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Article

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THE DIRECT AND INDIRECT IMPACT OF PHARMACEUTICAL INDUSTRY IN ECONOMIC EXPANSION AND JOB CREATION: EVIDENCE FROM BOOTSTRAPPING AND NORMAL THEORY METHODS

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Abstract

The objective of this research article is to examine the role of Pakistan’s pharmaceutical industry in job creation opportunities, with the sacred intention to eradicate poverty, and expansion in economic activities. This research is quantitative in nature, and the data is directly gathered through closed-ended questionnaires from 300 respondents. Besides predictors’, four mediating variables have also been taken into consideration that contribute indirectly in job creation opportunities. Bootstrapping and Normal theory methods have been employed in order to examine the impact of predictors’ and mediating variables. The result of this research confirmed that pharmaceutical industry plays a vital role in job creation in Pakistan. It is further concluded that the pharmaceutical industry has a direct and significant impact in job creation by providing indigenous and direct job opportunities in sales, marketing, and other supporting departments for both skilled and unskilled workers. Pharmaceutical industry also provides indirect job opportunities through other industries, which are very much linked with this industry, such as: pharmaceutical distributors, dealers, retailers, wholesalers, hotel industry, and event management industry. It is also determined that pharmaceutical industry is acting like knowledge and skills imparting institutions. Therefore, skilled-based training and organizational learning are major mediating variables that transform unskilled people into human assets, which further trigger the future job prospects. Since pharmaceutical industry is one of the biggest industries in Pakistan, providing plenteous opportunities of new jobs with consistent growth. Thus, mediating variables such as motivation and interpersonal influence also preceded an active role in new job creation.

Keywords: job creation, pharmaceutical industry, bootstrapping method, normal theory method.

JEL Classification: B23; C12; I3; J2; L6

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Introduction

According to Kamath and Hoovinahole (2016) national and transnational pharmaceutical companies play an important role not only in quality medicines, but also expand economic activities in developing countries. However, major focus of healthcare companies is, to provide quality health services and medicines, but at the same time they also contribute to expand economic prospects through job creation, training and capacity building, and shaping public policies in developing countries. Because of generic medicines and rapid expansions in their operations local companies have competitive advantage, and better playing field; therefore, they have been able to increase their production, and phenomenal growth in sales revenues. Thus, national pharmaceutical companies are providing plenteous new jobs openings to their citizens (Shastri, 2016). As compared to other industries, pharma industry is distinctive in the ways it generates economic opportunities through direct, indirect and spillover effects. According to Sztankovszky et al. (2015), the pharmaceutical industry has also engaged in institutions building, providing capacities through several resources, including technical assistance, strategic planning directions, and financial assistance. Thus, these activities help to enhance infrastructure facilities for institutions, which further generate hundreds of new employments in developing countries. Pharmaceutical industry is also very much linked to other industries, therefore, its spillover effect further creates new job opportunities and positive impact on overall economy of developing nations (Awino, 2016). Another role of pharmaceutical industry is Rule-shaping, this is entirely indirect form of economic expansion and its influence is long-term. Hence, in this way, pharmaceutical industry further helps to creates ample opportunities of new jobs in an indirect and long-term in developing countries (Pennec and Raufflet, 2016; Sztankovszky et al., 2015).

Relevance of the research. It is certain that pharmaceutical industry, as one of the biggest industries in Pakistan, which provides significant job opportunities in urban and rural centers. Pharmaceutical industry also provides abundant job opportunities in an indirect manner through other industries, such as: pharmaceutical distributors, dealers, wholesalers, retailers, hotel industry, chemical raw material and Event management industry etc., as shown in Figure 1 (Chowdhry, 2014). According to the researches, about 450,000 people are directly and 4 million people are indirectly employed by this sector but in actuality more than 30 million families are being benefited from it (Shahryar, 2013). The major focus of this industry is based on the knowledge, and its steady growth that contributing mainly to the economy of the country (Pennec and Raufflet, 2016; Hafeez and Akbar, 2015). According to Meskill (2015) human resource development is a major mediating factor that transforms unskilled people into human assets, which further generates the job opportunities for skilled workers in other industries in a long-term, as shown in Figure no. 1.

Objective of the research. This research is an extensive exploration of the role of national pharmaceutical industry in job creation in a direct and indirect approach through interceding factors. Another important aspect of this paper is to study the role of local pharmaceutical in overall expansion of the economy. As we have discussed pharmaceutical industry are also regarded as institutions for capacity building. This role is invisible, therefore, we have also examined capacity building role through mediating variables.

