engagement and job

performance in the light of diverse theories and researches and reported that engagement enhances the performance through diversified mechanisms. Bakker and Demerouti (2007) reported that job performance of an employee is at the peak if the mind of an employee is in a motivational state known as work engagement.

Perceived Job Performance and Occupational Stress

One of the crucial findings of the present study is (refer to Table 3.13) that there is no significant relationship between perceived job performance and occupational stress of public university teachers. Our estimates revealed that university teachers with high perceived performance do not feel physical and mental stress after working hours, they get sufficient time to perform their work and avoid bringing office assignments home. Besides, these teachers shoulder the responsibility for personality development of students and progress of their organization. They believe that their suggestions to improve work environment are welcomed, they feel that their teaching pedagogy is appropriate, and also believe that their heads do not discriminate among employees. Hence it can be stated that university teachers do not perceive work-related factors like role ambiguity, workload, unfavorable working conditions and strained interpersonal relations during their work negatively. There might be many reasons, firstly universities are considered to be the highest seats of learning with a well-qualified, well-experienced hierarchy of administration where job related issues are dealt properly and appropriate work facilities are provided to the teachers. It is also observed that teachers perceive the workplace situations like working conditions, workload and responsibility positively during their work. Secondly, university employees are experienced enough to have control over the negative work situations like role ambiguity, powerlessness, lack of motivation, personal inadequacy which helps them to avoid the effects of occupational stress on their job performance, the findings are in line with Chen and Silverthrone (2008) who reported cognitive control of employees over the work situations helps them to control the occupational stress. On similar lines, Hsieh, Huang, and Su (2004); Wetzel, Kneebone, Woloshynowych, Moorthy, & Darsy (2006) reported that employees who can manage psychological as well as physiological stress demonstrates good job performance. Similarly, Adler et al. (2006) believed that employees having proper control on their psychological state while performing job may lead to higher job performance.

While, Wang (2010) contradicted with the results of present study and reported that occupational stress is positively related with job performance of employees. On the other hand, Alkubaisi (2015); Jehangir et al. (2011) contradicted Wang (2010) by reporting a significant negative relationship between occupational stress and job performance.

ICT Orientation and Work Engagement

While observing the relationship of ICT orientation and work engagement it has been found that the relationship between ICT orientation and work engagement of public university teachers is positive and significant (refer to Table 3.13). The results showed that teachers with higher levels of work engagement believe that use of multimedia techniques like PowerPoint presentations, online quizzes, and educational blogs in teaching learning process are positively related to academic performance of their students and use of ICT in educational activities promotes conducive teaching learning environment. They feel that use of ICT builds confidence for preparation and presentation of lectures and brings positive change in the classroom. Highly engaged teachers show a strong belief that online surfing of learning material make their students more competent day by day, they also believe that use of ICT in their profession has made communication easy and effective. These teachers point out that sharing of assignments, lecture notes and other study material has become convenient with the intervention of ICT in teaching learning process. Therefore it is found that highly engaged university teachers perceive ICT as a tool to enhance their compatibility, effectiveness, and communication, they believe that ICT helps to deliver the content effectively, besides they are more motivated towards implementing ICT as they feel ICT enhances their communication, knowledge and teaching skills. The findings are in line with studies conducted by various authors like Cakiroglu, Basibuyuk, Guler, Atabay, and Memis (2017) who reported that combination of various gamification elements during teaching process has a positive motivational impact on the engagement of both teachers and students. It has also been observed that engaged employees perceived ICT as a tool to remove educational barriers among the learners, besides teachers also perceived that technology exposure makes their students creative and increases their productivity and professional effectiveness. Similarly, Dukic, Dukic, & Bertovic (2016) reported that employees who frequently use various ICT devices like computers, smartphones, tablets

and notebooks to complete their work related tasks are found more absorbed in their work. Likewise, Wet, Koekemoer, and Nel (2016) believed that conscious decisions on ICT usage not only decreases its negative effects on professional and personal life but also can improves commitment and engagement of employees. On similar lines, Salanova and Llorens (2009) reported that greater the technological exposure with better appraisal, higher will be the employees work engagement.

ICT Orientation and Occupational Stress

Proceeding further with the results Table 3.13 revealed that there is a significant negative relationship between ICT orientation and occupational stress of public university teachers. Which means increase in the ICT orientation of university teachers reduces their occupational stress. It was assumed that teachers having high orientation towards ICT do not feel physical and mental stress after working hours, they get sufficient time to perform their work and complete their office assignments during working hours. Besides, they do not show signs of role ambiguity as they prioritize their teaching role out of teaching and non-teaching job roles, these teachers do not feel role complexity as they fulfill the expectation of authorities, and do not feel muddled due to partial behavior of administration and colleagues. It has also been observed that orientation towards ICT enhances various job-related tasks like interpersonal relations, communication, classroom management, teaching skills, saves time and energy, helps in developing working style of teachers, increases accessibility to digital resources, reduces educational barriers and widens the borders of knowledge. Ninaus, Diehl, Terlutter, Chan, and Huang (2015) correlates the findings of the present study and reported technology allows and facilitates availability, communication and information exchange. Similarly, Narvaez, Tobar, and López (2014) found that ICT interventions help in prevention and treatment of occupational stress. Likewise, Mattila et al. (2007) explored the use of ICT in promoting occupational health care of employees. They reported that ICT tools like wellness-diary (mobile application), personal measurement devices and shared sensors provided for face to face intervention addressed several health risks, by integrating varied technologies into an interoperable systems that enhance personalized health management support of employees. On the other hand, Chesley (2014) contradicts the results of the present study and reported that usage of ICT alters the working conditions of employees indicating intensification of work which in turn contributes to work stress.

Work Engagement and Occupational Stress

Surprisingly, the results further revealed (refer to Table 3.13) that work engagement and occupational stress of public university teachers do not show a significant relationship. It was assumed mostly university teachers choose their profession by choice and they love their profession and mostly remain engaged in finding possible methods to improve their skills, proficiency and effectiveness in the organization. They perceive their working conditions in a positive way, besides they also believe perks and benefits provided by their organizations are adequate according to their job profile. The findings concur with the studies of Rothmann (2008); Jackson, Rothmann, and Van de Vijver (2006) who reported insignificant relation between work engagement and occupational stress of employees. Similarly, Schaufeli et al. (2006) reported that work engagement is the positive state of human resources and acts as an antipode of burnout. Likewise, Lopez, Snyder, and Rasmussen (2006) revealed that work engagement improves both mental and physical health of employees and helps in controlling work related stress. While, Coetzee and De Villiers (2010) found a contradictory result in this regard and reported factors like job insecurity, role ambiguity and lack of autonomy are inversely related with the dimensions of work engagement.

3.3.2. Interrelation among Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private university teachers.

To calculate interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of private university teachers bivariate Pearson's correlation using SPSS 21 was applied refer to Table 3.14.

Table 3.14. Interrelationship among Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private university teachers.

		PJP	ICTOR	WE	OS
PJP	Pearson Correlation	1	.303**	.447**	-.045
	p-value		**.000**	**.000**	**.551**
ICTOR	Pearson Correlation		1	.292**	-.251**
	p-value			**.000**	**.001**
WE	Pearson Correlation			1	.095
	p-value				**.215**
OS	Pearson Correlation				1

**. Correlation is significant at the 0.01 level (2-tailed).

The perusal of Table 3.14 revealed p-values for perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement is .000 and .001 for ICT orientation and occupational stress respectively which are found less than threshold value of 0.01 level of significance, which reveals the existence of significant interrelationship. On the other hand, the p-value for perceived job performance and occupational stress, work engagement and occupational stress is .551 and .215 respectively which is greater than the threshold value of 0.05 level of significance, portraying an insignificant relationship among these variables.

Results presented in Table 3.14 revealed a significantly positive correlation between perceived job performance and ICT orientation of private university teachers at 0.01 level of significance i.e. r = .303**. Similarly, perceived job performance and work engagement of private university teachers show a significant positive correlation at 0.01 level r = .447**. The results further revealed a significant positive correlation between work engagement and ICT orientation of private university teachers r = .292**. While observing correlation between ICT orientation and occupational stress of private university teachers, it is found that there exists a significant negative correlation r = -.251** at 0.01 level of significance.

Surprisingly, the Table 3.14 further revealed an insignificant relationship between occupational stress and work engagement, occupational stress and perceived job performance of private university teachers i.e. r = .095 and -.045 respectively. The overall results presented in Table 3.14 portray perceived job performance, ICT orientation and work engagement of private university teachers are positively related, while ICT orientation and occupational stress are negatively correlated. The Table 3.14 further revealed occupational stress is not significantly related with perceived job performance and work engagement of private university teachers. Therefore, in the light of results the set hypothesis. No. (2), "***There is no significant interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private university teachers***", is partially accepted and partially rejected.

3.3.2.1. Discussion on Results

Perceived Job Performance and ICT Orientation

The results presented in Table 3.14 depicts that perceived job performance of private university teachers is positively and significantly correlated with their ICT orientation. It was assumed that teachers who reported high perceived job performance are more inclined towards the ICT orientation and believes use of ICT in teaching process encourages integrated learning which promotes thematic classroom approach and conducive teaching learning environment. High performing teachers feel various facilities provided by the ICT such as digital libraries, online quizzes, educational blogs, common e-mails, PowerPoint presentations and other online resources increases work productivity, professional effectiveness and are very supportive in developing working style. They believe online surfing of learning material and usage of multimedia techniques in teaching learning process enhances efficiency of their students. These teachers feel ICT facilities provides access to gigantic reservoir of knowledge and its increased usage make their lives easy. Notably, they consider ICT as a reservoir of information and praised the convenience of sharing assignments, lecture notes and study material as a precious gift of ICT. It can be said that high performing private university teachers perceive ICT as a tool which improves their perceived job performance by enhancing their day to day work activities. These teachers reported, that availability of various online resources like databases, e-libraries, web 2 web 3 technologies keep teaching learning material readily available and saves their time and energy. Besides they also feels that online courses and video lectures help in learning new teaching methods and improves their teaching. High performing teachers feel ICT improves interpersonal communication and helps in easy management of their classroom assignments and so on. These findings are in line with the studies conducted by various researchers (Hagsten & Sabadash 2014; Bayo-Moriones et al., 2013; Mihalic & Buhalis, 2013; Palvalin et al., 2013; Bartel, Ichniowski, & Shaw, 2007). Hagsten and Sabadash (2014); Bartel, Ichniowski, and Shaw (2007) reported that use of ICT improves the productivity and performance of employees at every stage of work. Bayo-Moriones et al. (2013) publicized that ICT adoption indirectly affects performance through communication and also shows a significant positive relation with all performance measures. Mihalic and

Buhalis (2013) asserted that implementation of ICT in organizations indirectly increases the profitability and performance by enhancing competitive factors like differentiation and quality. Palvalin et al. (2013) reported that ICT as a tool helps in improving the performance of employees by increasing productivity and eliminating the unproductive activities. On the other hand, Venkatesh et al. (2010) contradicted with the results and reported that despite placing a significant impact on employees job characteristics like, task identity, task significance, skills, feedback and autonomy ICT enriched employees reported lower job performance due to interplay of various contextual forces (environmental, learning, culture and valuation).

Perceived Job Performance and Work Engagement

One of the important findings that come to fore from analysis of present study is, perceived job performance of private university teachers show a significant and positive relationship with their work engagement (refer to Table 3.14). It has been observed that teachers with high work performance demonstrate good supervisory skills, innovativeness, adjustable nature, assistance to colleagues and students, keeps themselves up-to-date with changing rules and regulation of their organization, they attend social welfare programs and integrate modern techniques in teaching learning process which enhance their work performance. Simultaneously, high performers reported higher levels of energy and resilience, they willingly invest their efforts in work, and also show persistence in facing difficulties at work. These teachers usually show a lot of energy, zest and stamina while working. High performers also derive a sense of significance from their work, they show more enthusiasm and have a feeling of pride in their job. They strongly identify themselves with their work as they experienced it as meaningful, inspiring, and challenging. Besides, they are also found completely and happily immersed in their work, so they feel time passes quickly and they forget everything else around them. These findings are in line with the various studies like (Reijseger et al., 2012; Gorgievski et al., 2010; Harter et al., 2009) Reijseger et al. (2012) reported that higher levels of work engagement marks better job performance by improving in-role, extra-role behaviors and reducing counter-productive behaviors of employees. They asserted that the relationship of work engagement and job performance is due to the dynamic interface of open-mindedness and behavioral readiness of the employees. Gorgievski et al. (2010)

reported that work engagement shows a positive relationship with one of major domain of job performance i.e. task performance and innovativeness at the job. Moreover, Harter et al. (2009) also asserted employees work engagement is related with all of nine performance outcomes of employees.

Perceived Job Performance and Occupational Stress

The results from Table 3.14 revealed that perceived job performance of private university teachers is not significantly related with their occupational stress. It has been observed that teachers working in private universities understand their administrative responsibilities, and do not feel the lack of autonomy, they fulfill their job demands, believe in teamwork and maintain good relation with their colleagues and nonteaching staff. They adhere to rules and regulation of the organization even in difficult situations and willingly attend meeting and functions considered important for organizational welfare. Teachers with high performance shoulders more responsibilities in the organization and shows physical and cultural adaptation. Apart from that they do not show characteristics of work stress like work load, role ambiguity, groupism, powerlessness, lack of motivation and personal inadequacy. They also believe their authorities do not perform inequitable practices like favoritism, discrimination, partiality among employees besides they show full faith in the administrative support. Chen and Silverthrone (2008) correlates the findings of the present study and reported cognitive control of employees over the work situations as a factor to control the undesirable inference of occupational stress. Likewise, Hourani, Williams, and Kress (2006); Zhong et al. (2006) reported that employees who can control their physiological and psychological stress at work may overcome the negative effects of work and can lead to higher performance. Whereas, Jehangir et al. (2011) found a significant negative relationship between occupational stress and job performance. While, Wang (2010) contradicted the results of present study and reported occupational stress is positively related with job performance of employees.

ICT Orientation and Work Engagement

Moving further with the results Table 3.14 revealed that ICT orientation of private university teachers is significantly and positively related with their work engagement.

Our estimates revealed that teachers with high work engagement perceived ICT as an instrument which enhances their accessibility, it helps in obtaining teaching learning material conveniently with little expenditure, they believe that use of online courses and video lectures increases their professional efficacy and make teaching more effective. Highly engaged teachers feel that ICT usage boosts their motivation as ICT based methodologies encourages integrated learning that promotes thematic classroom approach, it promotes conducive teaching and learning environment and raise the curriculum standards. These teachers believe ICT enabled teaching methodologies build confidence for preparation and presentation of lectures and are positively correlated with academic performance of their students. Besides, they are found happily engrossed in their work and are so immersed in their work that they find it difficult to detach themselves from it. At work they feel they forgot everything around and time seems to fly. Apart from that engaged teachers identify themselves with their work as they experience it meaningful, inspiring, and challenging. Besides, they usually feel enthusiastic and proud about their work. The findings of the present study are in keeping with the findings of Wet, Koekemoer, and Nel (2016) who reported that conscious decision on managing ICT in the job decreases the negative effects and help the employees to remain engaged. They further reported ICT increases the communication frequency, reduces the geographical barrier, builds productive relations, increases work productivity etc. In addition, it has also been observed that teachers of private sector perceive ICT as an advantage over the basic lecturing method as video clips and graphical presentations keep the audience active during teaching, they believe ICT makes them compatible with various work situations by enabling them to get the appropriate content. Likewise, Cakiroglu et al. (2017) reported that combination of various gamification elements during teaching process has a positive motivational impact on the engagement of both teachers and students. Further, Salanova and Llorens (2009) reported that greater the technological exposure with better appraisal, higher will be the employees work engagement.

ICT Orientation and Occupation Stress

Another crucial finding of the present study (refer to Table 3.14) is that there exists significant negative correlation between ICT orientation and occupation stress of private

university teachers. It has been assumed that ICT orientation helps to cope up with workload by providing access to easily and readily available teaching learning material, they believe that various applications of ICT like online quizzes, educational blogs, common e-mails and PowerPoint presentations has made communication easy, apart from that these applications also helps in convenient sharing of assignments, lecture notes and study material and also addresses different learning preferences of students. They feel that online surfing of learning material make their students more effective day by day and brings positive change in classroom. Teachers with high ICT orientation believe that ICT based methodologies helps in developing their working style and availability of ICT resources increases their productivity and professional effectiveness. Therefore it can be said that ICT helps to overcome various job-related problems like lack of motivation, powerlessness, personal inadequacy, besides it helps in improving working conditions and to explore modern methods of teaching (virtual), which works like an antidote for occupational stress. These teachers further reported that ICT facilitates them with up-to-date knowledge and trends. Ninaus et al. (2015) correlates the findings of the present study and reported technology allows and facilitates availability, communication and information exchange. Similarly, Narvaez, Tobar and López (2014) reported that ICT interventions help in prevention and treatment of occupational stress. Likewise, Mattila et al. (2007) explored the use of ICT in promoting occupational health care of employees and reported that ICT tools like wellness dairy (mobile application), personal measurement devices and shared sensors provided for face to face intervention addressed several health risks, by integrating varied technologies into an interoperable system that enhanced personalized health management support of employees. On the other hand, Chesley (2014) contradicts the results of the present study and reported usage of ICT alters the working conditions of employees indicating intensification of work which in turn contribute to work stress. Likewise, Ngo (2003) asserted that ICT in teaching is perceived as the main source of stress by the teachers of different schools.

Work Engagement and Occupational Stress

Interestingly, Table 3.14 revealed that work engagement and occupational stress of private university teachers do not show any significant relationship. It was assumed that engaged employees do not feel excessive workload, and do not believe university

authorities practice favoritism, or discriminate among employees, they feel their hard work is recognized and are provided with sufficient opportunities to develop their skills and proficiency. Besides, they do not feel physical and mental stress after working hours, they get sufficient time to perform their work and they do not bring office assignment to their home. Engaged teachers shoulder the responsibility of personality development of their students, progress and prosperity of their organization. They like the challenges and are ready to work under tense circumstances. Present findings are in line with the findings of Rothmann (2008); Jackson, Rothmann, and Van de Vijver (2006) who reported that work engagement of employees is not significantly correlated with their occupational stress. Padula et al. (2012); Schaufeli and Bakker (2004) have contradictory results and reported an association between occupational stress and work engagement of employees and revealed the factors like dissatisfaction, excess demand and personal factors are responsible for the association.

3.4. SECTION D: COMPARATIVE ANALYSIS

In order to study the significant differences on mean scores of perceived job performance, ICT orientation, work engagement and occupational stress, two-way analysis of variances (ANOVA) has been applied on the collected data.

The analysis of variables has been done using three categorical variables gender, teaching experience and stream. The sample distribution based on subgroups of variables is represented in Table 3.15.

Table. 3.15. Distribution of sample with respect to gender, experience and stream.

Name of Variable	Category	Label	Public University (N)	Private University (N)
Gender	1	Male	110	92
	2	Female	85	82
Experience	1	Up-to 10 yrs.	87	98
	2	Above 10 yrs.	108	76
Stream	1	Arts	66	54
	2	Commerce	66	62
	3	Science	63	58

3.4.1. COMPARISON BETWEEN PERCEIVED JOB PERFORMANCE OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS ON GENDER, EXPERIENCE AND STREAM

3.4.1.1. Summary of 2x2 analysis of variance (ANOVA) on the scores of perceived job performance of public and private university teachers with respect to gender.

To study the main effect of type of university and gender along with their interaction effect, analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 types of gender i.e. male and female) was applied on mean scores of perceived job performance. Descriptive statistical results for perceived job performance based on a sample of 369 university teachers is present in Table 3.16 below.

Table 3.16: Descriptive analysis of Perceived Job Performance of Public and Private University Teachers on different types of Gender.

TOU	Gender	Mean	SD	N
Public	Male	179.60	12.84	110
	Female	181.71	13.36	85
	Total	180.52	13.08	195
Private	Male	178.72	12.82	92
	Female	175.85	11.63	82
	Total	177.37	12.32	174
Total	Male	179.20	12.81	202
	Female	178.84	12.84	167
	Total	179.04	12.81	369

Table 3.17. Summary of 2 way ANOVA (2x2) for interaction between type of university and gender with regard to perceived job performance.

