

# Impact of Workforce Development on Organizational Effectiveness: Evidence from Pakistani Public-Sector Organizations

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## Abstract

*The objective of this research work is to examine the impact of workforce development on organizational effectiveness. This study was conducted in the public-sector organizations in Pakistan. The study targeted the perceived work force development programs in the selected public-sector organizations managing and carrying out heterogeneous work functions within twin cities; Rawalpindi and Islamabad in Pakistan. The stratified random sampling technique was adopted. The sample was mainly categorized into nine public-sector organizations. The data for this study was collected from 450 employees but only 371 questionnaires were completed and analyzed, (consisting of entry level, mid-career level and top management level employees) of different public-sector organizations through a specifically designed questionnaire. The results show that there is a positive relationship between workforce development and organizational effectiveness.*

**Keywords:** *workforce development, organizational effectiveness, the public-sector organizations, entry level, mid-career level and top management level.*

## 1. Introduction

Currently human resource has no issue of labor force plans and reforms. It is probably the leading strategic issue and research solutions that should be a top priority for public service (Swanson, 1999). The thought of Workforce Development is the latest one and developed in the twentieth-century tradition of the employment and training Programs. Economic scenarios of the twentieth-century were the backdrop for these

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Programs, in which the U.S. remained a leading economic power for most of the century. The U.S economy was production based, at a king large number of low- skilled workers. During this period, employees were looking forward to starting long- term employment with one or relatively few employers in spite of an expanding use of technology/machinery, many jobs could be held for infinite periods with fundamental education and short-term on the job training. Quite a few problems arose on the job training and employment programs of the 20th century. These programs were short of coordination between central and local government agencies that run the programs. Programs were not linked closely with the economic engines of the local community, lack of hallucination & planning. The State level administration was bungling "bunker" to hold the limited resources of the community, inhibiting their ability to address their workforce needs. New theories shifted the paradigm in favor of workforce by placing a high priority on an organizational plan to tackle the requirements and interests of workers (Mayo, 1945; McGregor, 1960; Trist, 1981). In mid-1990's, the notion of workforce development came from existing jobs and training arrangements. Since this concept was developed to solve the problems of the 20<sup>th</sup> century knowledge economy.

Workforce development has an important place in view of internal and external dynamics of organizations/business since human resource is most important elements of business in a competitive world. Workforce development presents a comprehensive program of the workforce education proposal; need assessment is a vital tool to determine what is working, and what is not within the organization. An assessment process through a systematic collection of data can provide decision- making bodies the necessary data, as well as practical information vital for making decisions and identifying gaps between current and desired results (i.e. needs). Need assessment/appraisal can provide justification and opting the ways and means to close those gaps (basic skills development, technical and computer skills, workplace redesign, or management and policy implication).

Workforce development is the harmonization of public and private segment guiding principle and Programs that provides individuals with the opening for a sustainable occupation and helps institutes achieve commendable goals, reliable with the community perspective (Hawley, 2007). The following nine focus areas of the assessment of workforce development are defined (Guerra, Bernardez & Jones, 2005). Availability is defined as let all employees participate regardless of their status and

categorization. The schedule is more flexible to accommodate all members. Quality of Service is defined Comprise of workforce development recognition of new and relevant programs for the job. Policies include management in selecting relevant programs and in the implementation of skills located on participation in workforce development contributions. Also, create combined programs for management and unification of staff. Straightforward requirements are established for what courses can be taken. Resources are defined as increase the general fund, which also include the cover of the book / based on preferences. Continuous improvements can be defined as turn on the process of determining whether a transfer and training and provide data demonstrating the benefits of labor resources. Employment security is defined as managing a career (i.e., to provide a basis `for long-term career / employment planning). Promo ability is progress approval system using knowledge and skills as a criterion but not predominant or preferential treatment. Union representation includes programs that are specific to individual units. Representatives of all shifts/departments/divisions/ employees in information meetings should be included. Employee democracy includes the organization of work in making statements that suggest the development of staff should be available by workers in the dissemination of information on the supply of labor and benefits for development.

As the population struggles with the challenges of 21st century global information economy, the volume of knowledge and growth of our employees is an important factor for economic viability. Effective workforce development must go hand mix programs to work on these problems. The new system should focus on the staffing requirements of the local economy as the primary customer. This system should run directly on the ground with adequate support and resources from central government. New bold ideas and drastic changes in current government policy will be necessary to implement this vision (Dessler, 2001).

In today's dynamic and competitive global economy, particularly in Pakistan, skills achievement and workforce development are crucial for competition and growth. Workforce Development becomes known to elucidate a logically broad range of activities, policies, and programs. Experts in Pakistan have emphasized the need to advance the competitiveness of Pakistani economy by intensification the scheme for workforce development, amplified investment in human capital by the public-sector, and improving access to trainings, jobs and business opportunities for human resources. The expression frequently becomes are placement for career and technical education

but the spread of the expression to replace the previous conceptualization of 'lack of skills' points to a growing wakefulness that earlier approaches in this area were not sufficient to tackle the new challenges and demographic changes.

Workforce development was frequently mistaken to be the same as education and training. Nevertheless, education and training alone are not adequate to address the challenges facing the labor force. The WD program aimed at manifold education and training intervention with the critical goal of enabling public-sector employees to continue adding value expertise that increases promote-ability, employability, and consequently improves quality of life. Establishment of a new workforce with essential skills and knowledge is necessary and vital for future economic success. Thus, this study aims at finding out the impact of workforce development programs on organizational effectiveness in public-sector organizations in Pakistan. The public-sector organizations need to develop a new high-performance workplace that would require new skills, human resources, such as use of common technological methods for raising quality of service, development of interdisciplinary skills, transition from centrally planned to the community through works and service, and focusing on public service to inform, promote, and magnetize business and jobs. Since the study is carried out in large government organizations where the perceptions of employees with respect to their demographic characteristics may vary in terms of Work force development programs, this study further deal with comparative analysis of individual characteristics on how they perceive the workforce development programs in the organization.

This study is carried out with the purpose to signify the importance of workforce development programs in a public-sector organization of Pakistan. Justification for workforce development programs with sufficient training and organizational commitment that will reduce the worker uncertainty by helping them to plan and provide positive results. In addition, the development programs are often viewed as a positive investment by the organization in their employees and often will help improve the mindset/ performance. Jackson and Vitberg (1987) reviewed those programs were beneficial for both employers, and employees with their main objective to strengthen mutual productivity and job satisfaction. In addition, these programs can help improve morale and promote effective communication between management and employees. In addition, many organizations believe that even if the salary is not very high, the adoption of workforce development plan can even increase satisfaction (Leavitt, 1996).