Significance of this research. This kind of research has been conducted first time in Pakistan in which the researchers evaluated the role of Pharmaceutical Industry as employment generator and its impact has been examined as direct and indirect job creator

sector. In this research paper, we have not only study the direct impact of pharmaceutical industry in job creation but also incorporated the spillover effect through other industries, which are actively promoted and engaged in job creation because of pharma sector (Sztankovszky et al., 2015). In this paper the researchers have used number of variables as independent variables, mediating variables and a dependent variable. Moreover, these variables further segregated in different dimentions as shown in Figure no. 2.

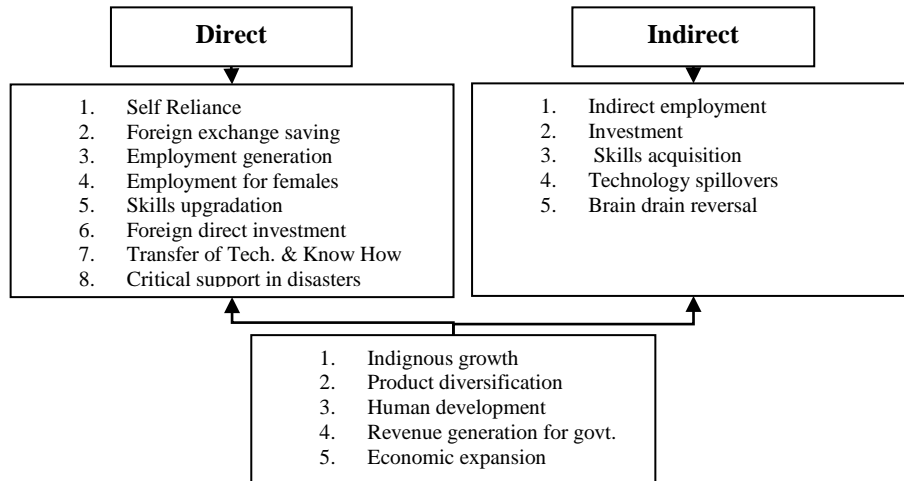


Figure no.1: Benefits of Local Pharmaceutical Manufacturing sector

Source: Adapted from Chowdhry, 2014

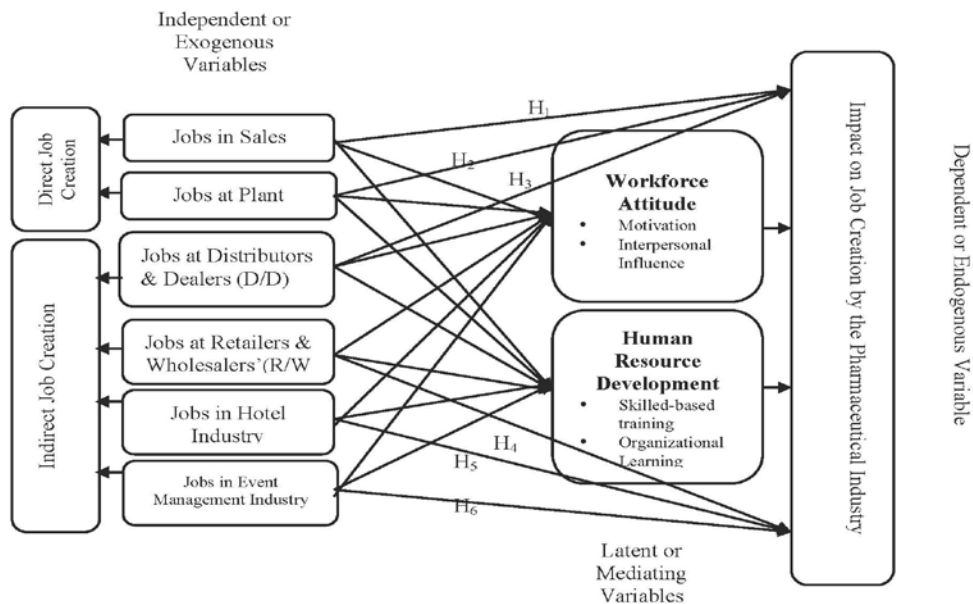


Figure no 2: Research model of the study

1. Theoretical review and framework

Direct job creation: pharmaceutical industry. Pharmaceutical Companies are direct source of new employment generation and currently accommodate more than 0.45 million people in different sections of the industry. Therefore in this way pharmaceutical industry is one of the major sources of direct job creator in overall economy in Pakistan (Shahryar, 2013).