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
TOU	1033.15	1	1033.15	6.399	**.012***
Gender	12.83	1	12.83	.080	**.778**
TOU * Gender	564.70	1	564.70	3.497	**.062**
Error	58934.44	365	161.46		
Total	11888711.25	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University: - The perusal of Table 3.17 revealed that F-ratio for the differences between perceived job performance of public and private university teachers is $F(1,365) = 6.399$, $p = .012$, which is found significant at the 0.05 level of significance. The results indicate that teachers working in different types of universities i.e. public and private, significantly differs on the scores of perceived job performance. Therefore the data provides sufficient evidence to reject the null hypothesis. No. (3), "***There is no significant difference in perceived job performance of university teachers on the basis of type of university***". This indicates that perception of university teachers on the scores of perceived job performance significantly differs across type of organizations. It was assumed that work atmosphere and culture of public and private universities differ greatly and hence teachers working in different types of universities differ in their perceived job performance.

Main Effect Gender:- The second factor is related to the gender of employees. The teachers were classified into two groups on the basis of obtained demographic information. It has been observed from Table 3.17 F-ratio for the difference between perceived job performance of male and female university teachers is $F(1,365) = 0.080$, $p = .778$, which is found insignificant at 0.05 level of significance. The results indicate that male and female university teachers do not differ significantly in their perceived job performance. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (4), "***There is no significant difference in perceived job performance of university teachers on the basis of gender****"*. It was assumed that male and female university teachers working in different types of universities demonstrate parallel type of perceived performance while discharging their task related duties, apart from task related responsibilities they also exhibit similar response in other activities like, volunteering, assistance, following rules and procedures and defending their organizational objectives.

Interaction Effect (Type of university x Gender):- The analysis from Table 3.17 revealed the F-ratio for the interaction between type of university and gender of university teachers on perceived job performance is found to be $F(1,365) = 3.497$, $p = .062$, which is found insignificant at 0.05 level of significance. The results indicate that main effects i.e. type of university and gender functions independently. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (5), "***There is no significant interaction effect of type of university and gender on perceived job performance of university teachers***". This shows that perception of university teachers

on the score of perceived job performance as a result of interaction of type of university and gender for various sub-groups do not differ significantly.

3.4.1.2. Summary of 2x2 analysis of variance (ANOVA) on the scores of perceived job performance of public and private university teachers with respect to their teaching experience.

To study the main effect of type of university and experience along with their interaction effect, analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 groups of experience i.e. less and more) was applied on mean scores of perceived job performance. Descriptive statistical results for perceived job performance based on a sample of 369 university teachers is present in Table 3.18 below.

Table 3.18: Descriptive analysis of Perceived Job Performance of Public and Private University Teachers on less and more experience.

TOU	Experience	Mean	SD	N
Public	Up-to to 10 years (Less)	178.36	13.44	87
	Above 10 years (More)	182.26	12.58	108
	Total	180.52	13.08	195
Private	Up-to to 10 years (Less)	177.28	12.71	98
	Above 10 years (More)	177.48	11.88	76
	Total	177.37	12.32	174
Total	Up-to to 10 years (Less)	177.79	13.04	185
	Above 10 years (More)	180.29	12.49	184
	Total	179.03	12.81	369

Table 3.19. Summary of 2 way ANOVA (2x2) for interaction between type of university and experience with regard to perceived job performance.

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
TOU	776.97	1	776.97	4.826	**.029***
Experience	381.83	1	381.83	2.371	**.124**
TOU * Experience	310.08	1	310.08	1.926	**.166**
Error	58769.68	365	161.01		
Total	11888711.25	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- The perusal of Table 3.19 revealed that F-ratio for the differences between perceived job performance of public and private university teachers is $F(1,365) = 4.82$, $p = .029$, which is found significant at the 0.05 level of significance. The results indicate that teachers working in different types of universities i.e. public and private, significantly differs on the scores of perceived job performance. Therefore the data provides sufficient evidence to reject the null hypothesis. No. (6), "***There is no significant difference in perceived job performance of university teachers on the basis of type of university***". The results indicate that perception of university teachers on perceived job performance scores differs significantly across different types of organizations i.e. public and private. It was assumed that difference in teaching pedagogy, syllabus, number of lectures per day and methods of teaching varies in public and private universities therefore, teachers working in different types of universities differ in their perceived job performance.

Main Effect Experience:- Table 3.19 revealed that calculated F-ratio for the main effect of experience between perceived job performance of public and private university teachers, came out to be $F(1,365) = 2.37$, $p = .124$, which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having less and more teaching experience do not differ significantly in their perceived job performance. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (7), "***There is no significant difference in perceived job performance of university teachers on the basis of experience***". It was assumed that less and more experienced university teachers working in different types of universities i.e. public and private equally perceive various job related factors like, working environment, coworkers support and leadership of supervisors.

Interaction Effect (Type of university x Experience):- Perusal of Table 3.19 revealed that the F-ratio for the interaction between type of university and experience of university teachers on perceived job performance is found to be $F(1,365) = 1.926$, $p = .166$, which is found insignificant at 0.05 level of significance. The results indicate the main effects i.e. type of university and experience functions independently. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (8), "***There is no significant interaction effect of type of university and experience on perceived job performance of***

university teachers". The results show that perception of university teachers on the scores of perceived job performance as a result of interaction between type of university and experience for various sub-groups do not differ significantly.

3.4.1.3. Summary of 2x3 analysis of variance (ANOVA) on the scores of perceived job performance of public and private university teachers with respect to stream.

To study the main effects of type of university and stream along with their interaction effect, analysis of variance (2x3 factorial design involving 2 types of universities i.e. public and private and 3 groups of stream i.e. arts, commerce and science) was applied on mean score of perceived job performance. Descriptive statistical results for perceived job performance based on a sample of 369 university teachers is present in Table 3.20 below.

Table 3.20: Descriptive analysis of Perceived Job Performance of Public and Private University Teachers on different streams.

TOU	Stream	Mean	SD	N
Public	Arts	181.13	13.74	66
	Commerce	177.67	12.85	66
	Science	182.87	12.23	63
	Total	180.52	13.08	195
Private	Arts	179.68	13.36	54
	Commerce	177.04	10.08	62
	Science	175.57	13.33	58
	Total	177.37	12.32	174
Total	Arts	180.48	13.54	120
	Commerce	177.36	11.55	128
	Science	179.37	13.23	121
	Total	179.03	12.81	369

Table 3.21. Summary of 2 way ANOVA (2x3) for interaction between type of university and stream with regard to perceived job performance.

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
TOU	896.34	1	896.34	5.599	**.018***
Stream	585.88	2	292.94	1.830	**.162**
TOU * Stream	808.43	2	404.21	2.525	**.081**
Error	58113.24	363	160.09		
Total	11888711.25	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- Table 3.21 revealed that F-ratio for the main effect i.e. type of university between perceived job performance of public and private university teachers came out to be $F(1,363) = 5.599$, $p = .018$, which is found significant at the 0.05 level of significance. The results indicate that teachers working in different type of universities i.e. public and private significantly differs on the scores of perceived job performance. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (9), "***There is no significant difference in perceived job performance of university teachers on the basis of type of university***". This indicates teachers' perception on perceived job performance differs significantly, as public and private universities varies in terms of administration, infrastructure, workload, job security and financial benefits. Hence teachers working in different type of universities differs in their perceived job performance.

Main Effect Stream:- Table 3.21 revealed the calculated F-ratio for the main effect of stream between perceived job performance of public and private university teachers, came out to be $F(1,363) = 1.830$, $p = .162$, which is found insignificant at 0.05 level of significance. The results revealed teachers of different streams i.e. art, commerce and science do not differ significantly in their perceived job performance. Therefore the data do not provide sufficient evidence to reject the null hypothesis. No. (10), "***There is no significant difference in perceived job performance of university teachers on the basis of stream***". The results depicted perception of teachers of different streams do not differ significantly on the scores of perceived job performance (Figure 3.9). It was assumed that teachers of different streams belonging to public and private universities are parallel in discharging their duties and remains courteous while performing different roles related to different components of performance like task, contextual and adaptive performance. Therefore teachers working in different type of universities do not differ significantly in their perceived job performance on the basis of their stream.

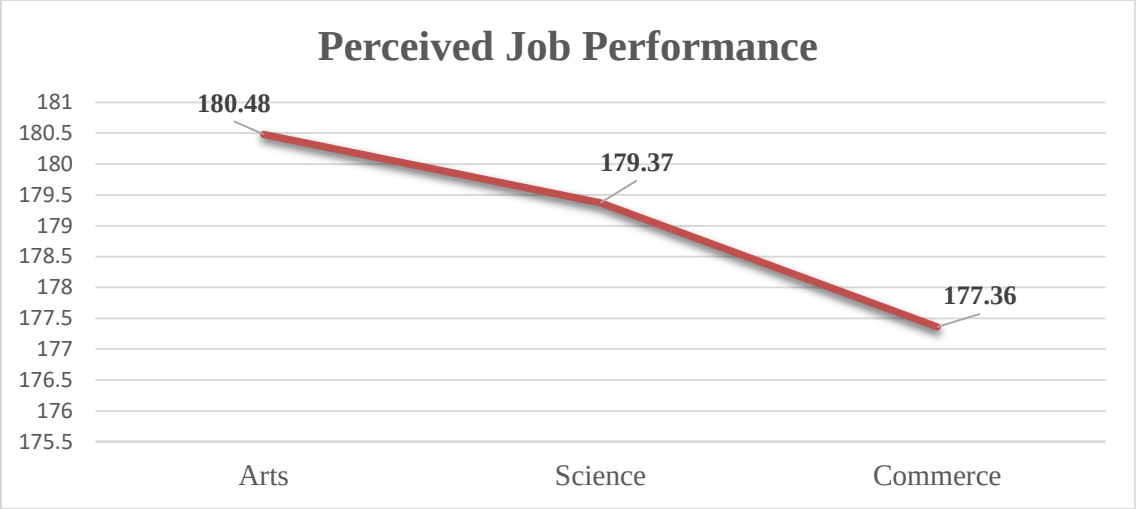

Figure 3.9. Mean scores of perceived job performance of university teachers of arts commerce and science stream.

Interaction Effect (Type of university x Stream):- Perusal of Table 3.19 revealed the F-ratio for the interaction between type of university and stream of university teachers on perceived job performance is $F(1,363) = 2.525$, $p = .081$, which is found insignificant at 0.05 level of significance. The results indicate the main effects i.e. type of university and stream functions independently. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (11), "***There is no significant interaction effect of type of university and stream on perceived job performance of university teachers***". The results revealed that perception of university teachers on the scores of perceived job performance as a result of interaction between type of university and stream for various sub-groups do not differ significantly.

3.4.1.4. Discussion on Results

Perceived Job Performance With Respect to Type of University.

From the results (refer to Tables 3.17, 3.19 & 3.21) it can be concluded that public and private university teachers differ significantly on their perceived job performance. It indicates that perception of university teachers on perceived job performance differs significantly across types of universities i.e. public and private. Further the Tables 3.16, 3.18 and 3.20 revealed teachers working in public universities have higher perceived job performance than their counterparts. It can be inferred that teachers working in public

universities show higher teaching proficiency, problem solving and decision making ability as compared to their counterparts. They believe that knowledge regarding job and effective teaching methodology helps in handling work related challenges. They maintain good interpersonal relationships at work and voluntarily participate in social welfare activities. Teachers belonging to public universities are found more helpful to their colleagues and students. They make changes in their work procedures to address the academic needs of their students and colleagues. They feel it is their responsibility to comply with rules and regulations of the organization and are ready to shoulder more responsibilities during crisis. While on the other hand private university teachers are found over occupied and they believe assisting colleagues is less important for their job performance. They mostly depend on their own expertise to counter job related problems and feel restlessness during working hours. They are found less sympathetic towards their students and occasionally get irritated with linguistic accent of their multicultural colleagues. Therefore it was assumed that different factors like, work culture, teaching pedagogy, methods of teaching, infrastructure, type of administration, workload, job security and financial benefits of public and private universities differ greatly and hence teachers working in different types of universities differ in their perceived job performance. The results are in line with a host of researches like (Mamil & Kushendra, 2015; Saleem, Khan, & Imran, 2014; Shabbir, Wei, Fu, & Xie, 2014; Bassey, Bisong, Isangedighi, & Ubi, 2011). Mamil and Kushendra (2015) reported that teachers working in public and private organizations differ significantly in job performance. Mamil and Kushendra (2015) also asserted that employees working private organizations show higher job performance than employees working public organizations. Similarly, Saleem, Khan, and Imran (2014) correlated the findings of the study and accredited personal attributes and demographic features of employees for such type of variations. Saleem et al. (2014) further cited various discrepancies among the public and private universities (despite equal higher education regulations) as a cause for such type of results. Likewise, Shabbir et al. (2014) and Bassey et al. (2011) attributed the teaching activities and conducive teaching environment of private organization for a significant difference in job performance.

Perceived Job Performance With Respect to Gender.

One of the, crucial findings from the analysis of present study is that teachers working in public and private universities do not differ significantly in their perceived job performance on the basis of their gender (refer to Table 3.17). It was assumed that male and female university teachers working in different types of universities demonstrate parallel perceived job performance while discharging their job related duties. In case of task performance, it can be said that male and female university teachers maintain a congenial work atmosphere by upholding good interpersonal relations and cooperating with their colleagues, they demonstrate good communication skills at work place. They welcome the academic discussion and believe discussions enhance their job knowledge. With regard to administrative skills male and female university teachers demonstrate good administrative qualities in case of emergencies by showing readiness to supervise different events, by providing alternative solutions to their colleagues, by making workable suggestions in absence of supervisor. Apart from task performance male and female teachers also exhibit parallel contextual performance, they voluntarily participate in different social activities, they keep themselves up-to date with dynamic organizational environment, and willingly attend meetings/functions that are not compulsory but are considered important for organization development. They remain vigilant and suppress the behavior that can affect the image of their organization. Both the groups do not blame organizational objectives even if they are unfavourable for them. They willingly integrate modern techniques to teach their students and demonstrates cultural adaptability by respecting cultural sentiments of their colleagues. Though the Table 3.16 revealed that mean score on perceived job performance is in favor of male university teachers as compared to female university teachers working in different types of universities but this difference is not found statistically significant. The present findings are in line with Bhat and Beri (2016d) who reported that job performance of teachers do not differ significantly on the basis of gender. Likewise, Bhat and Bashir (2016) found various job related factors such as responsibility, member identity, participation in decision making, organizational structure and level of motivation same for male and female teachers. Similarly, Olorunsola (2012) accredited similar ability, capability, education and the level of intelligence possessed by both sexes to do any given task for such uniformity in their

job performance. On similar lines, Yahaya (1992) disagrees with the stereotypic view that job performance of employees varies on the basis of gender. Also, Kundson (as cited in Hassan & Olufemi 2014) stated that women employees were as able as men if given equal opportunities and exposure. On the other hand Inayatullah and Jehangir (2012) contradicted with present findings and reported that teacher's job performance significantly differs on the basis of gender. They further revealed that female teachers show significantly higher levels of job performance as compared to their male counterparts. Likewise, Saleem, Khan, and Imran (2014) reported a significant difference in the job performance of public and private university teachers on the basis of gender. They reported financial issue as the key factor responsible for difference in job performance of male and female university teachers.

Perceived Job Performance With Respect to Teaching Experience.

Another crucial finding of the present study is that public and private university teachers do not differ significantly on their work experience (refer to Table 3.19). However mean scores favored the more experienced teachers of both type of universities (refer to Table 3.18) but this difference is not found statistically significant. It was assumed that the propelling force and determination of less and more experienced teachers to give their best performance might be due to their capability, quality, ability and motivation provided by administrators. Our estimates revealed that both groups of teachers perceive they exhibit parallel task, contextual and adaptive performance by demonstrating an accommodative behavior while performing their duties. Less and more experienced groups show adequate proficiency in delivering lectures, they possess good problem solving and decision making skills, both the groups maintain good interpersonal relations and use their expertise to complete new job assignments. Both the groups maintains a good rapport with colleagues, supervisors and sub-ordinates and use clear and understandable language at work place. They are capable of making workable suggestions in the absence of their supervisors and provide alternative solutions to their colleagues that may help them to solve their problems, they are also good in managing different work situations. Less and more experienced teachers keep themselves up-to date with organizational environment and comply with rules and regulations of organizations, they also remain vigilant towards their work behavior and do not blame unfavourable

organizational objectives. It was also found that both the groups do not compromise with their work and are able to cope up with difficulties at the work place, they handle extra workload, control restlessness and maintain the equilibrium by maintaining courteous and respectful approach while dealing with others at work place. University teachers (both less and more experienced) prefer teamwork. They consult other colleagues to handle various professional and academic issues, they like to use multiple techniques for teaching and integrate modern techniques and audio visual aids to teach their students. They usually make teaching process interesting by integrating subject matter with daily examples, both the groups of teachers remain sympathetic towards students irrespective of personal bias, they do not get irritated with language and accent of students and colleagues. Each group respects the ideas of others and are ready to learn from them, they demonstrates physically oriented adaptability by working in allotted cabin spacious or compact. Inayatullah and Jehangir (2012) correlates the present findings and attributed capabilities and skills of teachers as the main factors that helps them to show parallel form of job performance. While, Qureshi, et al. (2013); Mustafa and Othman (2010) contradicted the findings of the present study and indorsed teachers working in different types of universities consider experience as an important factor which influences job performance. Similarly, Shabbir et al. (2014) credited extra teaching activities of the private organizations as an important factor of experience for the difference in job performance of the public and private organization.

Perceived Job Performance With Respect to Stream.

The analysis of Table 3.21 presents another crucial finding of the present section i.e. public and private university teachers do not differ significantly in their perceived job performance on the basis of their stream. The results presented in Table 3.20 revealed that mean score of all the three streams slightly differs but this difference is not found statistically significant. It was assumed that teachers of different streams maintain good interpersonal relations at work place and demonstrates proficient teaching skills while delivering lectures, they have good communication skills and avoid ambiguous language at workplace, they show willingness to learn from their colleagues and believe that knowledge regarding job helps them in handling work related challenges, they possess good teaching and management skills and take job assignments seriously. They willingly

attend meetings and functions important for their organization and believe that job knowledge and effective teaching methodology helps to facilitate academic progress of their students. The results further revealed that university teachers take initiatives to improve their performance by creating a congenial atmosphere at work place, by adapting cooperative behavior, by assisting and helping new colleagues to adjust in work environment. They abide by the rules and regulations laid down by their organization even if they are unfavourable for them and defend their organizational objectives, they also remain cautious and suppress their negative behavior which may bring bad image to their organization. Teachers from different streams show courteous and respectful behavior by respecting the ideas and cultural sentiments of their colleagues. They take initiative to support their organization by willingly attending functions and meetings, by taking part in social welfare activities. Notably, it has been observed that university teachers remain up-to-date and integrates new methods of teaching, shows responsible behavior, facilitates their students and colleagues. The results also showed that university employees are experienced to control and maintain the different work situations like handling work stress, solve work related problems, avoid discriminatory practices by showing interpersonal, cultural and physical adaptability. They believe in knowledge sharing and keeps social and workplace values in mind while performing day to day activities. Present findings do not possess any reference to available literature in this field so far, therefore there is need for further research to confirm these findings.

Interaction Effect of Type of University with Gender, Experience and Stream.

It has been observed from Table 3.17 interaction between type of university and gender do not influence perceived job performance of university teachers. Similarly, the Table 3.19 revealed that interaction effect between type of university and experience do not influence perceived job performance of university teachers. Likewise, analysis of Table 3.21 showed that type of university and stream of university teachers do not influence their perceived job performance. It means that the sub groups of university teachers as a result of interaction between university type and gender, university type and experience and university type and stream, perceive equal tack proficiency, demonstrates good communication at work place, show interest in supervision, enthusiasm, provide assistance, follow prescribed rules and regulations of the organization, defends their organization when needed, handles work stress and demonstrate good interpersonal, cultural and physically oriented adaptability.

3.4.2. COMPARISON BETWEEN ICT ORIENTATION OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS ON GENDER, EXPERIENCE AND STREAM

3.4.2.1. Summary of 2x2 analysis of variance (ANOVA) on the scores of ICT orientation of public and private university teachers with respect to gender.

To study the main effect of type of university and gender along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 types of gender i.e. male and female) was applied on mean scores of ICT orientation. Descriptive statistical results for ICT orientation based on a sample of 369 university teachers is present in Table 3.22.

Table 3.22: Descriptive analysis of ICT Orientation of Public and Private University Teachers on different types of Gender.