McKinsey Company (2012)<sup>2</sup> concluded that employers faced the difficulty in finding the workforce with the required level of expertise and knowledge. This finding proposed that organizations would be enthusiastically paying attention in workforce development. International organizations continuously upgrade the required capabilities and potential of their workforce.

This study sought to be answered the research questions; What are the likely effects of WD on organizational effectiveness as perceived by different demographics and what are the potential impacts of workforce development Programs on organizational effectiveness?

The core objectives of this research work are to develop the understanding of perceived impact of workforce development on organizational effectiveness with respect to the demographic profile of the employees and to examine the impact of workforce development on organizational effectiveness.

## **2. Literature Review**

Institutional economics initiated from a qualitative approach to economic analysis (Hartenstein, 2004). Wang and Dobbs (2008) thought institutional economics has long been associated with economic-related activities like job specification to career development, on-the-job training (OJT) to organizational culture, as well as internal labor market and internal training market since 1950s. Wang and Holton (2005) measured that human resource development (HRD) intellectuals' have not been effectively exposed to the appropriate theories of its initial role and direct applicability to HRD research and practice.

The concept of development like its relative notions of development and rejuvenation has its historical and intellectual roots in the period of major social changes associated with the industrial revolution, or what Kumar (1978) has called the 'Great Transformation', when industrial and social change in Europe became synonymous with social progress. Throughout the century that followed, and often in the face of strong counter currents challenging this simple orthodoxy (Kitching, 2010), development in the eyes of most people (experts and laymen alike) came to be

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<sup>2</sup>McKinsey & Company. (2012). *The state of human capital*. Available at: [www.dol.gov/odep/pdf/NTAR\\_Employer\\_Strategies\\_Report.pdf](http://www.dol.gov/odep/pdf/NTAR_Employer_Strategies_Report.pdf)

identified with some kind of stage-by-stage movement towards more 'modern' technologically and economically 'advanced' forms of society such as the industrial states.

According to Carson, Tesluk and Marrone (2007) workforce development is considered as a plan for keeping a right workforce and skilling the labor. One of the problems associated with the workforce development approach is to transfer to 'system thinking'. Countries in transition need to provide an environment for employment and skilled labor. This initiative of restructuring the work place that prepares quality good for which the world will pay high prices and high wages can stimulate economic growth. Getting it wrong can affect not only the lack of employment opportunities, but also the likely flight of its national talent.

Roche (2001) stated that while education and training focused on the individual employee/worker but attention to be directed to organizations and structures within which the individual operates. Workforce development is rising as a structure that will provide quality services and job satisfaction to the worker. It was suggested that workforce development evolved to describe any one of a relatively wide range of national and international policies and programs related to learning to work (Hawley, 2007).

Hall and Lansbury (2006) stated that there is a need to move further than from thinking about training for the particular profession to implement the broader philosophy of skill ecosystems" and "personal development." They argued that the useful skill formation policy requires an approval of WD as an alternative to traditional approaches that focus on providing excellent skills. It was described the development of human resources, such as those activities that maximize the ability of people to participate in the labor force in their working life, and increase the ability of organizations to adopt the efficient technologies and practices which allow their employees to develop a full potential and values. Human resources development therefore requires a broad, versatile, and universal focus Manning (2010).

The effectiveness of an organization is self-motivated aspects that always concerned of management consideration. The perception of organizational effectiveness is concealed in the theories of Total Quality Management (TQM), Continuous Quality Improvement (CQI) and Organizational Efficiency. Sugrue (2004) placed tough emphasis on training professionals to make obvious the significance of training.

Training Magazine's 23<sup>rd</sup> Annual Industry Report<sup>3</sup> calculated that globally organizations spent around US\$ 51.4 billion on trainings in 2004. The allocation of significant resources on training, as part of the technique to accomplish organizational results has caused organizations management to justify the value and effectiveness of training.

Management tried to improve the organizational effectiveness by understanding the positive changes in knowledge, skills and attitudes (KSAs) and results regarding the return on training investment Ford and Kozlowsky (1997). The American Society for Training and Development (ASTD) 2004, State of the Industry Report, proposed the organizations understood the link between training and productivity with training of workforce to achieve efficiently the corporate goals, objectives, learning for the critical-skills.

Barcharach and Lawler (1980) believed that individuals had different reasons for evaluating the effectiveness of different criteria and standards, have different standards for what they have reliable data, and use different data collection and reporting. For example, scientists consider the effectiveness in focusing on contribution of organizations, to associations, and on organizational working. To understand the mechanisms of organizational functioning, scientists examined the consequences and associates of effectiveness, using metrics like efficiency, productivity, profits, and truancy. Theorists tried to develop correlations having applicability to many organizations. Researchers can develop dependable conclusions about the effectiveness by restricting the criteria in determining theme assumable indicators (Cameron & Whetten, 1983; Campbell, 1977, Lewin & Minton, 1986).

First Nations Development Institute (2004) subscribes the simple definition of organizational effectiveness effectively stated by Kibbe (2004)<sup>4</sup>, when she defined organizational effectiveness: "As the ability of an organization to fulfill their tasks which obtain through strong management, strong supremacy, and constant determination to attain results and goals". Conflict is defined as a tone end of the organization of verbal and physical hostility, and violations of coordination. At the other end is an organization in which the members love one another, work together,

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<sup>3</sup> *Training Magazine's 23<sup>rd</sup> Annual Industry Report. Retrieved from [http://www.cedma-europe.org/newsletter%20articles/Training%20Magazine/0410\\_IndustryReport.pdf](http://www.cedma-europe.org/newsletter%20articles/Training%20Magazine/0410_IndustryReport.pdf)*