Jobs prospect: sales and marketing. The Sales Jobs are scattered across the country where any other industry is not established except pharmaceuticals (Islam et al., 2016; Aamir and Zaman, 2011). Thus, the researchers have developed the H₁ hypothesis, which is linked on previous discussion and mentioned in Table no. 1.

Jobs creation: plants (technical, non-technical & administrative). The jobs at plants, where jobs to technical, non-technical, administrative, skilled and unskilled workers are offered (Babar et al., 2016). Hence, the researchers have developed the H₂ hypothesis, which is based on this discussion, and stated in Table no. 1.

Indirect job creation: pharmaceutical industry. Pharmaceutical industry also provides bounteous job opportunities in an indirect manner through other industries, which are very much linked with pharma sector (Babar et al., 2016).

Jobs creation: Distributors and Dealers. Every pharmaceutical company needs regional distributors, and dealers. An important point for this category of indirect job creation from these distributors, dealers and suppliers spread across country (Chowdhry, 2014). Hence, the researchers have developed the H₃ hypothesis, and cited in Table no. 1.

Jobs prospects: Retailers and Wholesalers. Pharmaceutical retailers and wholesalers spread in every corner of the country. Therefore, the retailers and wholesalers are one of the most prominent sources, providing indirect income generating opportunities (Azhar et al., 2009). Hence, the researchers have developed the H₄ hypothesis, which is based on the above discussion and mentioned in Table no. 1.

Job openings: Hotel industry. Pharmaceutical companies have enormous operation and regularly conducting training sessions, meetings, national and international conferences, and other scientific activities. These events not only revived the hotel industry but further boosted the new businesses of small hotels, motels, guesthouses etc. in Pakistan (Islam et al., 2016). Thus, the researchers have established the H₅ hypothesis, which is based on this previous discussion and shown in Table no. 1.

Job opportunities: Event management industry. According to Kamath and Hoovinahole (2016), the concept of event management is much extended in pharmaceutical industry. Therefore, pharmaceutical companies provide all the event management jobs to these companies (Islam et al., 2016). Therefore, the researchers have developed the H₆ hypothesis, which is based on above discussion and stated in Table no. 1.

Table no 1: Hypothesized relationship b/w predictors & dependent variable

| Hypotheses | Relationship | | |
|----------------|-------------------------|-----|--------------|
| H ₁ | Sales Jobs† | ž ž | Job creation |
| H ₂ | Jobs at Plant† | ž ž | Job creation |
| H ₃ | Jobs at D/Dealer† | ž ž | Job creation |
| H ₄ | Jobs at R/Wholesaler† | ž ž | Job creation |
| H ₅ | Jobs at Hotel Industry† | ž ž | Job creation |
| H ₆ | Jobs in Event Mgmt. † | ž ž | Job creation |

Note: † = Predictor; DV = Job Creation; EMI = Event Management Industry; HI = Hotel Industry; R/W = Retailer/Wholesaler; D/D = Distributor/Dealer; PJ = Jobs at Plant; SJ = Sales Jobs; Direct Effect = ž ž

Mediation analysis and job creation of pharmaceutical industry. Structural equation modeling (SEM) can be employed on mediating variables, which has also been used in this research. The researchers have incorporated four psychological variables, which contribute in human action and decisions. Pharmaceutical companies perform like an institution, which provides essential technical and skills trainings on periodic basis and transform the raw employee into human asset (Becker and Gerhart, 1996). Thus, the researchers have incorporated skilled-based training, organizational learning, motivation and interpersonal influence as mediating variables (Chowhan, 2016; Hafeez and Akbar, 2015).

Skilled-based training (Human resource development). Skilled-based training and development program enable the employees to impart the required knowledge, skills and attitudes in order to achieve the goals (Jensen et al., 2016). In order to come up to the level where business demands can be catered in future training and development has proven its importance (Chalfin et al., 2016; Apospori et al., 2008). The fact that skilled-based training and development plans provide, increase in the work quality and productivity. According to Hauff et al. (2016) the training may not have a direct impact on the employee performance, but in fact, it is an indirect factor that focuses on the improvement of employee performance. On the basis of the above-discussed theoretical framework and further evidence provide by Ogbonnaya and Valizade (2016), Hypotheses H_{7A}, H_{7B}, H_{7C}, H_{7D}, H_{7E}, and H_{7F} have been generated for the mediating effect of Skilled-based training on the relationship of independent variables with dependent variable as mentioned in Table no. 2.