TOU	Gender	Mean	SD	N
Public	Male	98.72	10.74	110
	Female	99.02	9.32	85
	Total	98.85	10.12	195
Private	Male	104.19	10.23	92
	Female	102.84	10.80	82
	Total	103.55	10.49	174
Total	Male	101.21	10.83	202
	Female	100.90	10.22	167
	Total	101.07	10.55	369

Table 3.23. Summary of 2 way ANOVA (2x2) for interaction between type of university and gender with regard to ICT orientation.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	1967.83	1	1967.83	18.481	**.000****
Gender	24.67	1	24.67	.232	**.630**
TOU * Gender	61.47	1	61.47	.577	**.448**
Error	38865.26	365	106.48		
Total	3810533.17	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University: - The perusal of Table 3.23 revealed that F-ratio for the difference between ICT Orientation of public and private university teachers is $F(1,365) = 18.481$, $p = .000$, which is found significant at the 0.05 level of significance. The results indicate that teachers working in different type of universities i.e. public and private significantly differ on the scores of ICT orientation. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (12), "***There is no significant difference in ICT orientation of public and private university on the basis of type of university***".

Main Effect Gender:- Table 3.23 revealed that calculated F-ratio for the main effect of gender on ICT orientation of public and private university teachers, came out to be $F(1,365) = .232$, $p = .630$, which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having different gender i.e. male and female do not differ significantly in their ICT orientation. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (13), "***There is no significant difference in ICT orientation of university teachers on the basis of gender****"*.

Interaction Effect (Type of university x Gender):- The perusal of Table 3.23 revealed that the F-ratio for the interaction between type of university and gender of university teachers on ICT orientation is found to be $F(1,365) = .577$, $p = .448$, which is found insignificant at 0.05 level of significance. The results indicate the main effects i.e. type of university and gender of teachers functions independently. Therefore the data does not provide sufficient evidences to reject the null hypothesis. No. (14), "***There is no significant interaction effect of type of university and gender on ICT orientation of university teachers***". The results revealed that perception of university teachers on the scores of ICT orientation as a result of interaction of type of university and gender for various sub-groups do not differ significantly.

3.4.2.2. Summary of 2x2 analysis of variance (ANOVA) on the scores of ICT orientation of public and private university teachers with respect to experience.

To study the main effect of type of university and experience along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 groups of experience i.e. less and more) was applied on mean

scores of ICT orientation. Descriptive statistical results for ICT orientation based on a sample of 369 university teachers is present in Table 3.24 below.

Table 3.24: Descriptive analysis of ICT Orientation scores of Public and Private University Teachers on less and more experience.

TOU	EXP	Mean	SD	N
Public	Up-to to 10 years (Less)	99.36	9.52	87
	Above 10 years (More)	98.44	10.60	108
	Total	98.85	10.12	195
Private	Up-to to 10 years (Less)	102.44	10.19	98
	Above 10 years (More)	105.00	10.77	76
	Total	103.55	10.49	174
Total	Up-to to 10 years (Less)	100.99	9.97	185
	Above 10 years (More)	101.15	11.12	184
	Total	101.07	10.55	369

Table 3.25. Summary of 2 way ANOVA (2x2) for interaction between type of university and experience with regard to ICT orientation.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	2105.05	1	2105.05	19.892	**.000****
Exp.	60.72	1	60.72	.574	**.449**
TOU * Exp.	275.58	1	275.58	2.604	**.107**
Error	38625.57	365	105.82		
Total	3810533.177	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- The perusal of Table 3.25 revealed that F-ratio for the differences in ICT orientation of public and private university teachers is $F(1,365) = 19.892$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differs on the scores of ICT orientation. Therefore the data provide

sufficient evidence to reject the null hypothesis. No. (15), "***There is no significant difference in ICT orientation of university teachers on the basis of type of university***".

Main Effect Experience:- Table 3.25 revealed that calculated F-ratio for the main effect of experience on ICT orientation of public and private university teachers, came out to be $F(1,365) = .574$, $p = .449$, which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having less and more experience do not differ significantly in their ICT orientation. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (16), "***There is no significant difference in ICT orientation of university teachers on the basis of experience***".

Interaction Effect (Type of university x Experience):- Perusal of Table 3.25 revealed that F-ratio for the interaction between type of university and experience of university teachers on ICT orientation is found to be $F(1,365) = 2.604$, $p = .107$, which is found insignificant at 0.05 level of significance. The results indicate main effects type of university and experience function independently. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (17), "***There is no significant interaction effect of type of university and experience on ICT orientation of university teachers***". The results revealed that perception of university teachers on the scores of ICT orientation as a result of interaction of type of university and experience for various sub-groups do not differ significantly.

3.4.2.3. Summary of 2x3 analysis of variance (ANOVA) on the scores of ICT orientation of public and private university teachers with respect to stream.

To study the main effect of type of university and stream along with their interaction effect, analysis of variance (2x3 factorial design involving 2 types of universities i.e. public and private and 3 groups of streams i.e. arts, commerce and science) was applied on mean of ICT orientation. Descriptive statistical results for ICT orientation based on a sample of 369 university teachers is present in Table 3.26 below.

Table 3.26: Descriptive analysis of ICT Orientation of Public and Private University Teachers on different streams.

TOU	Stream	Mean	SD	N
Public	Arts	97.27	8.17	66
	Commerce	97.20	10.96	66
	Science	102.23	10.35	63
	Total	98.85	10.12	195
Private	Arts	108.03	10.84	54
	Commerce	101.19	8.64	62
	Science	101.91	10.83	58
	Total	103.55	10.49	174
Total	Arts	102.11	10.84	120
	Commerce	99.13	10.07	128
	Science	102.07	10.54	121
	Total	101.07	10.55	369

Table 3.27. Summary of 2 way ANOVA (2x3) for interaction between type of university and stream with regard to ICT orientation.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	2125.31	1	2125.31	21.253	**.000****
Stream	854.55	2	427.28	4.273	**.015***
TOU * Stream	1865.70	2	932.85	9.329	**.000****
Error	36299.84	363	100.00		
Total	3810533.17	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- Table 3.27 revealed that F-ratio for the main effect, type of university on ICT orientation of university teachers is $F(1,363) = 21.253$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differ on the scores of ICT orientation. Therefore the data provides sufficient evidences to reject the null hypothesis. No. (18), "***There is no significant difference in ICT orientation of university teachers on the basis of type of university***".

Main Effect Stream:- Table 3.27 shows F-ratio for the main effect of stream on ICT orientation of public and private university teachers is $F(1,363) = 4.273$, $p = .015$, which

is found significant at 0.05 level of significance. The results revealed that teachers of different streams i.e. art, commerce and science differ significantly in their ICT orientation. In order to find out the significant differences between mean scores of various groups of university teachers i.e. teachers of arts, commerce and science stream, Tukey's post-hoc HSD test was applied and results has been documented in Table 3.28.

Table 3.28. Summary of Tukey's Post-Hoc HSD test with respect to ICT orientation of university teachers working in various streams.

(I) STREAM	(J) STREAM	Mean Difference (I-J)	Std. Error	Sig.
Arts	**Commerce**	6.0710**	1.29832	**.000****
Arts	**Science**	2.9821	1.27066	**.051**
Science	**Commerce**	5.9420*	1.29295	**.000****
Significant at *0.05 & **0.01 level of significance.				

Perusal of Table 3.28 reveals the p-value of mean differences between teachers of arts and science stream (p = .051) is found insignificant at 0.5 level of significance for ICT orientation. While mean difference between teachers of arts and commerce stream (p = .000) and teachers of science and commerce stream (p = .000) are found significant at 0.01 level of significance for ICT orientation. From the analysis it has come to fore that university teachers of arts stream do not differ significantly in their ICT orientation from teachers of science stream. Whereas, university teachers of commerce stream differ significantly in their ICT orientation from teachers of arts and science stream. From the Table 3.26 it is clear that university teachers of arts and science stream had scored more on ICT orientation meaning thereby that teachers of arts and science stream have more technological knowhow and exposure as compared to teachers of commerce stream (Figure 3.10). Therefore in the light of post-hoc analysis the null hypothesis. No. (19), "***There is no significant difference in ICT orientation of university teachers on the basis of stream***", is partially accepted and partially rejected.

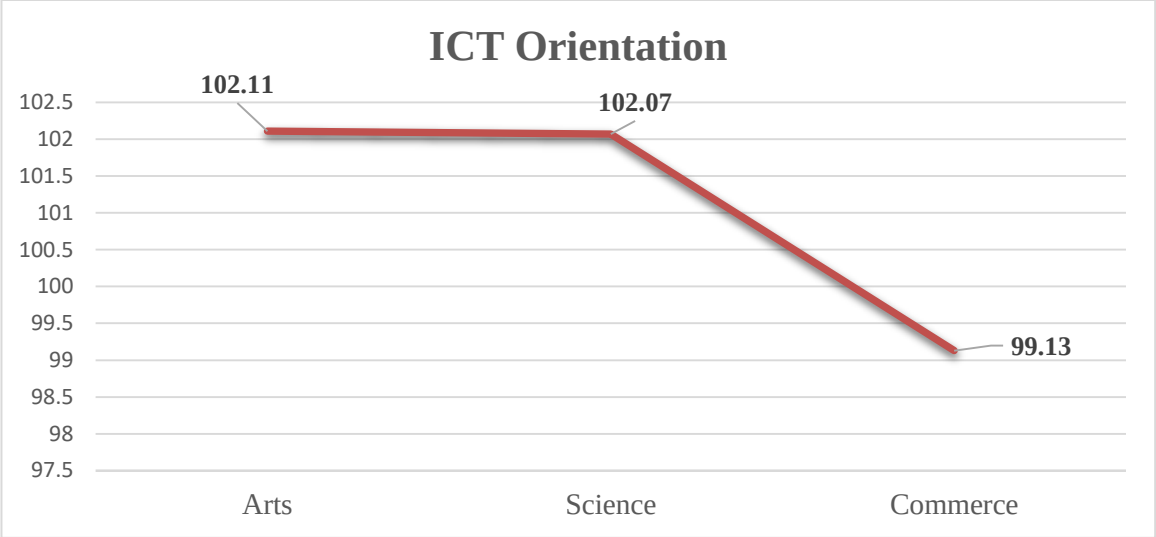

Figure 3.10. Mean scores of ICT orientation of university teachers of arts commerce and science stream.

Interaction Effect (Type of university x Stream):- It has been observed from Table 3.27, the F-ratio for the interaction between type of university and stream of university teachers on ICT orientation is found to be $F(1,363) = 9.329$, $p = .000$, which is found significant at 0.01 level of significance. The results indicate the main effects, type of university and stream has a joint effect on mean scores of ICT orientation. In order to analyze the significant difference between different sub-groups as a result of interaction between type of university (public and private) and stream (Arts, Commerce, and Science), of university teachers on ICT orientation, t-values for different sub-groups were calculated and reported in Table 3.29.

The perusal of Table 3.29 revealed that t-value for seven sub-groups i.e. Arts Public and Arts Private (t = 6.19, p = .000), Arts Public and Commerce Private (t = 2.63, p = .009), Arts Public and Science Private (t = 2.70, p = .008), Commerce Public and Arts Private (t = 5.41, p = .000), Commerce Public and Commerce Private (t = 2.27, p = .024), Commerce Public and Science Private (t = 2.40, p = .018), Science Public and Arts Private (t = 2.95, p = .004) were found significant at 0.05 or 0.01 level of significance. The Table 3.29 further revealed that t-value for sub-groups Science Public and Commerce Private (t = .605, p = .546) and Science Public and Science Private (t = .164, p = .870) were found insignificant at 0.05 level of significance, therefore in the light of

results the null hypothesis. No. (20), "***There is no significant interaction effect of type of university and stream on ICT orientation of university teachers***", is partially accepted and partially rejected. For further understanding refer to Figure 3.11.

Table 3.29. Summary of 't'-values for the sub-groups with respect to ICT orientation of university teachers.

Groups	Parameters	Groups	Parameters	t-value	p-value
Arts Public	M = 97.27 SD = 8.17 N = 66	Arts Private	M= 108.03 SD= 10.84 N = 54	6.19	**.000****
Arts Public	M = 97.27 SD = 8.17 N = 66	Commerce Private	M = 101.19 SD = 8.64 N = 62	2.63	**.009****
Arts Public	M = 97.27 SD = 8.17 N = 66	Science Private	M = 101.91 SD = 10.83 N = 58	2.70	**.008****
Commerce Public	M = 97.20 SD = 10.96 N = 66	Arts Private	M= 108.03 SD= 10.84 N = 54	5.41	**.000****
Commerce Public	M = 97.20 SD = 10.96 N = 66	Commerce Private	M = 101.19 SD = 8.64 N = 62	2.27	**.024***
Commerce Public	M = 97.20 SD = 10.96 N = 66	Science Private	M = 101.91 SD = 10.83 N = 58	2.40	**.018***
Science Public	M = 102.23 SD = 10.35 N = 63	Arts Private	M= 108.03 SD= 10.84 N = 54	2.95	**.004****
Science Public	M = 102.23 SD = 10.35 N = 63	Commerce Private	M = 101.19 SD = 8.64 N = 62	.605	**.546**
Science Public	M = 102.23 SD = 10.35 N = 63	Science Private	M = 101.91 SD = 10.83 N = 58	.164	**.870**

Significant at *0.05 & **0.01 level of significance.

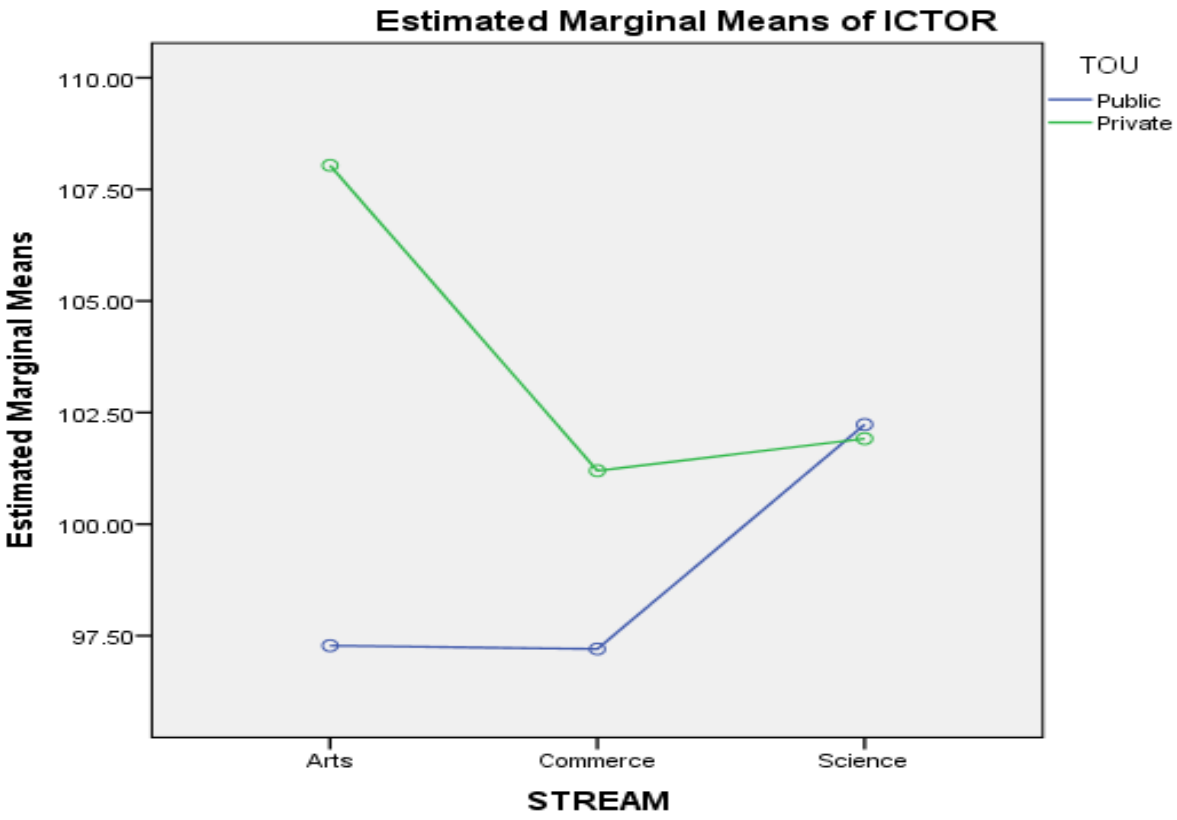

Figure 3.11. Figure indicating interaction of type of university and stream on scores of ICT orientation of university teachers.

3.4.2.4. Discussion on Results

ICT Orientation With Respect to Type of University.

It has been observed from Table 3.23, 3.25 and 3.27 that public and private university teachers significantly differ on their ICT orientation. It was assumed that different type of university teachers i.e. public and private varies in the level of motivation, technological exposure, availability of infrastructure and application of ICT in their day to day tasks. Therefore, teachers working in public and private universities differ in their ICT orientation. Further, analysis of Tables 3.22, 3.24 and 3.26 revealed that mean score on ICT orientation favors private university teachers. The results illustrate that teachers working in private universities have more technological exposure as they reported use of multimedia techniques such as PowerPoint presentations, online quizzes, and educational blogs are positively related to academic performance of their students and use of ICT in educational activities promotes conducive teaching learning environment. They revealed

that use of ICT builds confidence for preparation and presentation of lectures and brings positive change in the classroom. Private university teachers believe that online surfing for learning material makes their students more efficient day by day, they also believe that use of ICT in their profession has made communication easy and effective, this group pointed out that sharing of assignments, lecture notes and other study material has become convenient with the intervention of ICT in teaching learning process. On the other hand, public university teachers do not give much weightage to different aspects of ICT, they give preference to physical rather than digital libraries and believe that use of ICT reduces book culture among students. They believe that interaction through ICT is less effective than face to face communication, besides they also reported that ICT usage costs social and physical activities, provide their students the opportunity to cheat and plagiarize the content, they feel ICT does not improve the course quality and feel difficulty in dealing, handling and implementation of ICT in their profession. Therefore the results revealed that public university teachers have less exposure and knowhow of technology. Ahmed and Khurshid (2015) correlated the present findings and published that private university teachers reported higher score on different aspects of ICT as compare to public university teachers. Similarly, Alyya (2014) reported attitude that ICT varies in public and private higher educational institutes. Likewise, Arshid and Ahmed (2015) revealed that public and private university teachers differ in the level of use of ICT in the teaching learning process. On the other hand, Verma and Dahiya (2016) contradict the present results and reported in case of ICT, public university teachers do not differ significantly from private university teachers.

ICT Orientation With Respect to Gender.

From the analysis of Table 3.23, it has come to fore that teachers working in public and private universities do not differ in their ICT orientation on the basis of their gender. Although, results from Table 3.22 revealed that male teachers working in public and private universities showed higher ICT orientation than their counterparts, but this difference has not been found to be statistically significant. It was assumed that male and female teachers working in different types of universities possess similar views on ICT such as the use of ICT in teaching process encourages integrated learning that promotes thematic classroom approach and conducive teaching learning environment. Various

facilities provided by ICT like, digital libraries, online quizzes, educational blogs, common e-mails, PowerPoint presentations and online resources increases productivity, professional effectiveness and are very supportive in developing working style. They believe that online surfing of learning material and usage of multimedia techniques in teaching learning process enhances efficiency of their students. Both the groups feel that ICT facilities provide access to gigantic reservoir of knowledge and its increased usage makes their lives easier. Notably, they consider ICT as an important resource of knowledge and praised the convenience of sharing assignments, lecture notes and study material as a precious gift from ICT. They believe that various teaching facilities like PowerPoint presentations, video lectures, online lectures, simulated teaching enables them to handle learning preferences of students and helps to clarify the basic concepts more effectively. They feel that ICT enabled teaching methodologies provides various benefits like it builds confidence for preparation and presentation of lectures, raises the curriculum standards and are positively correlated with academic performance of students. The present findings are in keeping with the findings of other studies which found that ICT does not differ significantly on the basis of gender, Narasuman (2016); Verma and Dahiya (2016); Agbatogun (2010); Narasuman (2016) reported that gender is not an important factor as it is benign in its effect on ICT integration. Likewise, Verma and Dahiya (2016) reported in case of ICT teachers of public universities do not differ from private university teachers on the basis of gender. Similarly, Agbatogun (2010) reported that male and female faculty members possess analogous nature towards ICT integration. On the other hand, Alyya (2014); Arshid and Ahmed (2015) reported that teachers working in public and private universities differ on the basis of gender as perception on various factors like ease of use, usefulness and ICT usage varies among male and female teachers working in public and private universities.

ICT Orientation With Respect to Experience.