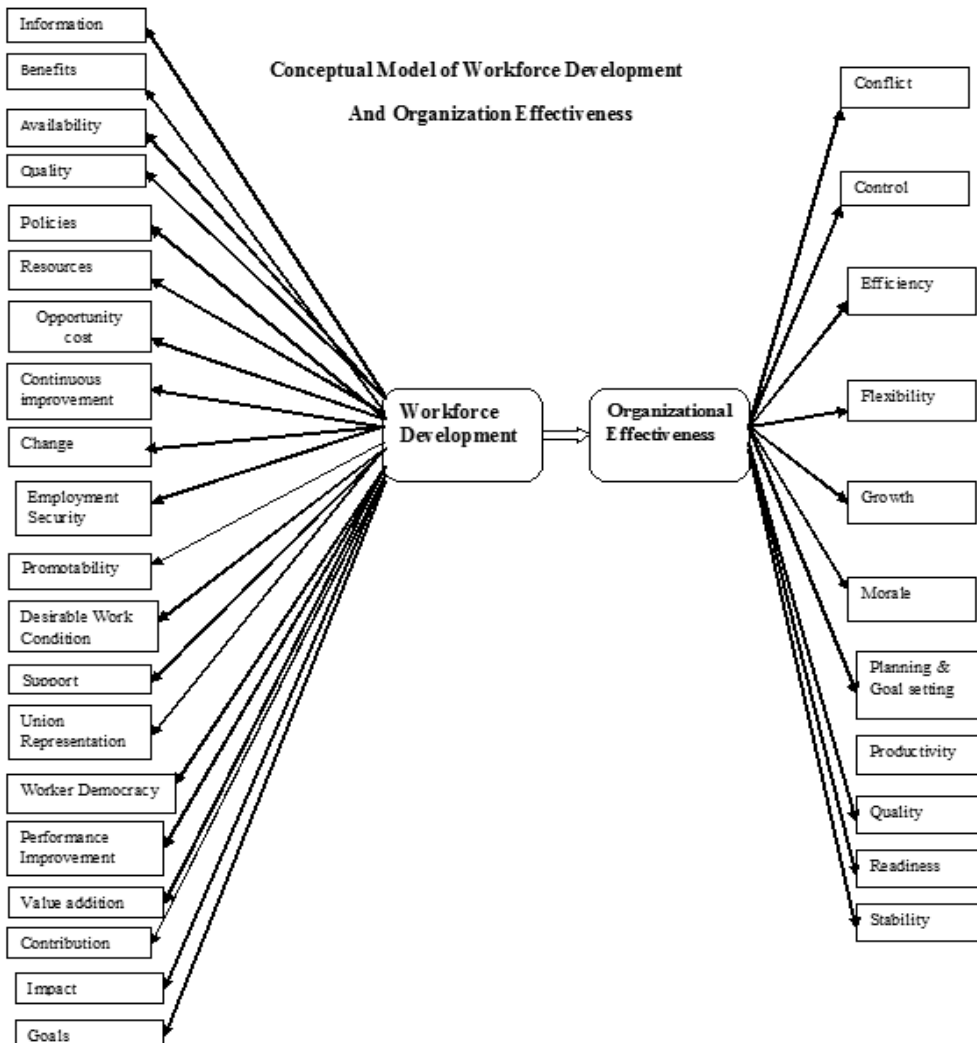
<sup>4</sup>*[http://www.firstnations.org/KnowledgeCenter/NativeAmericanBusinessDevelopment/ BusinessPractices](http://www.firstnations.org/KnowledgeCenter/NativeAmericanBusinessDevelopment/BusinessPractices).*

and coordinate their efforts in the work. Control is the amount and distribution of management control that exists within the organization to influence and direct the behavior of members. Efficiency is the proportion, which imitates a comparison of some aspects of performance per unit cost of performance of this contract. Flexibility is adaptation, and innovation refers to the ability of organizations to change their standard operating procedures in response to environmental change.

On the other hand, managers drew attention to improve organizational effectiveness and results for stakeholder like workforce, proprietor, clients, and for supervisory body. Management can also search for solutions to problems based on the assessment of the effectiveness (Lawler et al., 1980). They also have their own opinion on the organizational effectiveness in order to defend what they do to transform the responsibilities and opportunities, motivation, conflict management, as well as questioning the basic assumptions and beliefs (Cameron & Whetten, 1983). However, very little is known about the factors influencing management criteria for assessing the organizational effectiveness (Vande Ven, & Ferry, 1980). Familiarity with the perception of effective organization can help managers to act creatively in developing strategies for organization. Managers have to be innovative in addressing the issues of organizational effectiveness to put the right strategy in place and are under greater accountability.

For this research purpose following theoretical model was developed on the bases of relevant literature. The basic idea of workforce development and organizational effectiveness was indigenized from (Guerra & Jones, 2005). "Government Workers Adding Societal Value: The Ohio Workforce Development Program and Walton and Dawson (2001), Manager Perceptions of Criteria of organizational effectiveness" that is finally envisaged in the following conceptual framework. Researcher developed the below theoretical diagram for workforce development programs and its linkages with organizational effectiveness based on the idea of (Guerra & Jones, 2005). The workforce development is very crucial to the workers, organizations and its effectiveness (Devi & Shaik, 2012). Ideally, the development and training are more efficient and effective when the learning style and needs match by the organization (Sonja, Martens & Avila, 2014; Obi-Anike & Ewke, 2016). According to Ezeani and Oladele (2013), in the developing countries workforce development is highly needed for the effectiveness of organizations. The aforementioned model contains different dimensions and facets of workforce development that are categorized as;





**Figure 1:** Conceptual Model of Workforce Development and Organization Effectiveness

The extent of information available to participants regarding workforce development programs are; perceived benefits, availability of workforce development programs, policies, resources, opportunity cost, perceived continuous improvement from workforce development programs, change an employee feel in their workplace environment, employment security, promotability, desirable work conditions, Support from management and participants of workforce development programs, union representations, worker democracy in organizations, performance improvement of

employees, value addition to work the carry out, contribution, overall impact of workforce development programs on employees and the goals employees perceives.

The significance of defining and measuring organizational efficiency and effectiveness remains explicable because organizational effectiveness is an important indicator to show the direction, situation, and future of the organization. Whether or not organization effectiveness can be distinct, the reality is that, there have been trials and measuring definitions of organizational effectiveness (Steeple, 1992; Boettcher, 1998).

Based on the above discussed literature, the following hypothesis is developed for this study:

H<sub>1</sub>: Workforce development is positively associated with Organizational effectiveness.

### **3. Methodology**

This study targeted the perceived workforce development programs in the selected public-sector organizations managing and carrying out heterogeneous work functions and domain within twin cities Rawalpindi and Islamabad in Pakistan. The stratified random sampling technique was adopted. The sample was mainly categorized into nine public-sector organizations. These organizations included oil and gas, insurance, fertilizer, telecommunication etc. sectors. The complete list of organizations is attached in Appendix I. The stratification includes entry level, mid-career level and top management level employees from whom the data was collected. The data for the study was collected from employees (consists of entry level, mid-career level and top management level) of different public-sector organizations through a specifically designed questionnaire covering the various attributes and factors of workforce development that employees recognized and experienced/practiced as important in their choice of organizations, they were working.