Organizational learning (Human resource development). As discussed by Aranda et al. (2016) the importance of organizational learning makes organizations to focus on this aspect more and come up with concrete strategies and solutions (Chao et al., 2016; Gomez et al., 2005). However, organizational learning is to be considered the indirect factor to accomplish the organizational strategic objectives (Nezam et al., 2016). First theory discusses that the organizational learning is a continuous process in which organizations learn and evolved new knowledge (Aragón et al., 2014). Second theory demonstrates that organizational learning is actual the organizational orientation, which is important to learn and also it defines the organizational capability (Sarder, 2016; Camps and Luna-Aroca, 2012; Gomez et al., 2005). Based on the above discussed theoretical framework H_{8A}, H_{8B}, H_{8C}, H_{8D}, H_{8E}, and H_{8F} have been shaped for the mediating effect of organizational Learning on the relationship of independent variables with dependent variable as stated in Table no. 2.

Motivation (workforce attitude). Motivation is a psychological force that directs the behavior of the employees towards the fulfillment of the organizational objectives (Cotti et al., 2016; Gilbert, 2016; Kreitner and Kinicki, 1992). Organizations are offering good tangible and intangible benefits to the employees in order to motivate them for the achievement of organizational objectives (Rukuižienė and Bocharov, 2016; Mitchell, 1973). According to the previous researches, individual difference model of employment and job performance defines that the motivation and personality are the foremost elements, which actually stimulate the job performance (Rukuižienė and Bocharov, 2016). The concept of achievement motivation in previous studies refers to three intrinsic achievement motivation factors, which are job ethic, excellence and mastery (Lee, 2016; Cassidy and Lynn 1989). Based on these discussions and theoretical framework Hypotheses H_{9A}, H_{9B}, H_{9C}, H_{9D}, H_{9E}, and H_{9F} have been developed for the mediating effect of motivation on the relationship of independent variables with dependent variable as shown in Table no. 2.

Interpersonal influence (workforce attitude). According to Ollivere (2016) the opinion leadership involves people, who are masters of forming the opinions and changing the behaviors of the individuals. The influence shown by opinion leaders is limited to ones interests, but sometimes it impacts other factors too (Olivere, 2016; Myers and Robertson, 1972). The Individuals who are high in influencer characteristics mainly have higher levels of self-esteem (Clark and Goldsmith, 2005). Based on the discussed theoretical framework and evidence provided by Aktan and Chao (2016), Hypotheses H_{10A}, H_{10B}, H_{10C}, H_{10D}, H_{10E}, and H_{10F} have been formed for the mediating effect of Interpersonal Influence on the relationship of independent variables with dependent variable as cited in Table no. 2.

Table no. 2: Hypothesized relationship of mediations

| Hypotheses | Relationship | | | | |
|------------------|----------------|-----|--------------|-----|--------------|
| | | | | | |
| H _{7A} | Sales Jobs† | →→→ | SBT | →→→ | Job Creation |
| H _{7B} | Jobs at Plant† | →→→ | SBT | →→→ | Job Creation |
| H _{7C} | Jobs at D/D† | →→→ | SBT | →→→ | Job Creation |
| H _{7D} | Jobs at R/W† | →→→ | SBT | →→→ | Job Creation |
| H _{7E} | Jobs at HI† | →→→ | SBT | →→→ | Job Creation |
| H _{7F} | Jobs at EMI† | →→→ | SBT | →→→ | Job Creation |
| H _{8A} | Sales Jobs† | →→→ | OL | →→→ | Job creation |
| H _{8B} | Jobs at Plant† | →→→ | OL | →→→ | Job Creation |
| H _{8C} | Jobs at D/D† | →→→ | OL | →→→ | Job Creation |
| H _{8D} | Jobs at R/W† | →→→ | OL | →→→ | Job Creation |
| H _{8E} | Jobs at HI† | →→→ | OL | →→→ | Job Creation |
| H _{8F} | Jobs at EMI† | →→→ | OL | →→→ | Job Creation |
| H _{9A} | Sales Jobs† | →→→ | Motiv. | →→→ | Job Creation |
| H _{9B} | Jobs at Plant† | →→→ | Motiv. | →→→ | Job Creation |
| H _{9C} | Jobs at D/D† | →→→ | Motiv. | →→→ | Job Creation |
| H _{9D} | Jobs at R/W† | →→→ | Motiv. | →→→ | Job Creation |
| H _{9E} | Jobs at HI† | →→→ | Motiv. | →→→ | Job Creation |
| H _{9F} | Jobs at EMI† | →→→ | Motiv. | →→→ | Job Creation |
| H _{10A} | Sales Jobs† | →→→ | Motiv. | →→→ | Job Creation |
| H _{10B} | Jobs at Plant† | →→→ | Inter. Infl. | →→→ | Job Creation |
| H _{10C} | Jobs at D/D† | →→→ | Inter. Infl. | →→→ | Job Creation |
| H _{10D} | Jobs at R/W† | →→→ | Inter. Infl. | →→→ | Job Creation |
| H _{10E} | Jobs at HI† | →→→ | Inter. Infl. | →→→ | Job Creation |
| H _{10F} | Jobs at EMI† | →→→ | Inter. Infl. | →→→ | Job Creation |