Perusal of the Table 3.25 revealed that public and private university teachers do not differ significantly in their ICT orientation on the basis of experience. Further the results from Table 3.24 revealed that mean differences favor the more experienced teachers but this difference was not found statistically significant. It was assumed that less and more experienced groups of teachers working in public and private universities have similar

understandings of ICT orientation and have comparable assessments regarding ICT such as, they feel ICT based methodologies encourage integrated learning and promotes thematic classroom approach and conducive teaching and learning environment. They believe that ICT based teaching methodologies build confidence for preparation and presentation of lectures and are positively correlated with academic performance of students. Various applications of the ICT like online quizzes, educational blogs, common e-mails and PowerPoint presentations has made communication easy, they also helped in convenient sharing of assignments, lecture notes and study material and helps in addressing the different learning preferences of students. They feel that online surfing of learning material make their students more effective day by day and brings positive change in a classroom. They have a strong belief that ICT based methodologies helped them in developing their working style and availability of ICT resources increases their productivity and professional effectiveness. Importantly, they did not accept the negative notions regarding ICT such as different aspects of ICT based methodologies are very challenging in teaching learning process, its increased usage makes teachers casual and lenient, ICT unlocks unfavourable sites for students, it provides opportunities to plagiarize content using copy & paste and so on. Therefore it is clear from discussion that less and more experienced teachers working in public and private universities perceive orientation towards ICT is beneficial for their profession and are in favor of its implementation in teaching learning activities. Present findings are in keeping with the findings of Narasuman (2016) who reported that experience is not an important factor as it is benign in its effect on ICT integration. While, Ahmed and Kurshid (2015); Arshid and Ahmed (2015) countered the results and reported that public and private university teachers differ in knowledge, usage, skills & level of ICT and they suggested that experience is one of the factors responsible for such disparities.

ICT Orientation With Respect to Stream.

Perusal of Table 3.27 highlights another crucial finding of the study i.e. public and private university teachers differ significantly in their ICT orientation on the basis of their stream of teaching. Moving deeper with the results Post-Hoc analysis (refer to Table 3.28) revealed that teachers from arts and science stream do not differ in their ICT orientation. However, teachers from commerce stream differ significantly in their ICT

orientation from the teachers of arts and science stream. It was assumed that public and private university teachers from arts and science stream possess similar perceptions regarding ICT orientation, they (arts and science teachers) have a strong opinion on various factors of ICT orientation both the groups of teachers feel that ICT usage boost their motivation, they believe ICT based methodologies encourage integrated learning that promotes thematic classroom approach, it promotes conducive teaching and learning environment and raise the curriculum standards. Arts and science teachers believe that ICT enabled teaching methodologies build confidence for preparation and presentation of lectures and it (ICT) is positively related with academic performance of their students. They also feel that different learning preferences of students are properly handled with the help of ICT. Arts and science teachers have a strong opinion that ICT methodologies are more compatible with contemporary education system, they feel that ICT based methodologies are very supportive in developing their working style and brings positive change in the classroom. They show more support to usage of multimedia techniques than the teachers of commerce stream. Arts and science teachers consider availability of ICT as a useful resource which increases their productivity and professional effectiveness. They feel ease with increased usage of ICT and reported that ICT made their lives easier by simplifying day to day job related tasks and also feel that ICT enabled teaching is better than traditional methods of teaching. Therefore it can be said that arts and science teachers have more knowhow and exposure of technology as compared to commerce teachers. The results presented by the Philomina and Amutha (2016); Pratik (2013) lends credence to outcomes as they found that teachers from science stream are better acquainted with ICT than the teachers teaching in other streams. In a similar direction with the outcome of this study, Agbatogun (2010) reported that teachers of different subject areas have varying levels of ICT literacy. He further reported that science teachers are more inclined and possess higher levels of ICT literacy. On similar lines, Link and Marz (2006) reported level of ICT literacy of teachers teaching in different disciplines significantly varies on the basis of their teaching subject and discipline.

Interaction Effect of Type of University with Gender, Experience and Stream.

The perusal of Table 3.23 revealed that interaction effect between type of university and gender do not influence ICT orientation of university teachers. Similarly, the Table 3.25 revealed that interaction effect between type of university and experience do not influence ICT orientation of university teachers, it indicates that sub groups of university teachers as a result of interaction of type of university and gender; type of university and experience have similar understanding of ICT orientation, as they perceive ICT as a resource that enhances their profession by increasing productivity, effectiveness, student efficiency, knowledge and confidence.

On the other hand, the analysis of Table 3.27 revealed that sub-groups of university teachers i.e. type of university and stream interacts significantly on the mean scores of ICT orientation. Further Table 3.29 reported the t-analysis for interaction effect and revealed that university teachers of arts stream working in private universities scored higher on ICT orientation than the university teachers of arts, commerce, and science stream working in public universities. Similarly university teachers of commerce stream working in private universities scored higher on ICT orientation than university teachers of arts and commerce stream working in public universities. It means that university teachers of arts and commerce stream working in private universities consider ICT as useful resource that increases their productivity and professional effectiveness, they have more ICT facilities in terms of infrastructure and training. They feel that use of ICT builds confidence for preparation and presentation of lectures and brings positive change in the classroom. Arts and commerce teachers working in private universities believe that use of multimedia techniques like PowerPoint presentations, online quizzes, and educational blogs in teaching learning process are positively related to academic performance of their students besides they also believes use of ICT in teaching process encourages integrated learning which promotes thematic classroom approach and conducive teaching learning environment. Surprisingly, the Table 3.29 revealed that university teachers of science stream working in both public and private universities scored almost equally on ICT orientation (Figure 3.11). Our estimates revealed that science teachers of both type of universities i.e. public and private have almost similar knowledge and experience of ICT. Science teachers of public universities show slightly

higher ICT orientation than private university teachers, it was assumed that science teachers of public universities enjoy some extra benefits as compared to science teachers of private universities like number of lectures per day, social status, type of administration, workload, job security, and financial benefits. Saleem, Khan, and Imran (2014) reported that public and private universities vary in facilities and emoluments despite the fact that all have to follow rules and regulation laid down by UGC and higher education authorities.

3.4.3. COMPARISON BETWEEN WORK ENGAGEMENT OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS ON GENDER, EXPERIENCE AND STREAM

3.4.3.1. Summary of 2x2 analysis of variance (ANOVA) on the scores of work engagement of public and private university teachers with respect to gender.

To study the main effect of type of university and gender along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 types of gender i.e. male and female) was applied on mean scores of work engagement. Descriptive statistical results for work engagement based on a sample of 369 university teachers is present in Table 3.30 below.

Table 3.30: Descriptive analysis of work engagement of Public and Private University Teachers on different types of Gender.

TOU	Gender	Mean	SD	N
Public	Male	83.62	10.31	110
	Female	83.13	11.55	85
	Total	83.41	10.84	195
Private	Male	79.10	9.70	92
	Female	74.90	10.32	82
	Total	77.12	10.19	174
Total	Male	81.56	10.26	202
	Female	79.09	11.68	167
	Total	80.44	10.98	369

Table 3.31. Summary of 2 way ANOVA (2x2) for interaction between type of university and gender with regard to work engagement.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	3704.24	1	3704.24	33.790	**.000****
Gender	499.59	1	499.59	4.557	**.033***
TOU * Gender	314.49	1	314.49	2.869	**.091**
Error	40013.73	365	109.62		
Total	2432467.75	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University: - The perusal of Table 3.31 revealed that F-ratio for the differences in work engagement of public and private university teachers is $F(1,365) = 33.790$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differ on the scores of work engagement. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (21), "***There is no significant difference in work engagement of university teachers on the basis of type of university***".

Main Effect Gender:- Table 3.31 shows calculated F-ratio for the main effect of gender on work engagement of public and private university teachers is $F(1,365) = 4.557$, $p = .033$, which is found significant at 0.05 level of significance. The results revealed that groups of male and female teachers differ significantly in their work engagement. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (22), "***There is no significant difference in work engagement of university teachers on the basis of gender*"**.

Interaction Effect (Type of university x Gender):- The perusal of Table 3.31 revealed that the F-ratio for interaction between type of university and gender of university teachers on work engagement is $F(1,365) = 2.869$, $p = .091$, which is found insignificant at 0.05 level of significance. The results indicate that main effects i.e. type of university and gender of teachers functions independently. Therefore the data does not provide

sufficient evidence to reject the null hypothesis. No. (23), "***There is no significant interaction effect of type of university and gender on work engagement of university teachers***". The results revealed that perception of university teachers on the scores of work engagement as a result of interaction of type of university and gender for various sub-groups do not differ significantly.

3.4.3.2. Summary of 2x2 analysis of variance (ANOVA) on the scores of work engagement of public and private university teachers with respect to experience.

To study the main effect of type of university and experience along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 groups of experience i.e. less and more) was applied on mean score of work engagement. Descriptive statistical results for work engagement based on a sample of 369 university teachers is present in Table 3.32 below.

Table 3.32: Descriptive analysis of work engagement of Public and Private University Teachers on less and more experience.

TOU	EXP	Mean	SD	N
Public	Up-to to 10 years (Less)	81.22	11.13	87
	Above 10 years (More)	85.17	10.32	108
	Total	83.41	10.84	195
Private	Up-to to 10 years (Less)	76.76	10.56	98
	Above 10 years (More)	77.58	9.74	76
	Total	77.12	10.19	174
Total	Up-to to 10 years (Less)	78.86	11.03	185
	Above 10 years (More)	82.03	10.73	184
	Total	80.44	10.98	369

Table 3.33. Summary of 2 way ANOVA (2x2) for interaction between type of university and experience with regard to work engagement.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	3290.36	1	3290.36	30.015	**.000****
Exp.	513.04	1	513.04	4.680	**.031***
TOU * Exp.	221.65	1	221.65	2.022	**.156**
Error	40012.61	365	109.62		
Total	2432467.75	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- The perusal of Table 3.33 revealed that F-ratio for the difference in work engagement of public and private university teachers is $F(1,365) = 30.015$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differ on the scores of work engagement. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (24), "***There is no significant difference in work engagement of university teachers on the basis of type of university***".

Main Effect Experience:- Table 3.33 shows the calculated F-ratio for the main effect of experience on work engagement of public and private university teachers is $F(1,365) = 4.680$, $p = .031$, which is found significant at 0.05 level of significance. The results show that groups of teachers having less and more teaching experience differ significantly in their work engagement. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (25), "***There is no significant difference in work engagement of university teachers on the basis of experience***".

Interaction Effect (Type of university x Experience):- Perusal of Table 3.33 shows the F-ratio for interaction between type of university and experience of university teachers on work engagement is $F(1,365) = 2.022$, $p = .156$, which is found insignificant at 0.05 level of significance. The result indicate that the main effects type of university and experience functions independently. Therefore the data does not provide sufficient evidence to reject the null hypothesis. No. (26), "***There is no significant interaction effect of type of university and experience on work engagement of university teachers***". The results reveal that perception of university teachers on the scores of work engagement as a result of interaction of type of university and experience for various sub-groups do not differ significantly.

3.4.3.3. Summary of 2x3 analysis of variance (ANOVA) on the scores of work engagement of public and private university teachers with respect to stream.

To study the main effect of type of university and stream along with their interaction effect, analysis of variance (2x3 factorial design involving 2 types of universities i.e. public and private and 3 groups of streams i.e. arts, commerce and science) was applied

on mean score of work engagement. Descriptive statistical results for work engagement based on a sample of 369 university teachers is present in Table 3.34.

Table 3.34: Descriptive analysis of work engagement of Public and Private University Teachers on different streams.

TOU	Stream	Mean	SD	N
Public	Arts	86.35	10.34	66
	Commerce	78.32	9.81	66
	Science	85.65	10.62	63
	Total	83.41	10.84	195
Private	Arts	78.18	9.89	54
	Commerce	74.79	8.08	62
	Science	78.62	12.04	58
	Total	77.12	10.19	174
Total	Arts	82.67	10.89	120
	Commerce	76.61	9.15	128
	Science	82.28	11.81	121
	Total	80.44	10.98	369

Table 3.35. Summary of 2 way ANOVA (2x3) for interaction between type of university and stream with regard to work engagement.

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
TOU	3578.18	1	3578.18	34.481	**.000****
Stream	2654.30	2	1327.15	12.789	**.000****
TOU * Stream	363.79	2	181.89	1.753	**.175**
Error	37668.96	363	103.77		
Total	2432467.75	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- Table 3.35 revealed that F-ratio for the main effect of type of university on work engagement of university teachers is $F(1,363) = 34.481$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differs on the scores of work engagement. Therefore, the data provide sufficient evidence

to reject the null hypothesis. No. (27), "***There is no significant difference in work engagement of university teachers on the basis of type of university*****".**

Main Effect Stream:- Table 3.35 shows the calculated F-ratio for the main effect of stream on work engagement of public and private university teachers, came out to be $F(1,363) = 12.789$, $p = .000$, which is found significant at 0.01 level of significance. The results revealed that teachers of different streams i.e. art, commerce and science differ significantly in their work engagement. In order to find out the significant difference between mean scores of various groups (arts, commerce and science) of university teachers, Tukey's post-hoc HSD test was applied and results have been documented in Table 3.36.

Table 3.36 Summary of Tukey's Post-Hoc HSD test with respect to work engagement of university teachers of various streams.

(I)STREAM	(J) STREAM	Mean Difference (I-J)	Std. Error	Sig.
Arts	**Commerce**	6.0576**	1.29440	**.000****
Arts	**Science**	.3881	1.31239	**.953**
Science	**Commerce**	5.6695**	1.29164	**.000****

Significant at *0.05 & **0.01 level of significance.

The perusal of Table 3.36 reveals the p-value of mean difference between teachers of arts and commerce streams (p = 0.000) and teachers of science and commerce stream (p = .000) is found significant at 0.01 level of significance for work engagement. While mean difference between teachers of arts and science stream (p = .953) is found insignificant at 0.05 level of significance. From the analysis it has come to fore that university teachers of arts stream do not differ significantly in their work engagement from teachers of science stream. Whereas, university teachers of commerce stream differ significantly in their work engagement from teachers of arts and science stream (Figure 3.12). Therefore, in the light of results the null hypothesis (28), "***There is no significant difference in work engagement of university teachers on the basis of stream*****",** is partially accepted and partially rejected. From the Table 3.34 it is clear that university teachers of arts and science stream had scored more in work engagement as compared to teachers of commerce stream, meaning thereby teachers of arts and science stream working in public

and private universities show higher mental resilience, robustness and prominent energy while discharging their duties. They reflect inspirational and enthusiastic work approach. They are more vigorous, dedicated and absorbed in their work as compared to the teachers of other streams.

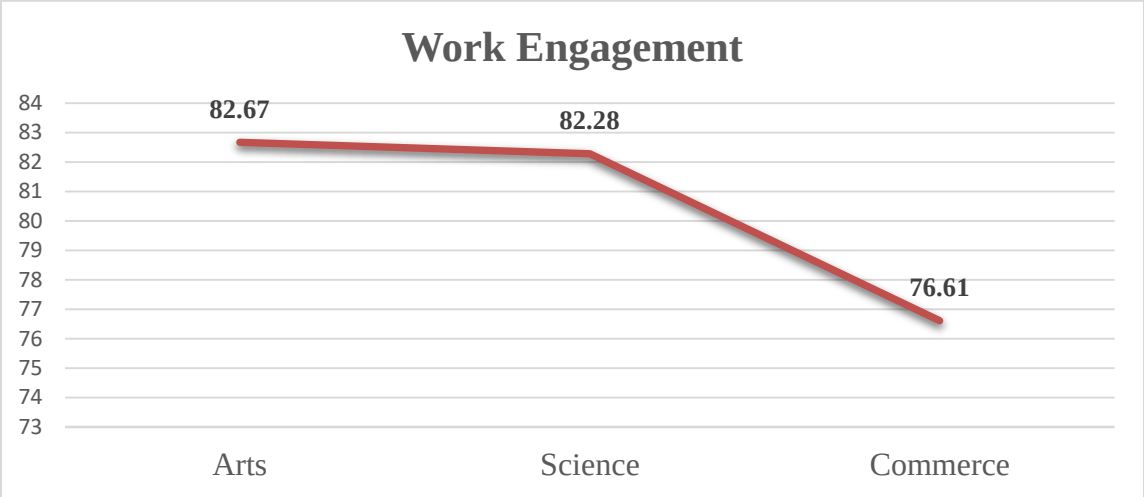

Figure 3.12. Mean scores of work engagement of university teachers of arts commerce and science stream.

Interaction Effect (Type of university x Stream):- It has been observed from Table 3.35 the F-ratio for interaction between type of university and stream of university teachers on work engagement is found to be $F(1,363) = 1.753$, $p = .175$, which is found insignificant at 0.05 level of significance. The results indicate main effects type of university and stream functions independently. Therefore, the data does not provide sufficient evidence to reject the null hypothesis. No. (29), "***There is no significant interaction effect of type of university and stream on work engagement of university teachers*".** The results revealed that perception of university teachers on the scores of work engagement as a result of interaction of type of university and stream for various sub-groups do not differ significantly.

3.4.3.4. Discussion on Results

Work Engagement With Respect to Type of University.

From the results it can be concluded that teachers working in different universities i.e. public and private significantly differ in the scores of their work engagement (refer to

Table no. 3.31, 3.33 & 3.35). Analysis of mean Tables (refer to Table no 3.30, 3.32 & 3.34) showed that public university teachers possess higher work engagement as compared to private university teachers. It was assumed that public university teachers are more energetic at work place and find their work more meaningful and purposeful in relation to their career development. They feel more enthusiastic, remain more involved, immersed in their work and show more mental resilience and perseverance at work even in unfavourable conditions. They are highly inspired with their job and show a willingness to work for longer hours and feel proud of the work. Furthermore, it appears that public university teachers have positive feelings and experiences regarding their work and they exhibit higher levels of engagement. In order to understand the reasons for less engagement of private university teachers, observation of psychographic profile and expectation of an employee is necessary. Private university teachers are mostly younger, ambitious with dire need for achievement and want a fast-track growth. This group of teachers have a heightened sense of inequality when they make comparisons of their pay structure, job security and job profile with teachers working in public universities. Hence, the expectations of teachers working in private universities are not met regarding their work load, growth opportunities, compensation, financial benefits, job security, job profile, and social status which creates disillusion among employees. The present findings are in keeping with the findings of Taufek, Ishak, Nor, Muslim, and Zainon (2016) who reported that academic staff of public universities show higher levels of work engagement, they credited the climate, work load, and job security at public universities as main factors for such type of variation. Whereas, Narula (2016) contradicted the findings of present study and reported that employees working in private organizations reported higher job engagement as compared to employees working in public organizations.

Work Engagement With Respect to Gender.

Similarly work engagement of public and private university teachers differ significantly on the basis of gender (refer to Table 3.31). Further Table 3.30 show that mean difference favors the male teachers working in public and private universities, which means male teachers show higher levels of work engagement as compared to female university teachers. Our estimates revealed that male teachers have high levels of energy and

resilience. They show more willingness to invest their efforts in work, they do not feel frequent exertion, and also show persistence in difficult situations at work. The male teachers usually show more energy, zest, and stamina while working as compared to female university teachers. Similarly, in case of dedication male teachers derive a sense of significance from their work, they are more enthusiastic and have the feeling of pride in their job. They feel inspired and challenged by their work. Male teachers strongly identify themselves with their work as they find it meaningful, inspiring, and challenging. On similar lines, male teachers are found totally and happily immersed in their work and find it difficult to detach themselves from it, so they feel that their time passes quickly and they forget everything else that is around. Therefore, male teachers working in public and private universities show higher mental resilience, robustness, and prominent energy while discharging their duties. They reflect inspirational and enthusiastic work approach, they demonstrate higher levels of concentration and engrossment during working hours. They are more vigorous, dedicated, and absorbed in their work as compared to their female counterparts. Iyer (2016) correlated the present findings and reported that public and private teachers significantly differ in their work engagement on the basis of gender. Iyer (2016) further reported that teaching profession provides insufficient financial benefits to males, so if they (males) choose teaching as their career it may be possible they are fascinated towards this profession and consequently they will exhibit more engagement tendencies than their female counterparts. Likewise, Tartari and Salter (2015) reported that despite having equal professional status, male and female teachers differ with regard to work engagement within universities. Tartari and Salter (2015) further reported that female teachers show less work engagement as they mostly take joint research projects and repeated consultation as compared to male teachers. Reason for such results may be that female teachers are less in number, they have to work in male-dominated environment in the universities and when they try to collaborate, they face barriers in their career development due to lack of female peers and role models in industry. Similarly, Ram, Strohschein, and Gaur (2014) argued that Indian children experience gender differences in early stages of life where girls' role is equated to maintain and manage household chores and boys' role is of authority and superiority. Ram, Strohschein, and Gaur (2014) further argued that different cultural and social rituals

play a significant role in institutionalization of these norms, therefore when these children grow into adults they continue to exhibit gender specified behavior. Likewise Noor and Zainuddin (2011) reported the emotional labor created due to professional and personal responsibilities as a main cause for burnout augmentation among female teachers which in-turn reduces their work engagement. On the other hand researchers Ray and Pena (2012) reported that female (Spanish) teachers exhibit higher levels of work engagement as compared to their male counterparts.