The scale items used in this study were previously developed, validated, and widely examined in the field by past researchers (Walton & Dawson, 2001; Guerra & Jones, 2005). The initial version of the questionnaire was developed based on formerly tested appliance and workforce development items specially developed for this study. Based on the suggestion of Fayer and Hand (2002) with regard to the cautious assortment of

the items of the questionnaire, the researcher conducted in- depth discussion and structured interviews with employees. The focused group was used to ascertain whether employees understood the scale items and obtains the feedback to improve the wording clarity, format, and length of items, altogether out molded items was omitted. An item wording was adjusted for the final version of the questionnaire. Different researchers (Holmvall & Sidhu, 2007; Parasuraman, Zeithaml & Malhorta, 2005; Reynoso & Moores, 1995) have used a similar approach.

Moreover, 5-point Likert-scale was used to analyze the questions (1=strongly disagree, 5 strongly agree). For measuring the demographic variables, Gender, Age, Job experience, Educational level, and Workforce development programs nominal scales were used. The data was collected into two phases, in 1<sup>st</sup> phase 100 questionnaires were distributed for pilot study and then 350 questionnaires were distributed for final study. Total 450 questionnaires were personally distributed to different public-sector organization's employees of selected areas and out of total, 371 proper filled questionnaires were collected back in both phases. After the data was collected from the entire selected employees for the study, it was coded and was entered into the SPSS sheet for analysis. In first phase, reliability, descriptive test and Confirmatory Factor Analysis (CFA) were applied to the data to check internal consistency of data. In second phase, again reliability and regression analysis were used. Regression analysis was used to identify the significance of different workforce development variables on organizational effectiveness.

The researcher conducted pilot testing before the actual survey to identify potential problems in measurement and to evaluate the usability of the questionnaire. The targeted population consisted of employees working with public-sector organizations in Pakistan. The researcher distributed 100 questionnaires among the employees of the public-sector organizations using a proportionate stratified sampling method for the pilot testing purpose. Out of distributed questionnaires, 65 valid responses were received with a 65% response rate. The normality of the data was checked and found to be with the benchmarked limit. The values of Cronbach's coefficients for individual facets were computed and found to be satisfactory. The preliminary analysis of reliability coefficients and descriptive statistics are given below.

**Table 1:** Reliability Statistics

<b>Variables</b>	<b>No of Items</b>	<b>Alpha</b>
Information	6	0.93
Benefit	2	0.88
Resources	2	0.70
Continuous Improvement	2	0.75
Employment Security	3	0.97
Support	3	0.80
Value addition	2	0.97
Contribution	8	0.97
Goals	3	0.91
Change	2	0.98
Organization Effectiveness	11	0.98

**Table 2:** Descriptive Statistics

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>
Information	65	3.0222	1.54462
Benefit	65	2.8889	1.31809
Availability	65	3.5333	.96766
Quality	65	3.6444	.60886
Policies	65	3.3333	.70711
Resources	65	3.8222	1.23009
Opportunity Cost	65	3.0667	1.00905
Continuous Improvement	65	4.0667	0.93905
Employment Security	65	3.3333	0.95346
Promotability	65	3.2444	0.93312
Desirable Working Conditions	65	3.4667	1.76584
Support	65	3.0889	0.99595
Union Representation	65	3.3778	0.93636

The table 1 shows result of reliability analysis is presented in table which shows that all variables reliability is greater than 0.70 which is minimum

cut off criteria for acceptance of items. The table 2 shows the descriptive statistics including the mean values and standard deviation of all variables. No mean value is near to positive or negative extreme among all variables.

Factor loading as a first phase of convergent validity determines the connectivity of items with its construct. Some scholars have suggested that factor loads should be above 0.50 or above 0.40 to make decision for inclusion or exclusion of items in the instrument. The value near to 1.0 of factor loading is considered solid for the items of its constructs. Cua, McKone and Schroeder (2001) acclaimed that if the value of factor loading of item comes equal and greater from 0.40 that will be eligible to retain in instrument for final survey.

**Table 3:** Convergent Validity: Factor Loadings, Average Variance Extracted (AVE) and Construct Reliability (CR) of Independent Variable i.e. Workforce Development, N=65

Name of Variable/Construct	Items	Factor Loading	Items Reliabilities (Squared of Load Factors)	Delta (1-Item Reliability)	AVE Score	CR Values
WDInfo					0.582	0.891
	WDInfo_1	0.674	0.4543	0.5457		
	WDInfo_2	0.849	0.7208	0.2792		
	WDInfo_3	0.849	0.7208	0.2792		
	WDInfo_4	0.837	0.7006	0.2994		
	WDInfo_5	0.791	0.6257	0.3743		
	WDInfo_6	0.519	0.2694	0.7306		
Total		<b>4.519</b>		<b>2.5085</b>		
WDCont					0.598	0.942
	WDCont_1	0.890	0.7921	0.2079		
	WDCont_2	0.799	0.6384	0.3616		
	WDCont_3	0.874	0.7639	0.2361		
	WDCont_4	0.912	0.8317	0.1683		
	WDCont_5	0.779	0.6068	0.3932		
	WDCont_6	0.784	0.6147	0.3853		
	WDCont_7	0.701	0.4914	0.5086		
	WDCont_8	0.801	0.6416	0.3584		
Total		<b>6.540</b>		<b>2.6194</b>		

WDEmp					0.129	0.651
	WDEmp_1	0.618	0.3819	0.6181		
	WDEmp_2	0.518	0.2683	0.7317		
	WDEmp_3	0.716	0.5127	0.4873		
Total		<b>1.852</b>		<b>1.8371</b>		
WDSup					0.227	0.816
	WDSup_1	0.762	0.5806	0.4194		
	WDSup_2	0.603	0.3636	0.6364		
	WDSup_3	0.932	0.8686	0.1314		
Total		<b>2.297</b>		<b>1.1871</b>		
WDGoa					0.281	0.850
	WDGoa_1	0.840	0.7056	0.2944		
	WDGoa_2	0.829	0.6872	0.3128		
	WDGoa_3	0.756	0.5715	0.4285		
Total		<b>2.425</b>		<b>1.0356</b>		

The table 3 contains those dimensions of workforce development, which are having items three, and above. As there is limitation in AMOS that factor loads cannot be computed of the variable having less than three items. Furthermore, this table explains the convergent validity of the constructs that that contains factor loadings 0.4 or greater. Hair, Black, Babin, Anderson and Tatham (2006) have recommended investigating the scores of standardized factor loading, average variance extracted and constructing reliabilities to make certain the convergent validity. Convergent validity is one of CFA measures under Construct Validity which includes Factor Loading, Average Variance Extracted (AVE) and Construct Validity (CR). Out of three components of convergent validity, factor loadings with regards to all items of model variable only independent variable has already been made which were presented along with interpretation in above tables of factor loadings. Cua et al. (2001) have stated that the factor having the load more than 0.4 is considered significant for convergent validity. The cut off values exceeding 0.50 in respect of both AVE and construct reliabilities are considered significant to ensure the convergent validity (Fornell & Larker, 1981; Bagozzi & Yi, 1991; Hair et al., 2006). The table 3 indicates the entire constructs of independent variable which is satisfying the criteria of AVE and construct

reliability (CR) as proposed by earlier researchers for explaining the construct validity.

The third component of confirmatory factor analysis is the discriminant validity which determines the differences among constructs of the variables of the proposed model, and identify that which constructs are having less correlation (Prajogo & McDermott, 2005; Sekaran, 2003). Discriminant validity in this study has been measured, where square root of AVE in support of each construct must be greater than the values of inter-correlation between groups of constructs. (Sweeney & Soutar, 2001; Kim & Malhotra, 2005; Bhattacharjee & Sanford, 2006). The table 4 is demonstrating the discrimination among constructs of variables of this study by using the method of comparing the square root of AVEs with inter-construct correlations.

**Table 4:** Discriminate Validity

Variable/Constructs	AVE	Sq. Root of AVE	Correlation Groups	IC (Inter-construct Correlation)
<b>Workforce Development</b>				
WDInfo: Information	0.582	0.763	WDInfo<-->WDCont	0.860
WDCont: Contribution	0.598	0.773	WDInfo<-->WDEmp	0.726
WDEmp: Emp. Security	0.129	0.359	WDInfo<-->WDSup	0.761
WDSup: Support	0.227	0.476	WDInfo<-->WDGoa	0.769
WDGoa: Goals	0.281	0.530	WDCont<-->WDEmp	0.698
			WDCont<-->WDSup	0.718
			WDCont<-->WDGoa	0.797
			WDEmp<-->WDSup	0.791
			WDSup<-->WDGoa	0.656

The table 4 indicates those variables which are having constructs, AVE Values, Square root of AVEs, correlation groups and inter-constructs correlations. SPSS sheet was used to compute correlations among five constructs of workforce development to determine the discriminant validity and found 8 values (out of 9) of correlations less than 0.85 which is considered cut-off value as suggested by Harrington (2009). As, results are shown in the table that the square root of AVEs for the constructs of workforce development in favour of WDCont, WDEmp, WDSup and WDGoa. The square root value of AVEs for workforce development

in favour of WInfo and WCont are 0.763 and 0.773 respectively which are greater than the ICs values i.e. 0.0.726, 0.761, 0.698 and 0.718 in support of correlation groups WInfo<-->WDEmp, WInfo<-->WDSup, WCont<-->WDEmp, and WCont<-->WDSup respectively, which indicates the disparity among constructs of workforce development.

#### 4. Results and Discussion

The aim of this section is to present the information that is obtained from the data collection for the research study. This section comprises of findings with reverence to the demographics order of the employees and other major variables like workforce development and organization’s effectiveness. The researcher conducted the study demographic data of employees in the public organization in Pakistan. Demographic data include information of staff through frequency allocation and interactive charts. All measures of expressive form object requested in the questionnaire in order to intensely explore the perception of staff on each item they answered. The rationale for studying demographic structure of study is to investigate the research questions which have been formulated in the initial stage of investigation. This will help in exploring the perceptions of survey subjects of different domain (i.e Gender, education status, Age etc.). Since this study intends to investigate the prevailing issues with respect to WD in terms of demographic profile. Further the regression analysis is used to check the relationship of workforce development programs with organizational effectiveness of the study. Case wise regression analysis is carried out with respect to demographics to check the account variations in contributing by demographics in organizational effectiveness.

##### 4.1. Demographic analysis

Table 5: Demographic Analysis

Age	Frequency	Percentage	Cumulative Percentage
18-25	95	25.6	25.6
26-35	87	23.5	49.1
36-45	114	30.7	79.8
46-55	75	20.2	100.0
Total	371	100.0	
Educational level	No. of respondents	%age	Cumulative %age
Four years bachelors	64	17.3	17.3
Master	202	54.4	71.7



M.Phil.	81	21.8	93.5
Doctorate	24	6.5	100.0
Total	371	100.0	
<b>Gender</b>	<b>No. of respondents</b>	<b>%age</b>	<b>Cumulative %age</b>
Male	317	85.4	85.4
Female	54	14.6	100.0
Total	371	100.0	
<b>Job experience</b>	<b>No. of respondents</b>	<b>%age</b>	<b>Cumulative %age</b>
Less than3years	61	16.4	16.4
4-10years	73	19.7	36.1
11-15years	100	27.0	63.1
16-20years	53	14.3	77.4
21-25years	84	22.6	100.0
Total	371	100.0	

The above table 5 shows the sample for the research work consist 450 Employees. Out of the target sample, only 371 employees responded back. Thus, the response rate of the total contacted sample is 82%. While answering to the questions regarding age, 95 employees (25.6%) reported their age between the age group of 18-25 years. While 87 (23.5 %), of the respondent reported their age between 26-35 years. The main bracket of the age group is 30.7%, which is 114 employees, declare their age between 36-45years that depict the experience and their response in respect of our study and, finally 75 (20.2%) employees reported their age between 46-55 years. It is much more important that, this segment is working in the targeted public-sectors organizations in frontline/management and their tacit knowledge give us facts that are as follows and letter on it will be confirmed in this chapter. The above table further shows the researcher intends to locate the educational level of the public-sector employees. The table 3 divulges that study contains 64 (17.3%) employees having four years bachelors education, 202 (54.4%) employees have master's education, 81 (21.8%) of the employees have M.Phil. education while only 24 (6.5%) of the employees are doctorate in sample study. The major contribution is of master education employees in this study.