Work Engagement With Respect to Experience.

Another crucial finding of the present research suggests that more experienced university teachers differ significantly from less experienced university teachers in their work engagement (refer to Table 3.33). It was anticipated that more experienced teachers working in public and private universities are usually happily engrossed in their work, they are so immersed in their work that they are carried away. Whereas less experienced teachers do not feel they are more engrossed or immersed in their work, they neither feel difficulty in detaching themselves from work, nor do they forget everything around them, including time. Further it was assumed more experienced teachers strongly identify themselves with their work as they find it meaningful, inspiring, and challenging. Besides, they usually feel enthusiastic and proud about their work. While teachers having less experience do not identify themselves with their work because they do not find it meaningful, inspiring, or challenging. Moreover, they neither feel enthusiastic nor proud of their work. Besides, more experienced teachers also reported higher energy levels at work, they willingly invest efforts and show persistence in difficult situations. Present findings are in line with the findings of Singh, Kumar, and Priyadarshi (2007) who found that less experienced employees' value career advancement and compensation more. While more experienced employees give preference to communication, empowerment and job rotation than compensation. Singh et al. (2007) further reported that these variations in the engagement is because of disillusion due to expectation mismatch. Further, Saks (2006) asserted the work experience as an important predicting factor of work engagement and reported that state of engagement is a fulfilling work related experience associated with employees' good health and positive work outcomes. On

similar lines, highlighting the importance of work experience Kahn (1990) asserted that work experience drives attitude and behavior of employees at work.

Work Engagement With Respect to Stream.

Similar to above results, the findings presented in Table 3.35 revealed that public and private university teachers differ significantly in their work engagement on the basis of stream. Further, Tukey's Post-Hoc analysis presented in Table 3.36 confirmed that teachers of commerce significantly difference from teachers of arts and science streams in their work engagement. While, teachers of arts stream do not differ significantly from teachers of science stream in their work engagement. It has been observed public and private university teachers teaching in commerce stream show relatively lower levels of work engagement in comparison to teachers from science and arts stream (refer to Table 3.34). It was believed that arts and science teachers are more energetic at work place and find their work more meaningful and purposeful regarding their career development. They feel more enthusiasm, remain more involved, and immersed in their work. These teachers show more mental resilience and perseverance at work even in unfavourable conditions. They are highly inspired with their job and show a willingness to work for longer hours and feel proud of the work they do. Arts and science teachers strongly identify themselves with their work as they experienced it as inspiring and challenging. They are too immersed in their work that they feel time passes quickly and even they forget everything else around them. Therefore arts and science teachers have more positive feelings about their work and they exhibit higher levels of engagement. In order to understand the reasons for less engagement of commerce teachers, observation of their psychographic profile and expectation is necessary. In the present study commerce stream includes teachers from commerce, management, and economics. Therefore it was assumed that commerce stream by its very nature attracts people who have business and allied fields as their first option as a rule. Business, accounting, finance is their natural choice. Teaching is at best a stop gap solution while they wait for the right opening in the field of commerce. They would much rather like to take other jobs other than teaching like the stock market, entrepreneurship, management, marketing, banking, finance etc. where they get higher job profile, more economic benefits, and more growth opportunities, more compensation, rewards, empowerment etc. While in case of teachers

from arts and science streams they do not have many opportunities as that of commerce teachers. They choose teaching and are satisfied with their job. There is no literature available in this field so far, therefore there is need for further research to confirm these findings.

Interaction Effect of Type of University with Gender, Experience and Stream.

The perusal of Table 3.31 shows that interaction between type of university and gender do not influence work engagement of public and private university teachers. On similar lines, the results presented in Table 3.33 revealed that interaction effect between type of university and experience do not influence work engagement of public and private university teachers. Likewise, analysis of Table 3.35 shows that the type of university and stream of public and private university teachers do not influence their work engagement. It is assumed that sub groups of university teachers as a result of interaction of university type and gender, university type and experience, and university type and stream possess comparable zest and stamina, energy levels, resilience, willingness, persistence, and enthusiasm besides these sub-groups also derive an equal sense of significance from their work.

3.4.4. COMPARISON BETWEEN OCCUPATIONAL STRESS OF PUBLIC AND PRIVATE UNIVERSITY TEACHERS ON GENDER, EXPERIENCE AND STREAM

3.4.4.1. Summary of 2x2 analysis of variance (ANOVA) on the scores of occupational stress of public and private university teachers with respect to gender.

To study the main effect of type of university and gender along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 types of gender i.e. male and female) was applied on mean scores of occupational stress. Descriptive statistical results for occupational stress based on a sample of 369 university teachers is present in Table 3.37 below.

Table 3.37: Descriptive analysis of occupational stress of Public and Private University Teachers on different types of Gender.

TOU	Gender	Mean	SD	N
Public	Male	84.89	14.23	110
	Female	83.54	18.44	85
	Total	84.30	16.17	195
Private	Male	93.58	15.01	92
	Female	92.45	14.93	82
	Total	93.05	14.94	174
Total	Male	88.85	15.18	202
	Female	87.92	17.34	167
	Total	88.43	16.18	369

Table 3.38. Summary of 2 way ANOVA (2x2) for interaction between type of university and gender with regard to occupational stress.

Source of Variances	Sum of Squares	Df	Mean Square	F	Sig.
TOU	7057.25	1	7057.25	28.875	**.000***
Gender	140.37	1	140.37	.574	**.449**
TOU * Gender	1.16	1	1.16	.005	**.945**
Error	89209.00	365	244.40		
Total	2982049.36	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University: - The perusal of Table 3.38 revealed that F-ratio for the differences in occupational stress of public and private university teachers is $F(1,365) = 28.875$, p = .000, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differ on the scores of occupational stress. Therefore the data provide sufficient evidence to reject the null hypothesis. No. (30), "***There is no significant difference in occupational stress of university teachers on the basis of type of university***".

Main Effect Gender: - Table 3.38 shows the calculated F-ratio for the main effect of gender on occupational stress of public and private university teachers, came out to be $F(1,365) = .574$, $p = .449$, which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having different gender i.e. male and female do

not differ significantly in their occupational stress. Therefore, the data does not provide sufficient evidence to reject the null hypothesis. No. (31), "***There is no significant difference in occupational stress of university teachers on the basis of gender***".

Interaction Effect (Type of university x Gender):- The perusal of Table 3.38 revealed the F-ratio for interaction between type of university and gender of university teachers on occupational stress is $F(1,365) = .005$, $p = .945$, which is found insignificant at 0.05 level of significance. The results indicate that main effects i.e. type of university and gender functions independently. Therefore, the data do not provide sufficient evidence to reject the null hypothesis. No. (32), "***There is no significant interaction effect of type of university and gender on occupational stress of university teachers*****"**. The results show that perception of university teachers on the scores of occupational stress as a result of interaction of type of university and gender for various sub-groups do not differ significantly.

3.4.4.2. Summary of 2x2 analysis of variance (ANOVA) on the scores of occupational stress of public and private university teachers with respect to experience.

To study the main effect of type of university and experience along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 groups of experience i.e. less and more) was applied on the mean score of occupational stress. Descriptive statistical results for occupational stress based on a sample of 369 university teachers is present in Table 3.39 below.

Table 3.39: Descriptive analysis of occupational stress of Public and Private University Teachers with less and more experience.

TOU	EXP	Mean	SD	N
Public	Up-to to 10 years (Less)	83.48	17.89	87
	Above 10 years (More)	84.96	14.69	108
	Total	84.30	16.17	195
Private	Up-to to 10 years (Less)	93.14	14.07	98
	Above 10 years (More)	92.93	16.08	76
	Total	93.05	14.94	174
Total	Up-to to 10 years (Less)	88.60	16.65	185
	Above 10 years (More)	88.25	15.73	184
	Total	88.43	16.18	369

Table 3.40. Summary of 2 way ANOVA (2x2) for interaction between type of university and experience with regard to occupational stress.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	7044.90	1	7044.90	28.813	**.000****
Experience	36.35	1	36.35	.149	**.700**
TOU * Experience	64.35	1	64.35	.263	**.608**
Error	89245.39	365	244.50		
Total	2982049.36	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- The perusal of Table 3.40 revealed that F-ratio for the difference in occupational stress of public and private university teachers is $F(1,365) = 28.813$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different types of universities i.e. public and private significantly differ on the scores of their occupational stress. Therefore, the data provide sufficient evidence to reject the null hypothesis. No. (33), "***There is no significant difference in occupational stress of university teachers on the basis of type of university***".

Main Effect Experience:- Table 3.40 show calculated F-ratio for the main effect of experience on occupational stress of public and private university teachers, came out to be $F(1,365) = .149$, $p = .700$, which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having less and more experience do not differ significantly in their occupational stress. Therefore, the data does not provide sufficient evidence to reject the null hypothesis. No. (34), "***There is no significant difference in occupational stress of university teachers on the basis of experience***".

Interaction Effect (Type of university x Experience):- Perusal of Table 3.40 revealed the F-ratio for interaction between type of university and experience of university teachers on occupational stress is found to be $F(1,365) = .263$, $p = .608$, which is found insignificant at 0.05 level of significance. The results indicate that main effects type of university and experience functions independently. Therefore, the data does not provide sufficient evidence to reject the null hypothesis. No. (35), "***There is no significant***

***interaction effect of type of university and experience on occupational stress of university teachers*".** The results revealed that perception of university teachers on the scores of occupational stress as a result of interaction of type of university and experience for various sub-groups do not differ significantly.

3.4.4.3. Summary of 2x3 analysis of variance (ANOVA) on the scores of occupational stress of public and private university teachers with respect to stream.

To study the main effect of type of university and stream along with their interaction effect, analysis of variance (2x3 factorial design involving 2 types of universities i.e. public and private and 3 groups of stream i.e. arts, commerce and science) was applied on mean of occupational stress. Descriptive statistical results for occupational stress based on a sample of 369 university teachers is present in Table 3.41 below.

Table 3.41. Descriptive analysis of occupational stress of Public and Private University Teachers on different streams.

TOU	Stream	Mean	SD	N
Public	Arts	83.01	15.74	66
	Commerce	86.67	17.60	66
	Science	83.17	14.98	63
	Total	84.30	16.17	195
Private	Arts	88.92	13.03	54
	Commerce	95.33	16.29	62
	Science	94.46	14.55	58
	Total	93.05	14.94	174
Total	Arts	85.67	14.82	120
	Commerce	90.87	17.46	128
	Science	88.58	15.77	121
	Total	88.43	16.18	369

Table 3.42. Summary of 2 way ANOVA (2x3) for interaction between type of university and stream with regard to occupational stress.

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
TOU	6816.42	1	6816.42	28.301	**.000****
Stream	1568.00	2	784.00	3.255	**.040***
TOU * Stream	432.05	2	216.02	.897	**.409**
Error	87431.683	363	240.859		
Total	2982049.365	369			

Significant at *0.05 & **0.01 level of significance.

Main Effect Type of University:- Table 3.42 revealed that F-ratio for the main effect of type of university on occupational stress of university teachers came out to be $F(1,363) = 28.301$, $p = .000$, which is found significant at the 0.01 level of significance. The results indicate that teachers working in different type of universities i.e. public and private significantly differ on the score of occupational stress. Therefore, the data provide sufficient evidence to reject the null hypothesis. No. (36), "***There is no significant difference in occupational stress of university teachers on the basis of type of university***".

Main Effect Stream:- The Table 3.42 show calculated F-ratio for the main effect of stream on occupational stress of public and private university teachers, which came out to be $F(1,363) = 3.255$, $p = .040$, which is found significant at 0.05 level of significance. The results revealed that teachers of different streams i.e. art, commerce and science differ significantly in their occupational stress. In order to find out the significant difference between mean scores of various groups (teachers of arts, commerce and science) of university teachers Tukey's post-hoc HSD test was applied and results has been documented in Table 3.43.

Table 3.43. Summary of Tukey's Post-Hoc HSD test with respect to occupational stress of university teachers working in different streams.

(I) STREAM	(J) STREAM	Mean Difference (I-J)	Std. Error	Sig.
Arts	**Commerce**	5.1986*	1.97202	.024*
Arts	**Science**	2.9180	1.99943	.312
Science	**Commerce**	2.2806	1.96781	.479

Significant at *0.05 & **0.01 level of significance.

Perusal of Table 3.43 reveals the p-value of mean difference between teachers of arts and commerce stream (p = .024) is found significant at 0.5 level of significance for occupational stress. While mean difference between teachers of arts and science stream (p = .312) and teachers of commerce and science stream (p = .479) are found insignificant at 0.05 level of significance respectively for occupational stress. From the analysis it has come to fore that university teachers of arts stream differ significantly in their occupational stress from teachers of commerce stream. Whereas, university teachers

of science stream do not differ significantly in their occupational stress from teachers of arts and commerce stream. Therefore, in the light of results the null hypothesis. No. (37), **"*There is no significant difference in occupational stress of university teachers on the basis of stream*",** is partially accepted and partially rejected. From the Table 3.41 it is clear that university teachers of commerce stream had scored more on occupational stress meaning thereby teachers of commerce stream perceived higher levels of work load, role ambiguity, role complexity, unhealthy work relation, lack of cooperation, and favoritism at work place.

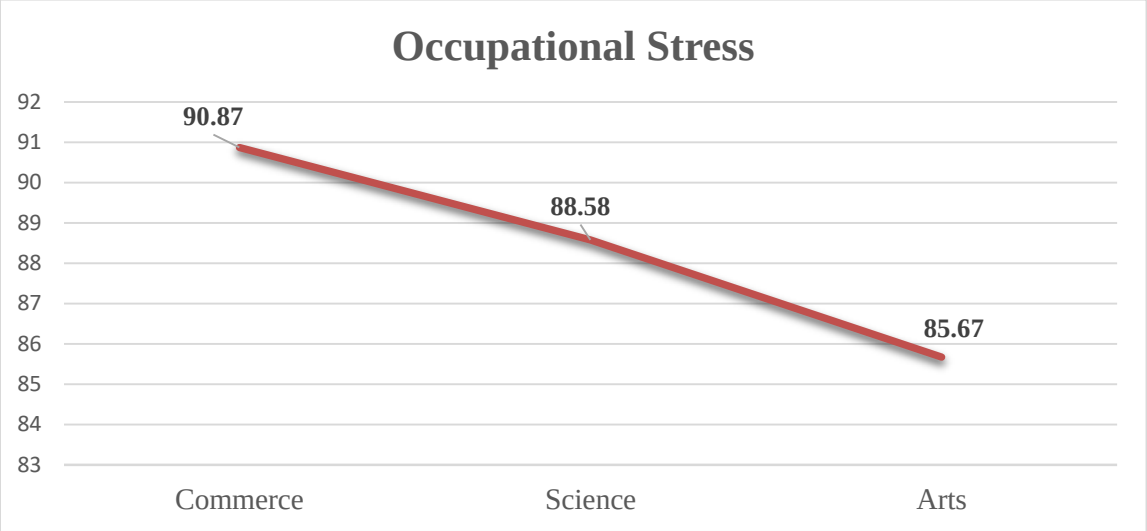

Figure 3.13. Mean scores of occupational stress of university teachers of arts commerce and science stream.

Interaction Effect (Type of university x Stream):- It has been observed from Table 3.42 that the F-ratio for interaction between type of university and stream of university teachers on occupational stress is found to be $F(1,363) = .897$, $p = .409$, which is found insignificant at 0.05 level of significance. The results indicate main effects type of university and stream functions independently. Therefore, the data does not provide sufficient evidence to reject the null hypothesis. No. (38), **"*There is no significant interaction effect of type of university and stream on occupational stress of university teachers*".** The results revealed that perception of university teachers on the scores of occupational stress as a result of interaction of type of university and stream for various sub-groups do not differ significantly.

3.4.4.4. Discussion on Results

Occupational Stress With Respect to Type of University.

Table 3.38, 3.40 and 3.42 presents the estimates of variations on occupational stress of public and private university teachers. The results demonstrate that public and private university teachers significantly differ in their occupational stress. Further the Table 3.37, 3.39 and 3.41 revealed that mean scores on occupational stress favors teachers working in private universities i.e. they shows higher occupational stress as compared to public university teachers. Our estimates revealed that private university teachers have excessive work load, insufficient time to perform their work smoothly, they feel extra burden of assignments and administrative work apart from teaching, and are kept over occupied in supervising co-curricular activities, besides private university teachers also show signs of role ambiguity, as they cannot prioritize their job role out of teaching and non-teaching. These teachers experience role complexity due to high expectation of authorities and apart from that they feel muddled due to partial behavior of administration and colleagues. Additionally they feel groupism among employees and interference of community creates non-conducive teaching atmosphere and sowed that many times administration of the organization create disturbance in their teaching work. Private university teachers also report unhealthy work relation as they experience strained relations at workplace. They feels lack of cooperation and reported working with people whom they dislike. Further private university teachers feel their hardwork and efficient performance is not recognized, besides they also feel they are unable to enjoy their holidays and delayed salaries/insufficient financial benefits decreases their work satisfaction. On the other hand, public university teachers do not feel physical and mental stress after working hours, they get sufficient time to perform their work and usually do not bring assignments home. They shoulder the responsibility of personality development of their students and focus on progress and prosperity of their organization. Besides their suggestions to improve work environment are welcomed, they feel they have good curriculum and their teaching pedagogy is appropriate, they also believe their heads do not discriminate among employees. Therefore the results indicate perception of university teachers on occupational stress differs significantly across different type of universities i.e. public and private. It was anticipated work factors like, workload, role ambiguity,

responsibility, powerlessness, work relations, working condition, infrastructure, growth opportunities, financial benefits etc. greatly varied across type of organization and consequently occupational stress of teachers also varies among public and private universities. Present findings are in context with the findings of Hassan (2014) who affirmed a significant difference between occupational stress of teachers working in public and private sectors. Hassan (2014) blamed low salary and extra workload of private organizations for such type of variation. The findings were also quite similar with the study of Mahakud and Bajaj (2014) who said that additional work, job turnover, performance expectation causes psychological burnout and more occupational stress among private teachers. On similar lines, Ramanathan and Mohan (2014); Katyal, Jain, and Dhanda (2011) pointed out that the physical environment, adaptability, lack of employee involvement, performance pressure, and undue job expectations responsible for higher levels of occupational stress in private organizations. Likewise Malik (2011) showed the role overload, role authority, supervisory support, and role conflict as prime factors responsible for higher levels of occupational stress in employees working in private organizations.

Occupational Stress With Respect to Gender.

Another important finding of the present study is that teachers working in public and private universities do not differ significantly in their occupational stress on the basis of their gender (refer to Table 3.38). It was assumed that male and female teachers have parallel perceptions regarding occupational stress, as both groups do not feel high levels physical and mental stress after working hours, they get sufficient time to perform their work and do not bring office assignment home. Besides they equally shoulder the responsibility of personality development of their students and progress and prosperity of their organization. Further, they reported that their suggestions to improve work environment are welcomed, they feel they have good curriculum and their teaching pedagogy is appropriate, apart from that, these groups also believe their heads treat them equally and do not discriminate among them. Similarly, they share similar negative feelings on certain aspects of occupational stress such as groupism among employees and interference of community creates non-conducive teaching atmosphere and administration of the organization creates disturbance in their teaching work. They also

possess similar opinion regarding identification of their hardwork, their efficiency, performance, and providing holiday facility. Surprisingly, these groups share similar experiences regarding delayed salaries/insufficient financial benefits and decrease in work satisfaction. Therefore, it can be said that both groups of teachers have similar experience in certain work related factors like workload, administrative pressure, physical environment, employee involvement, expectation, job security, and performance pressure. These results are in line with earlier researches that have shown that teachers of public and private organizations do not differ significantly in occupational stress on the basis of their gender. Supporting the present findings Hasan (2014); Olaitan (as cited in Mahakud & Bajaj 2014) confirmed that there is no significant difference in work stress of teachers based on their gender. Similarly, Mahakud and Bajaj (2014) correlated the findings of the study and affirmed that gender comparison of occupation related stress indicates no significant difference between males and female teachers working in both type of organizations. This result is contradicted by Chaudhry (2012); Malik (2011) who reported occupational stress of male and female employees differ significantly as male and female employees vary in their perception regarding various job related factors like role overload, role authority, supervisory support, and role conflict.

Occupational Stress With Respect to Experience.