Table 5 further illustrates that 85.4% (317) respondents are male while 14.6% (54) are female who contribute in this research work. A final section of the sample is reasonably less participative in the research work because females are endorsed 10% shares of service in government division. Conventionally females are irresolute to commence job in the entire sectors except health care diligence

and education. As a result, the female contribution in overall service in Pakistan is less. For the purpose of this research work, no split data has been appraised except the mention of the employees. Gender division in the workforce of government sector organizations of Pakistan, is also an issue. Although the government has taken few steps to encourage the female for coming forward and participate in the country's economy. 55% of Pakistan's population is consisting of female thus, it is important to bring female to the market by empowering our mainstream workforce. The study explores the involvement of different cohorts of job experience. The table3 demonstrates that 61 respondents i.e. 16.4% of the workers have the job experience of less than 3 years.73 respondents i.e. 19.7% of employees have to 4-10 years job experience. While the most important participation of different public-sector organization is a 100 (27%) of the employees belong to the job experience bracket of 11-15 years, whereas 53 (14.3%) respondents are in the job experience group of 16-20 years and 84 (22.6%) of the employees are at job experience group of 21-25 years. Experienced workforce is the backbone of any industry. The more the work force is experienced and having basic technical skills required for the industry, more the opportunity for the company or organization to grow in the industry and get benefit from new technologies. Organizations usually conduct basic training courses for its employees to equip them with skills and expertise required.

## **4.2. Regression analysis**

Regression analysis is carried out to check the relationship and meaningful effect of workforce development programs and organizational effectiveness. Case Wise regression analysis is executed with different demographic variable for the above said purpose.

The below table 6 shows the regressions between the workforce development and organizational effectiveness accordance with age groups. The results of table 4 reveals that the regression model is significant ( $F=411.638$ ), ( $P<0.05$ ) with ( $R^2=0.816$ ) for the age group of 18-25, that depicts that workforce development represents 81.6% of variation in the effectiveness of the organization at the age group of 18-25 years. The analysis further demonstrates that there is a positive association between workforce development and organizational effectiveness

( $\beta=1.289$ ) describes the level of organizational effectiveness is sensitive to workforce development programs at the age group of (18-25).

**Table 6:** Regression Analysis of Organizational Effectiveness with Workforce Development w. r. t.

		Age group					
Age group(Years)	Variable	B	S.E	t-value	R-Square	F-Stat	Sig
18-25	(Constant)	-	.187	-2.994	0.816	411.638	.004
	WFD	1.28	.064	20.289			.000
26-35	(Constant)	.673	.383	1.756	0.401	56.787	.083
	WFD	.774	.103	7.536			.000
36-45	(Constant)	.298	.261	1.141	0.570	148.298	.256
	WFD	.924	.076	12.178			.000
46-55	(Constant)	.928	1.24	.747	0.058	4.527	.457
	WFD	.669	.315	2.128			.037

The results further represent that the relationship is significant ( $F=56,787$ ), ( $P<0.05$ ) with  $R^2=0.401$  signify that the workforce development programs are forcing changes in the accounts of 40.1% in organizational effectiveness in the age group 26-35 year, which is less than the earlier age group 18-25 years, with 77.4% of the variation in the organization and effectiveness. The results of table 4 elucidated that the development of the workforce program is seen as an imperative factor in the effectiveness of the organization ( $t=7.536$ ).

The results elucidate that the relationship is significant ( $F=148,298$ ), ( $P<0.05$ ) with  $R^2=0.570$  describes that the workforce development elucidates 57% transformation in the organizational effectiveness in the age group 36-45 years that promotes 92.4% of changes in the organization effectiveness. The results further show that the relationship is significant ( $P=4,527$ ), ( $P<0.05$ ) with  $R^2=0.058$  with beta parameter ( $\beta=0.669$ ) demonstrate that the workforce development program accounts 0.58% change in organization effectiveness in the age group 46-55. This is the lowest in all of these groups.

In concluding remarks, results signify that workforce development programs at age group (18-25 years) accounts highest level of variations in organization effectiveness and age group (46-55 years) accounts lowest level of variation in organization effectiveness, ( $R^2$  18-25=0.816) ( $R^2$  46-55=0.058) respectively. Results further point out that workforce development

programs add more to organization effectiveness at age group (18-25years), ( $\beta$  18-25=1.289) and age group (46-55 years) contribute less in organization effectiveness ( $\beta$  46-55=0.669). Results further describes that relationship is considerable in all age groups and workforce development programs is perceived as an important factor at all age groups, ( $t=20.289$ ), ( $t=7.536$ ), ( $t=12.178$ ), ( $t=2.128$ ).

**Table 7:** Regression Analysis of Organizational Effectiveness with Workforce Development w. r. t. Educational Level

Education Level	Variable	B	S.E	t-value	R-Square	F-Stat	Sig
Four Years	(Constant)	.034	.061	.564	0.956	1348.602	.575
	WFD	.991	.027	36.723			.000
Master's	(Constant)	.501	.339	1.478	0.297	84.341	.141
	WFD	.830	.090	9.184			.000
M.Phil.	(Constant)	.269	.303	.889	0.614	125.442	.377
	WFD	.937	.084	11.200			.000
Doctorate	(Constant)	1.125	1.44	.777	0.151	3.919	.445
	WFD	.773	.390	1.980			.060

The above table 7 illustrates regression analysis between workforce development programs and organizational effectiveness in accordance with educational level. The results demonstrate that the regression model is considerable at ( $F=1348.602$ ), ( $P<0.05$ ) with ( $R^2=0.956$ ) exemplify that, workforce development elucidate 95.6% variant in organizational effectiveness for four-year bachelors educational Level with positive relationships between workforce development and organizational effectiveness ( $\beta=0.991$ ) illustrates that organizational effectiveness is responding to workforce development programs at this educational level group.

The table illustrates that, the relationship is momentous ( $F=84.341$ ), ( $P<0.05$ ) with  $R^2=0.297$  exemplify that workforce development accounts 29.7% variations in organizational effectiveness in the master level educated employees that is less than early educational group indicating that those four years bachelors' education accounts more variations in organizational effectiveness by mean of workforce development programs. The table illustrates that the regression model is considerable ( $F=125.442$ ), ( $P<0.05$ ) with  $R^2=0.614$  portray that workforce development programs accounts 61.4% variation in organizational effectiveness

in M.Phil. level educated staff with a positive relationship between organizational effectiveness and workforce development programs ( $\beta=0.937$ ). The table illustrates that the regression model is in consequential ( $F=3.919$ ), ( $P>0.05$ ) with  $R^2=0.151$  which depicts that workforce development programs accounts 15.1%variation in organization effectiveness in doctorate level educated employees. This is the lowest figure in the entire groups.

In concluding remarks, the results point out that work force development programs at bachelor level educated employees accounts highest variations in organizational effectiveness and doctorate level educated employees accounts lowest variation in organization effectiveness, ( $R^2$  bachelor's=0.956) ( $R^2$  doctorate' a=0.151) respectively. Results further point out that workforce development programs contribute more to organizational effectiveness for bachelor's level and M.Phil. level ( $\beta$  bachelor's=0.991) ( $\beta$  M.Phil.=0.937) and doctorate level contribute less in organization effectiveness ( $\beta$  doctorate's=0.773).

**Table 8:** Regression Analysis of Organizational Effectiveness with Workforce Development w. r. t. Job Experience

Job experience	Variable	B	S.E	t-value	R-Square	F-Stat	Sig
Less than 3 Years	(Constant)	.034	.082	.421	0.919	637.231	.675
	WFD	.991	.038	25.947			.000
4-10 Years	(Constant)	.316	.441	.716	0.453	58.732	.477
	WFD	.945	.123	7.664			.000
11-15 Years	(Constant)	.477	.575	.830	0.254	33.334	.409
	WFD	.866	.150	5.774			.000
16-20 Years	(Constant)	.408	.740	.551	0.295	21.320	.584
	WFD	.905	.196	4.617			.000
21-25 Years	(Constant)	.555	.352	1.578	0.435	63.010	.118
	WFD	.766	.096	7.938			.000

The above table 8 shows the regression analysis between the workforce development and organizational effectiveness on the job experience group. The table reveals that, the regression model is considerable ( $F=637,231$ ), ( $P<0.05$ ) ( $R^2=0.919$ ) explain that, workforce development represents 91.9% of variations in the effectiveness of organization for less than 3years of working experience with

positive relationships between workforce development and organizational effectiveness ( $\beta=0.991$ ). The analysis further illustrates that workforce development program is professed as an important factor in organizational effectiveness ( $t=25.947$ ) in less than 3 years of job experience.

The analysis further illustrates that regression model is momentous ( $F=58.732$ ), ( $P<0.05$ ), with  $R^2=0.453$ , depicts that work force development report, 45.3% variations in dependent variable, that is organizational effectiveness for (4-10 years) of the job experience group, which is less than early educational group indicating, less than 3 years of job experience accounts more variation in organization effectiveness by means of work force development programs. The analysis further reports that the regression model is considerable ( $F=33,334$ ), ( $P<0.05$ ) with  $R^2=0.254$  represents, that work force development elucidate 25.4% variation in efficiency of the organization, (11-15 years) of the job experience group unless the group indicates that, early job experience (4-10 years) of working experience more variation accounts for the effectiveness of the organization development through programs of the work force development.

The table illustrates that, regression model is significant ( $F=21,320$ ), ( $P<0.05$ ) with  $R^2=0.295$  represents that workforce development elucidates 29.5% of variation in organizational effectiveness (16-20 years) of job experience. The analysis illustrates that, there is a positive relationship between workforce development and organizational effectiveness ( $\beta=0.905$ ) shows that, the development of the labor force is sensitive to the effectiveness of the organization at 16-20 years of job experience group and contribute 90.5% of organizational change and effectiveness of this relationship is statistically significant. The table illustrates that the regression model is extremely considerable ( $F=63,010$ ), ( $P<0.05$ ) with  $R^2=0.435$ , which represents that workforce development elucidate 43.5% of variation in effectiveness of the organization for (21-25 years) of job experience, that the labor force is sensitive to the effectiveness of the organization at (21-25 years) of the job experience group. This relationship contributes 76.6% of organizational change and effectiveness of this relationship are statistically significant as the probability value is below the level of significance.

In concluding remarks, the results point out that as job experience augment, Workforce development accounts less variation in organizational effectiveness in the public-sector. 4-10 years job experience group accounts more variation point outs goodness-of-fit.

**Table 9:** Regression analysis of Organizational Effectiveness with Workforce Development w. r. t. Gender

Gender	Variable	B	S.E	t- value	R- Square	F-Stat	Sig
Male	(Constant)	.474	.136	3.486	0.567	412.270	.001
	WFD	.809	.040	20.304			.000
Female	(Constant)	6.075	3.871	1.569	0.003	0.136	0.123
	WFD	-.358	.972	-.369			.714

The above table 9 depicts regression analysis between workforce development and organization effectiveness for male category. The table illustrates that the regression model is momentous (F=412.270), (P<0.05) with (R<sup>2</sup>=0.567) and workforce development accounts 56.7% variation in organization effectiveness in male employees. The above table further depict that regression model is not considerable (F=0.136), (P>0.05) with (R<sup>2</sup>= 0.003) which depicts that workforce development accounts 0.03% variation in organization effectiveness in female employees. In concluding remarks, results point outs that in male employee workforce development accounts more variation towards organizational effectiveness than female employees while the contribution towards organizational effectiveness in male employees is greater and momentous than female employees.

### 4.3. Hypothesis testing

H<sub>1</sub>: Organizational effectiveness is positively associated with Workforce development programs.

**Table 10:** Regression and Correlation Analysis of Workforce Development Programs and Organizational Effectiveness

Model	B	S.E	t-value	R-Square	F-stat	Sig	R
(Constant)	.286	.158	1.807	0.522	402.485	.072	0.772
WFD	.905	.045	20.062			.000	

The above table 10 point out that regression model is significant ( $F(1, 370) = 402.485$ ,  $P < 0.05$  with  $(R^2 = 0.552)$ ) demonstrate that workforce development report 55.2% variation in organizational effectiveness. The results further point out that there is positive relationship between workforce development and organizational effectiveness ( $\beta = 0.905$ ) beta coefficient demonstrate that workforce development is responsive to organizational effectiveness and can bring 90.5% change to organizational effectiveness supported by a strong positive correlation coefficient ( $r = 0.772$ ).

Link between work force development and organizational effectiveness have been the field of large amount of research and yet there seem as fewer accords and links. This research study is premeditated to explore relationships between workforce development and organizational effectiveness. Workforce development presented in this research study as the delivery system used by organizations to develop individuals through training and development, career development and organizational development.

This research study focuses on the establishment of internal performance indicators of organizational structures and processes that can serve as measures of organizational effectiveness. Such measures would help the leaders of the organization in its efforts to monitor progress within their organizations and identify specific performance measures on which the greatest opportunity for internal improvement may exist.

The results and assumptions are based on the literature (Connor, 1997; Gale, 1994; Senge, 1994). Given the relatively new nature of quality initiatives in the organizations of public-sector workers, participation in the enterprise is a way to distinguish between quality and quality organizations unknown. On this premise, one would expect the quality organizations that have initialized the programs of workforce development, yield better performance than the quality organizations (Punia & Saurabh, 2013).