From Table 3.40 it has come to fore that teachers working in public and private universities do not differ significantly in their occupational stress on the basis of their experience. The expected reason for this might be, less and more experienced teachers possess similar perceptions regarding their occupational stress, as both groups do not feel high levels of physical and mental stress after working hours, they believe that they have sufficient time to perform their work and successfully completes office assignments during working hours. These groups of teachers simultaneously helps their students in personality development and also contributes to progress and prosperity of their organization. They do not feel muddled due to behavior of administration and feel that their suggestions to improve work environment are welcomed. Both the groups appreciate their curriculum and pedagogy. Likewise, less and more experienced teachers believes in collaborative work and do not feel groupism among their colleagues. Besides they also feel their financial perks and benefits are adequate. Further they also reported

that administration of their organization and community do not disturb their teaching work. Both the groups reported that their efficiency and hardwork at work place is fairly recognized. Hence, it can be inferred that both groups of teachers equally experience certain work related factors like workload, administrative pressure, physical environment, employee involvement, expectation, job security, and performance pressure. Present findings are in line with findings of Mondal, Shrestha, and Bhaila (2011) who conducted a study on job satisfaction and job stress of teachers and reported years of teaching experience do not affect occupational stress of teachers. Similarly, Johannsen (2011) reported various factors of occupational stress like workload, salary, student discipline, and motivation do not show significant relation with work experience of teachers. On similar lines, Chona and Roxas (2009) reported years of teaching experience do not significantly affect occupational stress of teachers, they further reported that the teachers do not get affected by difficulties they counter at their work place, thereby showing signs of high stress tolerance during their job. Likewise, Ahmad, Bharadwaj, and Narula (1985) added to the support of their findings and reported that work experience do not affect the occupational stress of employees. While, Aftab and Khatoon (2012); Bano and Jha (2012); Kumar and Deo (2011); Ravichandran and Rajendran (2007) contradicted with the findings of present research and reported teaching experience as a significant stressor which plays a significant role in perceiving occupational stress of teachers.

Occupational Stress With Respect to Stream.

The perusal of Table 3.42 revealed that occupational stress of public and private university teachers differ significantly on the basis of stream. The mean score reported in Table 3.41 shows that teachers of commerce stream reported highest levels of occupational stress as compare to teachers of arts and science streams and same is confirmed by the Tukey's Post-Hoc analysis (refer to Table 3.43). Teachers from commerce stream reported higher levels work load. They reported a feeling of insufficient time to perform work smoothly and feel they are over occupied in supervising co-curricular activities, besides they reported extra burden of assignments and administrative work apart from teaching. This group of teachers show signs of role ambiguity as they cannot prioritize their job role out of teaching and non-teaching, apart from that commerce teachers show signs of role complexity due to high expectation of

authorities and also feel muddled due to partial behavior of administration and colleagues. As compared to arts and science stream teachers, commerce teachers reported groupism among employees and interference of community creates non-conducive teaching atmosphere. This group also reported unhealthy work relation as they experienced strained relations and lack of cooperation at workplace. They feel it is difficult to keep up-to date job knowledge in this job and are worried of downfall of moral values among colleagues, besides they also believe that their job affected their physical health. These teachers affirmed that their hardwork and efficient performance has not been recognized. While, arts and science teachers like the challenges and are ready to work under tense circumstances, they showed satisfaction and believed authorities do not practice favoritism. These groups of teachers do not feel physical and mental stress after working hours and are satisfied with the time they get to perform their work. Besides they also shoulder the responsibility related to personality development of the students and progress of their organization. Apart from that they feel that their suggestions to improve the work environment are welcomed and their heads do not discriminate among employees. The findings of present research are in line with the findings reported by Shukla (2014) who explored the occupational stress among teachers of arts and commerce stream of public organizations and reported that teachers of commerce stream reported high occupational stress as compared to arts teachers. Similarly, Reddy and Anuradha (2013) compared occupational stress of teachers working in public and private organizations in different streams and reported a significant difference in occupational stress of teachers of different streams. They further revealed that commerce teachers experienced highest stress levels followed by science stream teachers and then teachers of humanities who experienced lowest level of occupational stress. Jeyaraj (2013) contradicted with the findings and reported that there is an association between stream and occupational stress in both public and private organizations and asserted that teachers of arts stream reported high occupational stress. While science and vocational subject's teachers perceive less occupational stress.

Interaction Effect of Type of University with Gender, Experience and Stream.

The perusal of Table 3.38 revealed that interaction between type of university and gender do not influence occupational stress among university teachers. On similar lines, the

results presented in Table 3.40 revealed interaction effect between type of university and experience work independently and do not influence occupational stress of university teachers. Likewise, analysis of Table 3.42 depicted type of university and stream of university teachers do not influence their occupational stress. It is assumed that sub groups of university teachers as a result of interaction of university type and gender, university type and experience, university type and stream possess similar experience of workload, role ambiguity, groupism, work relations, powerlessness, motivation, responsibility and inadequacy.

3.5. SECTION E: REGRESSION ANALYSIS

3.5.1. Multiple regression analysis between independent variables i.e. ICT orientation, work engagement and occupational stress and dependent variable i.e. perceived job performance of public university teachers.

Table 3.44 (A): Summary of regression analysis between independent variables (ICT orientation, work engagement, occupational stress) and the dependent variable (perceived job performance) of public university teachers.

Predictor Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate
ICTOR, WE, OS	.590[a]	.349	.338	10.64252

a. Predictors: (Constant), OS, WE, ICTOR

Results presented in Table 3.44 (A) shows the multiple correlation coefficient of independent variables i.e. ICT orientation, work engagement, occupational stress and dependent variable i.e. perceived job performance was brought to be .590. The Table further revealed that calculated value of R^2 i.e. coefficient of determination is .349. The calculated results suggested that independent variables show a significant relationship with dependent variable and independent variables can explain 34.9% proportion of variance in the dependent/criterion variable (perceived job performance).

Table 3.44 (B): ANOVA summary for regression analysis.

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11580.954	3	3860.318	34.083**	.000[b]
Residual	21633.283	191	113.263		
Total	33214.237	194			

a. Dependent Variable: PJP

b. Predictors: (Constant), OS, WE, ICTOR

**Significant at 0.01 level of significance.

Table 3.44 (B) reported the calculated F-value is found statistically significant at 0.01 level of significance indicating the overall model of regression is a good fit for present data. The perusal of Table 3.44 (B) revealed independent variables significantly predicts the dependent variable $F(3,191) = 34.083$, $p = .000$, i.e. the proposed regression model is a good fit. Therefore, regression analysis is allowed and feasible.

Table 3.44 (C): Coefficient summary for regression analysis.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	B		
(Constant)	96.354	10.957		8.794**	.000
ICTOR	.393	.079	.304	4.970**	.000
WE	.548	.072	.454	7.626**	.000
OS	-.004	.049	-.005	-.089	.929

**Significant at 0.01 level of significance.

The analysis of Table 3.44 (C) represents the regression coefficient for constant and independent variables i.e. ICT orientation, work engagement and occupational stress. It is clear from Table 3.44 (C) the values of 'B' and 't' for ICT orientation (B = .393 and t = 4.970) and work engagement (B = .548 and t = 7.626) are found significant at 0.01 level of significance, i.e. ICT orientation and work engagement are significant predictors of perceived job performance of public university teachers. While the values of 'B' and 't' for occupational stress is found to be B = -.004 and t = 0.089 which are found insignificant at 0.05 level of significance depicting occupational stress of public university teachers, is not a significant predictor of perceived job performance. The overall regression equation formulated from all variables is given below.

Perceived job performance = 96.354 + .393 X ICT orientation + .548 X work engagement – .004 X occupational stress. Therefore, in the light of calculated results the set hypothesis. No. (39), **"*There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of public university teachers",*** is partially accepted and partially rejected.

3.5.1.1. Discussion on Results

Regression analysis revealed that ICT orientation and work engagement of public university teachers contribute to their perceived job performance and latter is dominant. Our estimates indicate that increase in the ICT orientation transforms into positive effect on employee performance. It was assumed that ICT orientation contributes significantly to perceived job performance, as teachers feel it enhances various factors of job performance like they believe that ICT orientation enhances their proficiency of delivering lectures, regular usage of ICT improves their communication, it helps them to keep up-to date job knowledge, besides they also feel ICT helps them to handle work load by providing access to various knowledge resources and they also believe ICT helps in the integration of modern teaching techniques. Besides, it was also observed that teachers believe that use of multimedia techniques such as PowerPoint presentations, online quizzes, and educational blogs are positively related to academic performance of their students and use of ICT in educational activities promotes conducive teaching learning environment. They feel that use of ICT builds confidence for preparation and presentation of lectures and brings positive change in the classroom. The findings are in consonance with available literature on job performance. Ahmad (2012) asserts that variables of ICT are important for enhancing teachers' job performance. On the similar lines, Ondieki Makori, Odini, and Bernard Ojiambo (2013) studied the use of ICT in education and training and revealed that professionals and departments should redefine and redesign curriculum in accordance with ICT, which may improve needs, demands and performance requirements of employees. Similarly, Kaluyu et al. (2015) studied the impact of ICT proficiency on job performance and found levels of ICT proficiency significantly effects the job performance of university employees. ICT acts as a great potential of innovation determinant for improving efficiency and facilitate innovations in organizations, it positively effects both processes and products of an organization in comparison to traditional innovations (Arvanitis et al., 2013).

Similarly, in case of work engagement it has come to fore that work engagement is a significant predictor of perceived performance, as it has been observed that teachers with higher levels of engagement possesses high levels of energy and mental resilience, these teachers show more willingness to invest their efforts in work, they do not feel frequent exertion, and also shows persistence in difficult situation. They usually show much energy, zest, and stamina while working. Apart from that they derive a sense of significance from their work, they are more enthusiastic and have proud feeling for their job, they feel inspired and challenged by their work which ultimately contributes to their performance by enhancing their adaptability, helping nature, improving their job knowledge, make them more cooperative, and communicative. By enhancing their capacity of socio, cultural, and physical adaptation. The result of work engagement is supported by Jackson (2014); Reijseger et al. (2012); Shimazu et al. (2012); Bakker and Bal (2010) who reported that work engagement is significantly related with job performance and do predict employee job performance in public sector. Similarly, Yalabik et al. (2013) reported that work engagement play a potential role to predict job performance by mediating the relationship between commitment, intension to quit, and job performance. In their meta-analysis Demerouti and Corpanzano (2010) reviewed the effect of work engagement on job performance and reported that out of three factors vigor is the most significant predictor of the job performance but combined value all the three factors (vigor, dedication, and absorption) is greater than the individual one.

On the other hand regression analysis revealed that occupational stress is not a significant predictor of perceived job performance of university teachers (refer to Table 3.44 C). Our estimates revealed that university teachers do not perceive factors of occupational stress in negative perspective, they do not allow various stressors like workload, role ambiguity, working conditions, powerlessness, lack of motivation, inadequacy, and groupism to hinder their perceived job performance. Public university teachers keep themselves up-to-date with their organizational procedures and they invest their efforts to cope up with challenging work situations. They welcome the challenges at work by exploring appropriate ways to address them. They manage time properly and show adaptive behavior. The findings are supported by Chaudhry (2012) who reported that majority of the university faculty do not report stress as an issue in their profession. Providing further support, Chen, and Silverthorne (2008) point out the cognitive control of employees as an

important factor to control and minimize the effect of occupational stress on job performance.

3.5.2. Multiple regression analysis between independent variables i.e. ICT orientation, work engagement and occupational stress and dependent variable i.e. perceived job performance of private university teachers.

Table 3.45 (A): Summary of regression analysis between independent variables (ICT orientation, work engagement, occupational stress) and the dependent variable (perceived job performance) of private university teachers.

Predictor Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate
ICTOR, WE, OS	.483[a]	.233	.220	10.88965

a. Predictors: (Constant), OS, WE, ICTOR

Results presented in Table 3.45 (A) show the multiple correlation coefficient of independent variables i.e. ICT orientation, work engagement, occupational stress and dependent variable i.e. perceived job performance was calculated to be .483. The Table further revealed that calculated value of R^2 i.e. coefficient of determination was brought about to be .233. Therefore the calculated results suggest that independent variables are significantly related with the dependent variable and independent variables can explain 23.3% proportion of variance in the dependent/criterion variable (perceived job performance) in case of private university teachers.

Table 3.45 (B): ANOVA summary for regression analysis.

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	6131.258	3	2043.753	17.235**	.000[b]
Residual	20159.371	170	118.585		
Total	26290.629	173			

a. Dependent Variable: PJP

b. Predictors: (Constant), OS, WE, ICTOR

**Significant at 0.01 level of significance.

Table 3.45 (B) reported the calculated F-value is found statistically significant at 0.01 level of significance indicating that overall model of regression is a good fit for the

present data. The perusal of Table 3.45 (B) revealed independent variables significantly predicts the dependent variable $F(3,170) = 17.235$, $p = .000$ i.e. the proposed regression model is a good fit. Therefore, the regression analysis is allowed and feasible.

Table 3.45 (C): Coefficient summary for regression analysis.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	121.731	11.415		10.664**	.000
ICTOR	.207	.086	.176	2.402*	.017
WE	.482	.086	.399	5.584**	.000
OS	-.032	.058	-.039	-.552	.582

*/**Significant at 0.05 & 0.01 level of significance.

The analysis of Table 3.45 (C) represents the regression coefficient for constant and independent variables i.e. ICT orientation, work engagement and occupational stress. It is clear from the Table 3.45 (C) the values of 'B' and 't' for ICT orientation (B = .207 and t = 2.402) and work engagement (B = .482 and t = 5.584) are found significant at 0.05 and 0.01 level of significance respectively, i.e. ICT orientation and work engagement are significant predictors of perceived job performance. While the values of 'B' and 't' for occupational stress are found to be B = -.032 and t = 0.552 which are found insignificant at 0.05 level of significance depicting occupational stress of private university teachers is not a significant predictor of their perceived job performance. The overall regression equation formulated from all variables are given below.

Perceived job performance = 121.731 + .207 X ICT orientation + .482 X work engagement – .032 X occupational stress. Therefore, in the light of calculated results the set hypothesis. No. (40), ***"There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of private university teachers",*** is partially accepted and partially rejected.

3.5.2.1. Discussion on Results

The results of regression analysis clearly shows that ICT orientation of private university teachers significantly contributes to their perceived job performance. It was assumed that private university teachers believe ICT enhances their job performance by improving

proficiency in delivering lectures, various applications of ICT such as common e-mail, educational blogs, online quizzes enhances their communication skills, efficiency, and job knowledge, besides they also feel ICT helps them to handle work load by providing access to various knowledge resources. Private university teachers believe that ICT helps in the integration of modern teaching techniques. They also believe that orientation towards ICT helps in better job performance by enhancing various job related factors like classroom management, teaching skills, job assignments, teaching methods which directly enhance the task performance of employees. Present findings are in line with a host of researches available in this field (Zhang & Venkatesh, 2013; Shaikh & Khoja, 2011; Polo Peña et al., 2011; 2013). Zhang and Venkatesh (2013) studied communication element of ICT and reported that online direct and indirect communication significantly affects the workplace communication and enhances the performance of employees. Likewise, Shaikh and Khoja (2011) asserted that ICT helps to improve the knowledge-based economy through enhancing the various fundamental elements of education system like staff training, ICT policy, curriculum, pedagogy etc. Shaikh and Khoja (2011) further reported that integration and implementation of ICT in teaching-learning helps in developing a robust education system which may improve the performance of human resources. Polo Peña et al. (2011; 2013) reported a significant effect of ICT on employee job performance.

Going deeper, the results reveal that work engagement of private university teachers is a significant predictor of their perceived job performances. It was assumed that engaged teachers show high performance as they are usually found happily engrossed in their work and find it difficult to detach themselves from it. At work they feel they forget everything around and time seems to fly. These teachers strongly identify themselves with their work as they experience it as meaningful, inspiring, and challenging. Besides, they usually feel enthusiastic and proud of their work, this in-turn contributes to their work performance by enhancing their adaptability, helping nature, improving their job knowledge, make them more cooperative, and communicative. Present result is supported by a couple of researches available in literature like Yalabik et al. (2013); West (2012); Xanthopoulou et al. (2008); Council (2004) they stated that work engagement is

significantly related to job performance and plays a potential role in predicting job performance of private sector employees.

The regression analysis further revealed that occupational stress of private university teachers do not predict their perceived job performance the findings are correlated by Chen and Silverthorne (2008) who asserted that cognitive control of employee as an important factor to control and minimize the effect of occupational stress on their performance. Our estimations revealed that occupational stress does not affect the perceived job performance of private university teachers as they do not show signs of high work stress, it has been observed that private university teachers understand their administrative responsibilities, they do not feel discrimination, lack of autonomy, and are satisfied with the financial benefits provided by their organization, they feel that their work gets properly recognized, besides they also fulfill their job demands, apart from that they maintain good interrelationship, believes in teamwork and help other colleagues when needed. They adopt a positive approach in adverse conditions of work. These findings are in line with Chaudhry (2012) who asserted that majority of the university faculty do not report stress as a big problem for their profession.

CHAPTER IV

CONCLUSIONS, IMPLICATIONS, AND DIRECTIONS FOR FUTURE RESEARCH

Present chapter highlights the conclusions drawn from the study along with the implications for academia, industry and policy makers. The chapter also highlighted various limitations of the study along with the directions for future research.

4.1: CONCLUSIONS

This section reflects an attempt to portray brief summary of the findings drawn on the basis of descriptive and inferential statistics.

4.1.1. DESCRIPTIVE ANALYSIS

1st Objective: To explore Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.

Percentage-wise distribution of overall sample on different levels of perceived job performance show that the highest percentage of university teachers fall within average level followed by high, low, very high and very low level. In domain wise distribution majority of public university teachers reported higher level of perceived job performance in all the three domains i.e. task, contextual and adaptive performance in comparison to private university teachers.

In case of ICT orientation, the study showed that highest percentage of the overall sample falls in the average level followed by low, high, very high and very low levels. Domain-wise distribution shows that private university teachers have higher ICT orientation in ease of use, motivation, advantage, compatibility, and perception domains. In effectiveness & communication and avoidance domains teachers of both public and private universities reported equal percentage. On the other hand, public university teachers reported higher levels of orientation only in facility domain of ICT orientation.

For work engagement higher percentage of overall sample reported in the high level followed by average, very high, low and very low level. The percentage-wise comparison of public and private university teachers on different levels of work engagement shows

that public university teachers reported higher levels of engagement in all the three domains (Vigor, Dedication and Absorption). Therefore public university teachers are more engaged in their work as compared to private university teachers.

For occupational stress the study concluded that the highest percentage of overall sample reported in the average level of occupational stress. In the case of public and private university teachers, the study revealed that the public university teachers experience less occupational stress as compared to private university teachers.

4.1.2. CORRELATION ANALYSIS

2nd Objective: To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public University Teachers.

The second objective of the present study is based on interrelationship analysis. Till date there has been dearth of studies on higher education sector dealing with measurement of the interrelationship of perceived job performance with ICT, work engagement and occupational stress. The analysis of data revealed that there is a statistically significant interrelationship among perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement, ICT orientation and occupational stress of public university teachers and has been supported by various researches (Bayo-Moriones et al., 2015; Dodge & DAnaleze 2012; Cakiroglu et al., 2016; Narvaez et al., 2014). In addition to this the results revealed that occupational stress of public university teachers shows a statistically insignificant relationship with perceived job performance and work engagement. This finding will significantly contribute to the literature of organizational research.

3rd Objective: To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private University Teachers.

After analyzing the interrelationship of perceived job performance, ICT orientation, work engagement and occupational stress of private university teachers, the results revealed that there exists a statistically significant relationship between perceived job performance

and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement and ICT orientation and occupational stress. Bayo-Moriones et al. (2013); Reijseger et al. (2012); Wet et al. (2016); Ninaus et al. (2015) supported the significant relationship between these variables in private sector. The results further revealed that occupational stress of private university teachers is not significantly related with their perceived job performance and work engagement.

4.1.3. COMPARATIVE ANALYSIS

4th Objective: To compare Perceived Job Performance of Public and Private University Teachers on the basis of Gender, Experience and Stream.

Going a little deeper the results revealed that there exists a significant difference in perceived job performance of public and private university teachers. The results further revealed public university teachers showed higher perceived job performance than private university teachers. This is one of the crucial finding from the higher educational perspective, as there is a dearth of such studies in Indian context at the university level. The findings are in line with the findings of some other studies like (Saleem, Khan, & Imran 2014; Shabbir et al., 2014). The analysis further revealed public and private university teachers do not differ significantly on the basis of other explored demographic variables i.e. gender, experience and stream, apart from that, analysis also showed that type of university and other demographic variables do not interact significantly on mean scores of perceived job performance.

5th Objective: To compare ICT Orientation of Public and Private University Teachers on the basis of Gender, Experience and Stream.