After the extensive data analysis of workforce development and its impacts on organizational effectiveness, following main findings are derived. The study depicts that there is a momentous relationship between workforce development programs and organizational effectiveness with respect to all age groups. It further notes that workforce development programs at age groups (18-25) and (36-45)



account more in variation organizational effectiveness. It is found that there is a momentous relationship between workforce development programs and organizational effectiveness at educational level group of four-year bachelors, master, and M.Phil. It establishes that four-year bachelors and M.Phil. accounts more variation in organizational effectiveness. The overall results of this study depict that there is positive relationship between workforce development and organizational effectiveness.

## **5. Conclusion and Recommendations**

In today's resource-strapped environment, organizations/public-sector must find ways to offer workforce development options that leverage their existing knowledge resources. Leaders/managers need to develop solutions that are engaging, creative, timely, meaningful, and cost-effective. Results from the research study of productivity and effectiveness provide solid evidence that workforce development can engage in recreation of imperative role in an organization's development plans.

Workforce development and economic growth are inter-dependent. Economic growth only occurs if enterprises are growing: enterprises can grow sustainably only if they can compete, and competitiveness cannot be sustained without a workforce that has the mix of skills required to organize, manage, and competitively produce the goods and services demanded by consumers. Similarly, robust economic growth will improve human welfare only if employment and wages are increasing, and this can only occur sustainably if workers are contributing to productive and competitive enterprises. Increased incomes and earnings also serve to motivate workers regularly to upgrade their skills. Therefore, at the heart of competitiveness is the necessity of ongoing human capital development. At the broadest level, skills-mix, and income are mutually determined.

While no single assessment can address all of the questions and concerns of an organization as broad in purpose and scope as Workforce Development, the needs assessment focused on fifteen performance areas. (i.e., availability, quality, policies, resource, opportunity costs, continuous improvement, change, employment security, promo ability, quality of work life, union representation,

worker democracy, performance improvement, self-sufficiency/self-reliance, and goals) of eligible public-sector employees.

The findings of the needs assessment strongly supported the continuing efforts of Workforce Development through a variety of educational and training efforts as suggested by Devi and Shaik (2012). In meeting the changing demands of the public-sector employees, several recommendations are made based on a combination of questionnaire, focus group, and interview data. However, theoretically this approach makes sense for a number of reasons close alignment with the labor market needs of the public-sector and recognition of the centrality of human capital as a key input for productivity. There are a number of challenges to implementing such programs. In addition, there are questions about the ability of public-sector initiatives to yield mass or broad based skill trainings needed for large segments of the employees, especially in countries where a youth bulge is putting considerable pressure on the existing job market.

To summarize the present study, twenty dimensions of workforce development studied concurrently with the eleven dimensions of the organizational effectiveness. The results of this study provide managerial professionalism to integrate systems for workforce development, which must be designed and implemented, to support the employees in the high service background, and show how influential these systems are in predicting the organizational effectiveness. The result also points out that these work force development programs have momentous positive effects on organizational effectiveness in public-sector organizations of Pakistan. Overall, the results support the notion that workforce development programs make employee purposeful, as expected, the acknowledgment of differently associated attitude of workforce development are concern of public-sector organizations of Pakistan and of the employees working in these organizations. The overall findings of this study show that there is positive relationship between workforce development and organizational effectiveness.

This study has manifold applications. It can be used for developing performance indicators, score cards, core curriculums, programs, self-assessment tool, needs assessment instruments, performance evaluation, feedback mechanisms, to name a few. This study traces the arrangement in which

employment and skills are linked, how this association is responsible to change, and the substitute for policy makers to form the linkage between employment and skills in future.

It is recommended that improving communication and strategic linkages at all levels in the Workforce Development programs partnership is the action recommended by this study. Such improvements would allow key decisions to be made based on what is best for eligible public-sector employees, in the long-and short-term. This can only be accomplished if Workforce Development programs partners work jointly with a new methodology for improving effectiveness through strategic alignment and the elaboration of a shared strategic plan that address the issues and opportunities described in this study.

These findings of the study suggest that the public-sector would be keenly interested in work force development. While it is possible to discern levels of public-sector investment in workforce training (notwithstanding the problem of quality), it is more difficult to gauge the degree of public-sector investment in workforce training, though it is thought to be substantial. Globally competitive businesses routinely train their own workers according to their specific skills needs. It is recommended that accessibility, flexibility, exclusivity, and links to other systems are all decisive elements of an effective, results-driven workforce development system. Moreover, the new wave of computer- and video-based applications covers it all, making them invaluable. Organizations that have made this technological leap already are reaping positive business. It is recommended that the second and third most important skill areas for development focus on employees' ability to communicate and work with others. Even the fourth-ranked hand insure, customer service, is in the people skills categories.

There is a great potential to take the simplistic approach to which this research study was accomplished to prove the momentous link of workforce development with organizational effectiveness in public-sector organizations. Some areas of workforce development need to be refined such as developing degree of quality and identifying efficient workforce development programs. These results support the idea that there is likely emergent workforce development by means of human resource development practices. The present study recommends the view of workforce development program that need the contemplation of broader sets of

objectives. Workforce development is a programmatic effort to a community need and, thus, should not be restricted in scope to an explicit group or organizations (Ezeani & Oladele, 2013). Thereby, workforce development seeks to bridge individuals, organizations, and communal interests in ways that considerably benefit each other. Moreover, professionals should select criteria for judging the effectiveness of programs using both proximal and distal criteria.

The author recommends specifically for future researchers that there is need to increase the items of each dimension of workforce development, at least four items for each dimension. In this study data was collected from Islamabad and Rawalpindi and only 450 questionnaires were distributed, in future the researchers can test this model in other cities and by increasing the sample size. The present study identifies that there is a broad relationship between workforce development and organizational effectiveness, however further studies can be conducted to verify this relationship in different organizations.

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**APPENDIX -I**

**LIST OF PUBLIC-SECTOR ORGANIZATIONS**

<b>Sr.No.</b>	<b>Organization</b>	<b>Distributed</b>	<b>Received</b>
1	Oil and Gas Development Company Limited	40	30
2	State Life Insurance Corporation of Pakistan	40	30
3	National Council for Science and	60	50
4	Pakistan Telecommunication Corporation	65	55
5	National Fertilizer Corporation	60	55
6	Sui Northern Gas Pipelines Limited	55	45
7	Water and Power Development Authority	45	35
8	National Highway Authority	45	35
9	Pakistan Post Office Department	40	36
	<b>Total</b>	<b>450</b>	<b>371</b>