A closer view of the analysis revealed that ICT orientation of public and private university teachers differ significantly on type of university and stream. It has been observed that private university teachers show higher ICT orientation level as compared to public university teachers. This is one of the key findings that contributes to the academic literature on ICT orientation in the university context. Till date most of the literature available has focused on the specific components of ICT and not on the basic orientation. Maximum number of studies have been conducted on primary and secondary educational levels. The findings are supported by Ahmed and Khurshid (2015); Arshid

and Ahmed (2015); Philomina and Amutha (2016). Surprisingly, the results revealed that public and private university teachers do not differ significantly in their ICT orientation with respect to their gender and experience. Besides, the interaction analysis also revealed a cross-over between the type of university and stream of university teachers.

6th Objective: To compare Work Engagement of Public and Private University Teachers on the basis of Gender, Experience and Stream.

After observing the analysis on work engagement of public and private university teachers, it has been concluded that work engagement of public and private university teachers differ significantly on demographic variables like gender, experience and stream of teaching. In addition, the analysis revealed that public university teachers are more engaged as compared to private university teachers. Taufek et al. (2016) and Saks (2006) supported the significant difference in the work engagement of public and private university teachers. The findings further revealed type of university and other demographic variables i.e. gender, experience and stream do not interact significantly on their work engagement.

7th Objective: To compare Occupational Stress of Public and Private University Teachers on the basis of Gender, Experience and Stream.

Occupational stress is the fourth component of the present study. The data analysis revealed that occupational stress of public and private university teachers differ significantly across the type of university and stream. The finding also revealed that private university teachers reported more occupational stress as compared to public university teachers. The present findings are in line with the findings of Mahakud and Bajaj (2014); Bano and Jha (2012); Reddy and Anuradha (2013), who asserted a significant difference in the occupational stress of public and private university teachers. Further, the analysis revealed interaction effect between type of university and gender, type of university and experience, and type of university and stream works independently and do not influence occupational stress of university teachers.

4.1.4. REGRESSION ANALYSIS

8th Objective: To study the affect of ICT Orientation, Work Engagement, Occupational Stress (Predictor Variables) on Perceived Job Performance (Criterion Variable) of University teachers.

One of the major findings of the present research is to study the affect of ICT orientation, work engagement, and occupational stress on perceived job performance of public and private university teachers. The findings revealed that independent variables i.e. ICT orientation, work engagement, and occupational stress (collectively) are significant predictors of perceived job performance of public and private university teachers. The results further revealed that ICT orientation and work engagement of public and private university teachers were identified as strong predictors, which contributes positively and significantly to perceived job performance of public and private university teachers. While in case of occupational stress the analysis revealed that occupational stress does not contribute significantly to perceived job performance of public and private university teachers. This is again one of the key finding and is in line with the findings of Kaluyu et al. (2015); Polo Peña et al. (2013); Jackson (2014); Yalabik et al. (2013). In addition Chen and Silverthorne (2008) asserted that cognitive control of employees at workplace minimizes the effects of occupational stress on their job performance.

4.2: IMPLICATIONS OF THE STUDY

The higher education system has been revolutionized during the last decade which has created new demands for establishment of an up-to-date educational system. Due to globalization higher education system of the present era is compelled to respond the dynamic trends of modern educational society. The contest for accreditations both national (NAAC) and international (INQAAHE) have redefined the competition among public and private organizations of higher education. This has directly or indirectly burdened the employees of higher education and effected their work performance. This highlights an important implication for administrators and policy planners that job performance of teachers can boost not only their image and status but efficiency and efficacy of their organization.

The present study developed and validated two sector specific scales of perceived job performance and ICT orientation, which seems to be fragmented due to lack of appropriate measures. The academicians can rely easily on these sector-specific scales to measure the work performance and technological understanding of teachers. Secondly, these scales will help human resource practitioners to explore performance gaps by the assessment of performance scores on each component. The academicians can find relative importance of all the factors in assessing perceived job performance and ICT orientation. This will help academicians to relocate their energy, focus, and time on most significant factors even with limited resources and time. These scales will help academicians to analyze and identify discrepancies and channelize the feedback and make accurate decisions when needed by comparing current and previous scores on perceived job performance and ICT orientation.

Present study employed an alternative method other than supervisory and subordinate/student-evaluation to assess teachers' job performance. It analyzes that the perception of teachers on various major dimensions i.e. task performance, contextual performance and adaptive performance by evaluating multiple sub-dimensions which are directly or indirectly related to overall job performance. The quantified alternative method provide academicians a novel, reliable, and valid instrument with which they will be able to point out effective teachers. The results reported here will encourage academicians of higher education to adopt other methods apart from supervisory and subordinate rating to evaluate teachers' job performance. As Liden and Graen (1980) and Simon and Soliman (2003) asserted that supervisor and subordinate performance rating could be unauthentic and biased due to personal likes and dislikes.

As ICT orientation and work engagement are significant antecedents of work-related behaviors and work performance, considering these variables may be helpful while seeking to hire right employees. As Palvalin et al. (2013) indicated ICT can act as an asset to eradicate insignificant activities thereby improving the welfare of employees and performance of both organizations and employees. Similarly, Frederickson and Losada (2005) asserted that work engagement facilitates behavioral urges by enhancing flexible behavior to accomplish better performance.

The present study adds the novel findings to the academic literature in terms of perceived job performance, ICT orientation, work engagement, and occupational stress. It will help the policy makers to identify factors which improve the work and organizational performance. Present study will be helpful to identify the negative factors reported by the respondents that decrease their perceived job performance.

Since the ICT orientation is a significant predictor of perceived job performance, analysis revealed that private university teachers show higher levels of ICT orientation as compared to public university teachers. Therefore, policy makers should take necessary steps to update the technological infrastructure and awareness among teachers of public universities. The findings of present study provide suggestions to administrations (both state and university) to provide more ICT resource facility in higher educational institutions to promote technology based education system.

One of the key implications for administrators of public universities is that they need to restructure the curriculum by focusing on technology-based pedagogies. The administrators of public universities should conduct workshops, conferences, intervention programs, training programs, and faculty development programs focusing on ICT orientation and encourage teachers to take part in these programs. There should be an increase in the frequency of training and awareness programs on the use of various databases, search engines, collaborative learning, virtual learning etc. which are rarely used to enhance and enrich their academic and research work.

One of the crucial implication for administrators and policy planners of private universities from this study is that they need to revive their human resource policies and adopt new practical interventions to reduce job insecurity and enhance employee recognition and participation which negatively affects their work and organizational performance and simultaneously increases their work engagement by promoting career development interventions. Policy planners of private universities should offer uniform 'obligatory' rewards (things that are entitled to every employee regardless of their performance) like pay check should be due and does not bounce, a clean, safe and healthy work environment, harassment free environment, and equal access to organizational benefit policies. Besides, 'discretionary' awards should be given to high performers.

One of the other important implications of present study is that authorities of higher education need to monitor their work performance in-line with the organizational culture. Educational organizations need to develop high performance working system to sustain in highly competitive market. Administrators of higher education need to keep their eyes wide open and be vigilant about government interventions and regulations, environmental consciousness, competitors across the organizations, demands and needs of students and society. Consistent monitoring of perceived job performance would increase the competitive level of an organization and help them to align their performance with changing trends of dynamic educational society.

Another implication of this study is addressed to immediate supervisors, heads of departments, and deans of public and private universities that they should increase the organizational identity of the teachers by involving them in decision-making processes. They should enhance the sense of teamwork, cooperation, and sportsmanship among teachers which can boost their organizational identity. According to Armstrong-Stassen and Ursel (2009) employee involvement leads to goal oriented and engaged employees in organizations.

ICT orientation and work engagement are significant predictors of perceived job performance in both public and private universities. Therefore teachers, universities as well as communities may reap fertile benefits by enhancing work engagement and orientation towards ICT. According to Lettink (2016) more engaged employees expect to see benefits of effort investment immediately and like to be rewarded and recognized. One of the major challenges that educational organizations may face while increasing the work engagement is reward for effort expectation of employees but these benefits may not be immediate. Our results highlight significant benefits that teachers can experience. It implies the elimination of subjective judgment and biased rating of employee performance by supervisors. It suggests that high job performance leads to economic and promotional benefits of employees.

4.3: LIMITATIONS OF THE STUDY

Despite adopting valid and reliable methodology and statistics for conducting present research like other researches this study also has some limitations.

In present study only public and private state universities from three states of north India were approached for data collection therefore, the generalizability of our results may be limited. It would be useful to replicate or perform a similar study in other regions and on teachers of central and deemed universities as well.

Secondly, the data collection from teaching professionals was comparatively difficult due to their busy schedule and lack of time, this was the reason number of questionnaires were not returned and some came back with missing information which were not fit for study. It was a challenge to convince them to fill the questionnaire.

Thirdly, this study just outlined the role of few psychological and demographic variables based on quantitative data. The findings do not focus on the multiple dependence relationships of variables using structural equational modeling.

Fourth, the data has been collected from Indian universities therefore our conclusions may not necessarily apply in other countries of the world where normative expectations pertaining to employee job performance are quite different due to cultural and organizational discrepancies.

4.4: FUTURE RESEARCH

Future research may examine the moderating effect of cognitive control, self-efficacy, work-life balance, gender, organizational tenure etc. on the relationship between ICT orientation, work engagement, occupational stress and perceived job performance of public and private university teachers.

Future research may study the indirect effect of other variables including self-efficacy, motivation, organizational identification, work attitudes and emotional intelligence in the relationship between ICT orientation, work engagement, occupational stress and perceived job performance of public and private university teachers. Future research needs to explore other outcome variables including job satisfaction, organizational citizenship behavior apart from perceived job performance.

The present study has developed valid and reliable scales measuring perceived job performance and ICT orientation however the underlying procedures for developing a scale varies according to the nature of the study. There are various scale development

procedures suggested in the literature viz. Churchill (1979) and Hinkin (1995) which does not focus on the issues including unidimensionality and multidimensionality of constructs/scales. According to Farooq (2016) the application and reporting of structural equational modeling in scale development is often overlooked and is not well established. Therefore future research should validate the scale in terms of construct validity, discriminant validity, composed reliability and nomological validity.

Future research needs to extend the present study to other parts of India, in order to generalize the findings. The study was cross-sectional in nature whereby data was collected from the respondents at a particular point in time. Therefore, future research can be conducted using the longitudinal data.

In order to generalize the findings, this type of study may be replicated and conducted on a larger sample covering the whole region of the country, including deemed and central universities also. Future research needs to conduct follow-up studies to establish the validity of findings of the present study at other levels of educational sector and also in other fields apart from education.

SUMMARY

All the organizations of the world depend on availability and efficacy of its resources. Only those organizations progress and prosper successfully which possesses the ability to utilize the resources up to its maximum potential. In modern society there is cut throat competition among organizations of different sectors either business or education which compels the organizations to respond to the current trends of the times to counterbalance the challenges posed by globalization and modernization. One of the key components of an organization is its human resources which is its key in dealing with the increasing competition among organizations. This resource is evaluated on its end product i.e. job/work performance. Job performance is a set of discrete behavioral episodes of employees over a specific period of time, it is the reflection what he/she perceives and bears on the behalf of administration, working environment, supervisors, subordinates and colleagues. It is an important aspect of human resource that can decide its fate. Competition triggered due to globalization and technological innovation placed an unexpected burden on the human resources resulting in increase in conflicts and negative workplace behavior. To overcome this situation and perform effectively, employees require information and conviction of having the capacity to perform well. One of the fundamental organizational objectives of the present society is to build a strong work culture in the organization, which enhances the output of the human resources and creates a cooperative environment. Human resources play a vital role in developing the culture of an organization as it interacts efficiently with the management and employees.

Different studies asserted that from couple of decades, institutes of higher education are in a state of rapid change, working to address the challenges and demands posed by the globalized society. This change affects the nature and behavior of professionals working in educational organizations. Globalization and implementation of modern technologies in teaching learning process make the present knowledge society to respond the growing demands and competition among the educational organizations. Due to the surge educational organizations are focusing on ideal utilization of their resources inorder to upgrade their productivity. Rapid changes and reforms in the educational system around the globe affects not only the educational organizations but also performance of human resources i.e. teachers. To address such work related issues, concerned authorities managements, behavioral scientists, policymakers, practitioners of management and

economists are trying to enhance the performance potential of available human resources. Due to the dynamic nature of modern organizations, implementation of new policies and uneven change in technology applications agitated the intellect of human resources. Now a days changes which would take place in decades are occurring in a year. Various aspects of human life have been affected due to these changes in the organizations which has strong implications for organizational management. Effects of these changes are visible in the relationship of human resources and organizations. Moreover, a contractual relationship has evolved rather than traditional interpersonal relationships and merely up-gradation of physical facilities (instruments, infrastructure and technological automation) does not work unless and until both organizational and behavioral factors of human resources are addressed properly. It is clear that desired achievement can be obtained only when the performance of human resources at the workplace is improved by enhancing their perceived personal and organizational attributes.

Owing to the given fact, the investigator felt there is a great need to study various psychological and organization variables related to the human resource.

STATEMENT OF THE PROBLEM

Perceived Job Performance in Relation to ICT Orientation, Work Engagement and Occupational Stress: A Study of Public and Private University Teachers

OBJECTIVES OF THE STUDY

1. To explore Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.
2. To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public University Teachers.
3. To study interrelationship between Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Private University Teachers.
4. To compare Perceived Job Performance of Public and Private University teachers on the basis of Gender, Experience and Stream.
5. To compare ICT Orientation of Public and Private University teachers on the basis of, Gender, Experience and Stream.
6. To compare Work Engagement of Public and Private University teachers on the basis of, Gender, Experience and Stream.

7. To compare Occupational Stress of Public and Private University teachers on the basis of, Gender, Experience and Stream.
8. To study the affect of ICT Orientation, Work Engagement, Occupational Stress (Predictor Variables) on Perceived Job Performance (Criterion Variable) of University teachers.

HYPOTHESES OF THE STUDY

1. There is no significant interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of public university teachers.
2. There is no significant interrelationship between perceived job performance, ICT orientation, work engagement and occupational stress of private university teachers.
3. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
4. There is no significant difference in perceived job performance of university teachers on the basis of gender.
5. There is no significant interaction effect of type of university and gender on perceived job performance of university teachers.
6. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
7. There is no significant difference in perceived job performance of university teachers on the basis of experience.
8. There is no significant interaction effect of type of university and experience on perceived job performance of university teachers.
9. There is no significant difference in perceived job performance of university teachers on the basis of type of university.
10. There is no significant difference in perceived job performance of university teachers on the basis of stream.

11. There is no significant interaction effect of type of university and stream on perceived job performance of university teachers.
12. There is no significant difference in ICT orientation of university teachers on the basis of type of university.
13. There is no significant difference in ICT orientation of university teachers on the basis of gender.
14. There is no significant interaction effect of type of university and gender on ICT orientation of university teachers.
15. There is no significant difference in ICT orientation of university teachers on the basis of type of university.
16. There is no significant difference in ICT orientation of university teachers on the basis of experience.
17. There is no significant interaction effect of type of university and experience on ICT orientation of university teachers.
18. There is no significant difference in ICT orientation of university teachers on the basis of type of university.
19. There is no significant difference in ICT orientation of university teachers on the basis of stream.
20. There is no significant interaction effect of type of university and stream on ICT orientation of university teachers.
21. There is no significant difference in work engagement of university teachers on the basis of type of university.
22. There is no significant difference in work engagement of university teachers on the basis of gender.
23. There is no significant interaction effect of type of university and gender on work engagement of university teachers.
24. There is no significant difference in work engagement of university teachers on the basis of type of university.

25. There is no significant difference in work engagement of university teachers on the basis of experience.
26. There is no significant interaction effect of type of university and experience on work engagement of university teachers.
27. There is no significant difference in work engagement of university teachers on the basis of type of university.
28. There is no significant difference in work engagement of university teachers on the basis of stream.
29. There is no significant interaction effect of type of university and stream on work engagement of university teachers.
30. There is no significant difference in occupational stress of public and private university teachers on the basis of type of university.
31. There is no significant difference in occupational stress of university teachers on the basis of gender.
32. There is no significant interaction effect of type of university and gender on occupational stress of university teachers.
33. There is no significant difference in occupational stress of university teachers on the basis of type of university.
34. There is no significant difference in occupational stress of university teachers on the basis of experience.
35. There is no significant interaction effect of type of university and experience on occupational stress of university teachers.
36. There is no significant difference in occupational stress of university teachers on the basis of type of university.
37. There is no significant difference in occupational stress of university teachers on the basis of stream.
38. There is no significant interaction effect of type of university and stream on occupational stress of university teachers.

39. There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of public university teachers.
40. There is no significant affect of ICT orientation, work engagement, occupational stress (Predictor Variables) on perceived job performance (Criterion Variable) of private university teachers.

DELIMITATIONS

1. Keeping in view the paucity of resources present study is delimited to three states of northern India viz. Haryana, Himachal Pradesh and Punjab.
2. The study is confined to teachers working in the university campus of public and private universities of these states.
3. The study is confined to three major streams viz. Arts (Arts and Humanities), Commerce (Commerce, Management, and Economics) and Science (Science and Engineering).

RESEARCH DESIGN

Research design is a sequence of steps taken ahead of time to ensure that the relevant data will be collected in a way that permits objective analysis of the different hypotheses formulated with respect to the research problem. In fact, it is the detailed procedure of testing the hypotheses and analyzing the obtained data. Although there are a number of research designs, the present study is based on quantitative descriptive research design, as the researcher does not have any control on the variables. It is cross-section in nature, as information is gathered from respondents at a specific time. The study also seeks to find the causal relationship between the variables.

SAMPLE

Public and Private universities with availability of sample i.e. having all the three streams arts, commerce and science from three North Indian states (Himachal Pradesh, Haryana and Punjab) constitute the universe of the present study, 9116 universities teachers working within the campus of these different universities represents the population of present study and approximately 400 university teachers were considered as sample for the proposed study. A sample of approximately 400 university teachers (Both male and

female) from six (3 public and 3 private) universities were selected with the help of convenient sampling technique.

TOOLS USED

The selection of tests/tools is based on criteria like nature of objectives, type of sample, appropriateness of tools, the feasibility of time and competence of a researcher. Keeping these criteria in mind the researcher used the following tools.

i. Perceived Job Performance Scale (Self-constructed and validated).
ii. ICT Orientation Scale (Self-constructed and validated).
iii. Work Engagement Scale (Schaufeli, Bakker & Salanova).
iv. Occupational Stress Scale (Sharma & Kaur).

STATISTICAL TECHNIQUE

Keeping in view the nature of the present study following suitable statistical techniques were applied to analyze the collected data:

i. To address the 1st objective of the study which is related to exploring dependent and various independent variables, mean, standard deviation and percentage were computed on dimension wise and composite scores of Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.
ii. To study the 2nd and 3rd objective related with interrelationship between study variables, Pearson's bivariate correlations were computed to examine the strength and direction of the of the interrelationships between variables of the study i.e. Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress of Public and Private University Teachers.
iii. Two-way analysis of variance (ANOVA) were conducted to address the 4th, 5th, 6th and 7th study objectives. That compares the different study variables i.e. Perceived Job Performance, ICT Orientation, Work Engagement and Occupational Stress, on the basis of different demographic variables like gender, teaching experience and stream of Public and Private University Teachers.

iv. To ascertain the contribution of predictor variables (independent variables) to criterion variable (dependent variable) multiple regression analysis were conducted following order guided by previous researches to address the 8th study objective. The independent variables include ICT Orientation, Work Engagement and Occupational Stress while Perceived Job Performance is dependent variable.

CONCLUSIONS OF THE STUDY

Following conclusions have been drawn based on data analysis of the present study.

1. Overall perceived job performance of university teachers in North India is average.
2. Public university teachers show higher levels of perceived job performance in all the dimensions as compared to private university teachers.
3. Overall ICT orientation of university teachers in North India is average.
4. In case of public and private comparison private university teachers show higher ICT orientation than public university teachers.
5. Overall work engagement of university teachers in North India is high.
6. Public university teachers are more engaged as compared to private university teachers.
7. Likewise, overall occupational stress of university teachers in North India is average.
8. In comparison public university teachers show less occupational stress than private university teachers.
9. The analysis of the data revealed statistically significant interrelationship among perceived job performance and ICT orientation, perceived job performance and work engagement, ICT orientation and work engagement, ICT orientation and occupational stress of public and private university teachers. In addition to this the results revealed occupation stress of public and private university teachers show a statistically insignificant relationship with perceived job performance and work engagement.
10. Perceived Job Performance among public and private university teachers differ significantly. While, public and private university teachers do not differ significantly in case of other demographic variable i.e. gender, experience and stream.

11. ICT orientation of public and private university teachers differ significantly on type of university and stream. Surprisingly, in case of gender and experience public and private university teachers don not show significant difference on ICT orientation.
12. Work Engagement of university teachers differ significantly among public and private universities and in gender, teaching experience, and stream.
13. Occupational stress of university teachers differ significantly among public and private universities and stream, while in case of gender and experience occupational stress do not differ significantly.
14. ICT orientation and work engagement of public and private university teachers were found strong and positive predictors of perceived job performance. While, occupational stress of public and private university teachers do not contribute significantly to perceived job performance.

IMPLICATIONS OF THE STUDY

1. The present study developed and validated scales on perceived job performance and ICT orientation, the academicians can rely easily on these sector-specific scales to measure the work performance and technological understanding of teachers. Secondly these scales will help human resource practitioners to explore performance gaps by the assessment of performance scores on each component.
2. The present study employed an alternative method other than supervisory and subordinate/student evaluation, to evaluate teachers job performance. The quantified alternative method provides academicians a novel, reliable, and valid instrument with which they will be able to point out effective teachers.
3. ICT orientation and work engagement are significant antecedents of work-related behaviors and work performance, considering these variables may be helpful while seeking to hire right employees.
4. The present study adds the new findings to the literature in terms of perceived job performance, ICT orientation, work engagement and occupational stress. It will help the policy makers to find factors which improve the work and organizational performance, also the present study will be helpful to identify the negative factors reported by the respondents that decrease their perceived job performance.

5. Private university teachers show higher levels of ICT orientation as compared to public university teachers, therefore policy makers should take necessary steps to update the technological infrastructure and awareness among teachers of public universities.
6. Administrators of public universities should redefine the curriculum by focusing on technology-based pedagogies. The administrators of public universities should conduct workshops, conferences and faculty development programs focusing ICT orientation and they should encourage teachers to take part in these programs.
7. Administrators and policy planners of private universities should revive and renew their human resource policies and adopt new intervention programs to reduce job insecurity which negatively affects work and organizational performance. They should focus to increase the work engagement of the teachers by promoting career development interventions.
8. Administrators of public and private universities should keep their eyes wide open and be up to date about government interventions and regulations, environmental consciousness, demands and needs of students and society and competitors across the organizations. Constant monitoring of perceived job performance would increase the performance of an organization and the organization would be able to align its performance with changing trends of dynamic educational society.
9. Immediate supervisors, head of departments and deans should increase the organizational identity, teamwork, and employee participation of their teachers by involving them in decision-making processes, which will enhance the sense of sportsmanship among teachers and boost their organizational identity.
10. ICT orientation and work engagement are significant predictors of perceived job performance in both public and private universities. Therefore, teachers, universities as well as communities may reap multi-dimensional benefits by enhancing work engagement and orientation towards ICT of the teachers.

LIMITATIONS OF THE STUDY

1. Only public and private state universities from three states of north India were approached for the data collection therefore, the generalizability of our results may be limited.

2. Another limitation of this study is that it just outlined the role of few psychological and demographic variables based on quantitative data. The findings do not focus on the multiple dependence relationships of variables using structural equational modeling.
3. One of the other limitation of the present study is that data has been collected from Indian universities therefore our conclusions may not necessarily apply in other countries of the world where normative expectations pertaining to employee job performance are quite different.

FUTURE RESEARCH

1. Future research needs to examine the moderating effect of cognitive control, self-efficacy, work-life balance, gender, organizational tenure etc. on the relationship between ICT orientation, work engagement, occupational stress and perceived job performance of public and private university teachers.
2. Future research could study the indirect effect of other variables including self-efficacy, motivation, organizational identification, work attitudes, emotional intelligence etc. on the relationship between ICT orientation, work engagement, occupational stress and perceived job performance of public and private university teachers.
3. Future research needs to explore other outcome variables like job satisfaction, organizational citizenship behavior apart from perceived job performance.
4. Future research could validate the scale in terms of construct validity, discriminant validity, composed reliability and nomological validity.
5. Future research needs to extend the present study to other parts of India, in order to generalize the findings.
6. In order to generalize the findings, this type of study may be replicated and conducted on a larger sample covering the whole country, including deemed and central universities also.
7. Future research needs to have follow-up studies to establish the validity of findings of the present study in other levels of educational sector and also in other fields apart from education.

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Appendix I

PERCEIVED JOB PERFORMANCE SCALE

Please fill in the following information: **DATE:** _____/_____/_____

NAME: _____ **AGE:** _____

GENDER: Male ☐ Female ☐ **LOCALE:** Rural ☐ Urban ☐

QUALIFICATION: _____ **EXPERIENCE:** _____

TYPE OF UNIVERSITY: Public ☐ Private ☐

INSTRUCTIONS

Note: Following statements are regarding **Perceived Job Performance**. Please read each statement carefully and mark your response on five alternatives provided viz., **Always = A, Frequently=F, Sometimes=ST, Rarely=R & Never=N.** Put a tick on alternative which is close to your view. It is requested to yourself please answer all statements. **Please answer freely as your responses will be kept confidential and will used for research purpose only.**

Sr	STATEMENTS	A	F	ST	R	N	Score
1	I feel I am enough proficient in my teaching skills while delivering lectures.	☐	☐	☐	☐	☐	☐
2	I believe in my problem solving and decision making skills.	☐	☐	☐	☐	☐	☐
3	I believe that knowledge regarding job helps in handling job based challenges.	☐	☐	☐	☐	☐	☐
4	I believe, effective teaching methodology is useful for facilitation of student's experiences.	☐	☐	☐	☐	☐	☐
5	I believe it is not necessary to maintain interpersonal relationships with others at work.	☐	☐	☐	☐	☐	☐
6	I believe in my expertise to complete new job assignments.	☐	☐	☐	☐	☐	☐
7	I believe I should maintain a congenial atmosphere by co-operating with other colleagues in organization.	☐	☐	☐	☐	☐	☐
8	Maintaining good rapport with colleagues,	☐	☐	☐	☐	☐	☐

supervisors & Sub-ordinates is necessary for my job.

9 I believe, it is necessary to use clear and understandable language with others.

10 I believe involvement in work related discussions is wastage of time.

11 I feel lack of communication during working hours.

12 I believe supervisory tasks are hectic.

13 I suggest alternative to my colleagues that may help them to solve their problem.

14 I feel I am capable of making workable suggestions in absence of supervisor.

15 I believe managing situations is an interesting area of maturity.

16 I voluntarily participate in social welfare activities apart from my formal job.

17 I believe, it is good to assist new colleagues in adjusting to new work environment.

18 I work hard to increase my quality of work.

19 I make changes in my work procedures to meet needs of my colleagues & students.

20 I believe providing assistance to colleagues is merely important.

21 I believe, it is my responsibility to comply with the rules and regulation even in unfavorable situations.

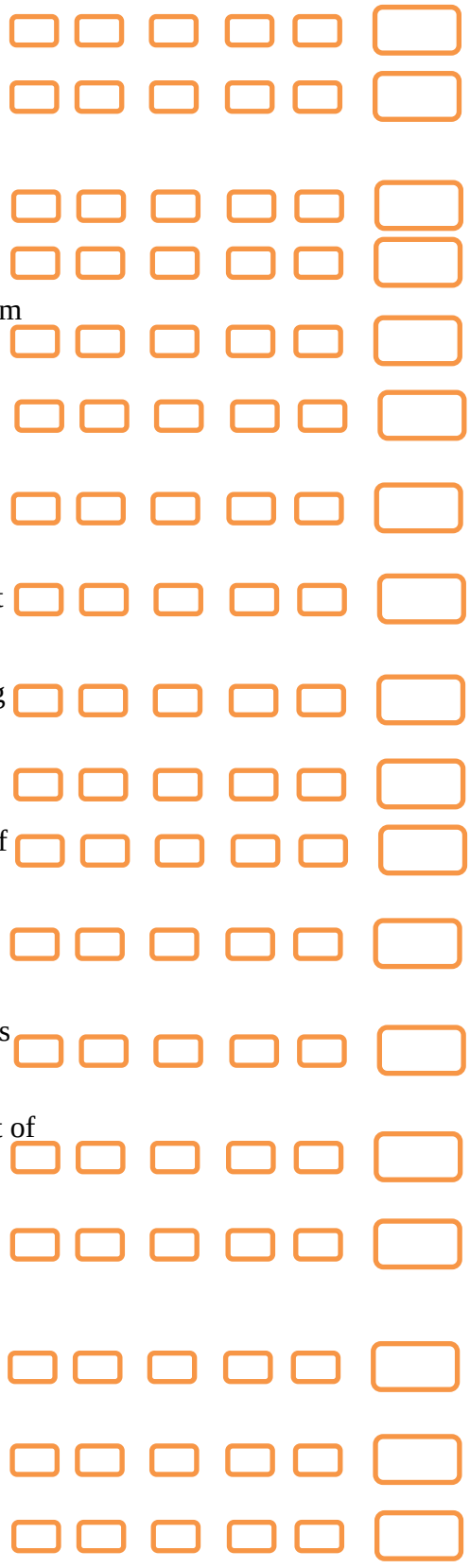
22 I keep myself up to date with the changing environment of my organization.

23 I willingly attend meetings/functions that are not compulsory but are considered important for organization.

24 I am aware of behavior that affects image of my organization.

25 I blame unfavourable organizational objectives.

26 Under crisis, I am able to shoulder more responsibility than specifically assigned.



27	I am able to handle my workload under various situations.	
28	I don't compromise with my work in any situation.	
29	I am unable to cope up with difficulties in organization.	
30	I feel restlessness/anxious during working hours.	
31	I use my expertise/experiences whenever I face any problem.	
32	I feel crippled in problematic situation.	
33	I prefer to handle tasks individually without consultation for procedures from colleagues.	
34	I complete my work assignments in time, even if they are difficult.	
35	I integrate modern techniques & audio-visual aids to teach my students.	
36	I make teaching process interesting by integrating subject matter with daily examples.	
37	I believe that using multiple techniques for teaching is wastage of time.	
38	I am sympathetic towards students irrespective of any personal factor.	
39	I maintain courteous and respectful approach while dealing with others at work.	
40	I respect the ideas of others and express a willingness to learn from these.	
41	I remain cautious & respect the cultural sentiments of colleagues/students.	
42	I feel irritated due to language accent of my colleagues.	
43	I am able to work in any allotted cabin either spacious or compact.	
	Total Perceived Job Performance	

Appendix II

ICT ORIENTATION SCALE

Please fill in the following information: **DATE:** _____/_____/_____

NAME: _____ **AGE:** _____

GENDER: Male ☐ Female ☐ **LOCALE:** Rural ☐ Urban ☐

QUALIFICATION: _____ **EXPERIENCE:** _____

TYPE OF UNIVERSITY: Public ☐ Private ☐

INSTRUCTIONS

Note: Following statements are regarding **ICT Orientation.** Please read each statement carefully and mark your response on five alternatives provided viz., **Strongly Agree=SA, Agree=A, Neutral=N, Disagree=D & Strongly Disagree=SD.** Put a tick on alternative which is close to your view. It is requested to yourself please answer all statements. **Please answer freely as your responses will be kept confidential and will used for research purpose only.**

Sr.	STATEMENTS	SA	A	N	DA	SD	Score
1	It is difficult for me to explain use of ICT to my students.	☐	☐	☐	☐	☐	☐
2	Libraries are better than ICT resources for transactional purposes.	☐	☐	☐	☐	☐	☐
3	Different aspects of ICT based methodologies are very challenging in teaching learning process.	☐	☐	☐	☐	☐	☐
4	ICT facilities reduces book cultures among students.	☐	☐	☐	☐	☐	☐
5	ICT based methodologies encourages integrated learning that promotes thematic classroom approach.	☐	☐	☐	☐	☐	☐
6	Usage of multimedia techniques in teaching learning process is a hectic job.	☐	☐	☐	☐	☐	☐
7	ICT based methodologies promotes conductive teaching and learning environment.	☐	☐	☐	☐	☐	☐
8	Use of the ICT based methodologies raise the curriculum standards.	☐	☐	☐	☐	☐	☐
9	ICT based methodologies are positively correlated with academic performance of	☐	☐	☐	☐	☐	☐

	students.	
10	Application of ICT unlocks unfavourable sites for students.	
11	Online surfing of learning material make my students more effective day by day.	
12	ICT enabled teaching methodologies build confidence for preparation and presentation of lectures.	
13	Interaction through ICT is less effective than face to face communication.	
14	It is easier to communicate through ICT applications like online quizzes, educational blogs & common e-mails.	
15	Usage of ICT based methodologies brings positive change in classroom.	
16	ICT usage costs physical and social activities.	
17	ICT based methodologies are very supportive in developing my working style.	
18	Availability of ICT resources increases my productivity and professional effectiveness.	
19	Using ICT based methodologies is not appropriate for my profession.	
20	Use of Power point presentations during lectures enables me to clarify the basic concepts more effectively.	
21	ICT enabled teaching is better than traditional methods of teaching.	
22	Increased ICT usage makes our lives easier.	
23	Using ICT based methodologies in teaching learning process make teachers casual and lenient.	
24	ICT provides my students with opportunities to plagiarize content using copy & paste.	
25	It is convenient to share assignments, lecture notes and study material through ICT.	
26	Use of information technology is not related with the improvement of course quality.	
27	Different learning preferences and styles of students are properly handled with the help of ICT.	
28	I face difficulties while dealing with ICT equipment's.	
	Total ICT Orientation Score	

Appendix III

WORK ENGAGEMENT SCALE

Please fill in the following information: **DATE:** _____/_____/_____

NAME: _____ **AGE:** _____

GENDER: Male ☐ Female ☐ **LOCALE:** Rural ☐ Urban ☐

QUALIFICATION: _____ **EXPERIENCE:** _____

TYPE OF UNIVERSITY: Public ☐ Private ☐

INSTRUCTIONS

Note: Following statements are regarding **Work Engagement**. Please read each statement carefully and mark your response on five alternatives provided viz., **Never=N, Almost Never=AN, Rarely=R, Sometimes=ST, Often=O, Very Often=VO & Always=A.** Put a tick on alternative which is close to your view. Put a tick on alternative which is close to your view. It is requested to yourself please answer all statements. **Please answer freely as your responses will be kept confidential and will used for research purpose only.**

S.No	STATEMENTS	N	AN	R	ST	O	VO	A	Score
1	At my work, I feel bursting with energy.	☐	☐	☐	☐	☐	☐	☐	☐
2	I find the work that I do full of meaning and purpose.	☐	☐	☐	☐	☐	☐	☐	☐
3	Time flies when I am working.	☐	☐	☐	☐	☐	☐	☐	☐
4	At my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐	☐
5	I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐	☐
6	When I am working, I forget everything else around me.	☐	☐	☐	☐	☐	☐	☐	☐

7	My job inspires me.	
8	When I get up in the morning, I feel like going to work.	
9	I feel happy when I am working intensely.	
10	I am proud of the work that I do.	
11	I am immersed in my work.	
12	I can continue working for very long periods at a time.	
13	To me, my job is challenging.	
14	I get carried away when I am working.	
15	At my job, I am very resilient, mentally.	
16	It is difficult to detach myself from my job.	
17	At my work, I always persevere, even when things do not go well.	
Total Work Engagement Score		

Appendix IV

TEACHERS OCCUPATIONAL STRESS SCALE

Please fill in the following information: **DATE:** _____/_____/_____

NAME: _____ **AGE:** _____

GENDER: Male ☐ Female ☐ **LOCALE:** Rural ☐ Urban ☐

QUALIFICATION: _____ **EXPERIENCE:** _____

TYPE OF UNIVERSITY: Public ☐ Private ☐

INSTRUCTIONS

Note: Following statements are regarding **Occupational Stress**. Please read each statement carefully and mark your response on five alternatives provided viz., **Strongly Agree=SA, Agree=A, Un-Decided=UD, Dis-Agree=DA & Strongly Disagree=SD.** Put a tick on alternative which is close to your view. It is requested to yourself please answer all statements. **Please answer freely as your responses will be kept confidential and will used for research purpose only.**

Sr	STATEMENTS	SA	A	UD	DA	SD	Score
1	Due to excessive work load & lack of time I am unable to perform the work which I want to perform	☐	☐	☐	☐	☐	☐
2	The strained relations with some of my colleagues put stress on my mind.	☐	☐	☐	☐	☐	☐
3	Many times, I have to do work under tense circumstances.	☐	☐	☐	☐	☐	☐
4	My suggestions for the improvement of working environment are not welcomed.	☐	☐	☐	☐	☐	☐
5	I have to do the work with some persons whom I dislike.	☐	☐	☐	☐	☐	☐
6	Out of teaching and non-teaching work I cannot prioritize my job role.	☐	☐	☐	☐	☐	☐
7	Due to interference of community in my job I feel pressurized.	☐	☐	☐	☐	☐	☐
8	Grouping among employees in the working place makes teaching atmosphere non-conducive.	☐	☐	☐	☐	☐	☐
9	I am kept over busy most of the time to supervise co-curricular activities.	☐	☐	☐	☐	☐	☐
10	Duties like, survey, census, elections etc. disturb my work schedules.	☐	☐	☐	☐	☐	☐

11	High expectations of authorities/parents & community has increased my role complexity.	
12	It is difficult to keep upto date knowledge in this job.	
13	Progress & prosperity of the institution is responsibility of teachers.	
14	Due to lack of time & wider curriculum, I am unable to use appropriate teaching pedagogy.	
15	Many times favoritism on the part of authorities make me make me disturbed.	
16	My hard labor & efficient performance has not been recognized.	
17	I feel physical & mental stress after working hours.	
18	Poor infrastructure in the institution puts barriers in efficient performance of teachers.	
19	Due to my job conditions, I am unable to enjoy my holidays.	
20	Assignments of administrative work apart from teaching put unnecessary burden on a teacher.	
21	Delayed salaries & financial benefits increase my work dissatisfaction.	
22	Discriminatory practice by Head/Principal with staff disturb my mental setup.	
23	My responsibility lies in the development of overall personality of students.	
24	Many times clerical staff & administration (DEO, DPI etc.) create disturbance in my teaching work.	
25	Partial behavior of my colleagues with students make me confused about my job role.	
26	Being a teacher, I am worried for the downfall of moral values among students & teachers.	
27	My job has affected my physical health.	
28	I often bring my office assignments at my home.	
29	I feel lack of cooperation among teachers which may lead to poor results.	
30	Indifferent attitude of students towards studies disturbs me.	

Total Occupational Stress Score	

Appendix V

List of State Universities

UGC Approved Universities with availability of Sample			
Name of State	**Public**	**Type of University**	**No of Teachers**
Himachal Pradesh	1. Himachal Pradesh University (Shimla).	Public	371
	1. Manav Bharti University (Solan)	Private	315
	2. Arni University (Kathgarh).	Private	287
	3. Eternal University (Sirmour).	Private	174
	4. Abhilashi University (Mandi HP)	Private	130
	5. Career Point University (Hamirpur).	Private	98
Punjab	1. Guru Nanak Dev University (Amritsar).	Public	350
	2. Punjabi University (Patiala).	Public	580
	1. Akal University (Bathinda).	Private	65
	2. Chandigarh University (Mohali).	Private	750
	3. Lovely Professional University (Jalandhar).	Private	1350
	4. Desh Bhagat University (Fatehgarh Sahib).	Private	450
	5. Guru Kashi University (Bathinda).	Private	318
	6. Rayat-Bahra (Mohali).	Private	350
	7. RIMT (Gobindgarh).	Private	200
	8. Baba Bhag Singh University (Jalandhar)	Private	101
	9. Guru Granth Sahib University (Fatehgarh Sahib)	Private	170
Haryana	1. Ch. Bansi Lal University (Bhiwani).	Public	210
	2. Indira Gandhi University (Rewari).	Public	200
	3. Kurukshetra University (Kurukshetra).	Public	530
	4. Mahareshi Dayanand University (Rohtak).	Public	400
	5. B. P. Singh Mahila Vishwavidyalaya (Khanpur).	Public	177
	6. Chaudhary Devi Lal University (Sirsa).	Public	135
	7. Chaudhary Ranbir Singh Uni. (Rohtak).	Public	217
	1. Mahareshi Markendeshwar Uni. (Maluana)	Private	389
	2. Al-Falah University (Balabgrah).	Private	310
	3. K.R. Manglam University (Gurgaon).	Private	102
	4. Baba MastNath University (Rothak).	Private	90
	5. Ashoka University (Sonepat).	Private	80
	6. SGT University (Gurgaon).	Private	78
	7. Jagannath University (Jhajjar).	Private	72
	8. PDM University (Bahadurgrah).	Private	65
	9. Apeejay Stya University (Gurgaon).	Private	60
	10. Manav Rachna University (Faridabad).	Private	52
	11. Starex University (Gurugram).	Private	40