Note: † = Predictor or Exogenous variable; Job creation = Endogenous or dependent variable; SBT=Skilled based training; OL=Organizational learning; Motiv. = Motivation; Inter. Infl.=Interpersonal influence; EMI = Event management industry; HI = Hotel industry; R/W = Retailer/wholesaler; D/D = Distributor/dealer; PJ = Jobs at Plant; SJ = Sales Jobs; Indirect Effect (Mediation) = →→→

2. Empirical results and findings

Structural equation modeling (SEM) was employed to examine the multiple mediating effects of skilled-based training, organizational learning, motivation and interpersonal influence on the relationship of exogenous variable with endogenous variable (Job creation). Based on the Figure no. 3, the six exogenous variables of this research are jobs in sales, jobs at plant, jobs at distributors/dealers, jobs at retailers/wholesalers, jobs in hotel and event management industry. These variables form causal relationship with endogenous

variable (Job creation), but skilled-based training, organizational learning, motivation and interpersonal influence are cause and effect variables (Murali et al., 2016).

Sample description. Three hundred and twenty five respondents of all groups (employees of pharmaceutical industry, distributors/dealers, retailers/wholesalers, hotel & event management industry) were approached and 300 respondents have answered on voluntary basis. The response rate was 92.31%. The sample size was higher than the minimum sample size suggested by some studies based on structural equation modeling (Anderson and Gerbing, 1988).

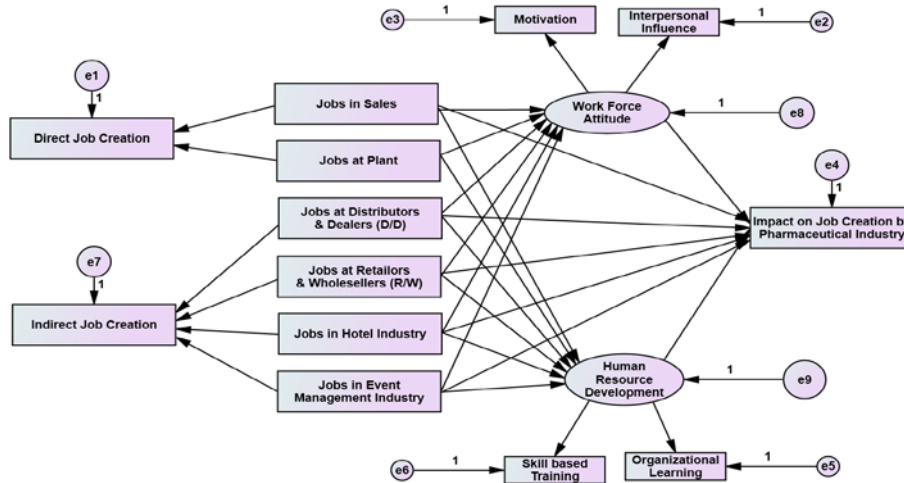


Figure no. 3: SEM model of the study

Validities and Reliabilities of the constructs. According to Cronbach (1951) and Leech et al. (2011) resultant reliabilities should be very good ($\alpha \geq 0.90$), good ($\alpha \geq 0.80$) and acceptable ($\alpha \geq 0.70$.) and it is concluded from the results shown in Table 3 the individual Cronbach’s and composite reliabilities are $\alpha > 0.70$ (cut-off for confirmatory research), which shows all the constructs have internal consistency. According to Leech et al. (2011) the average variance extracted (AVE) should be over 0.5 and results shown the square root of AVE for each item is greater than 0.5 and also greater than the construct’s correlations with other constructs, which again confirmed good convergent and discriminant validity.

Descriptive Statistics of Initial Constructs. The data should follow the normality pattern, which is a pre-requisite for the administration of Structural equation modeling. Therefore, for this requirement of normality the data of 300 respondents were converted into standardized z-score and it is found all the cases are within the prescribed range of ± 3.5 . The results of standard deviation, Skewness and Kurtosis for each constructs are within the prescribed range ± 1.5 , which further strengthen for data’s normality pattern (Byrne, 2009; Rutherford et al., 1988). According to Kline et al. (2000) correlation of each pair should be less than 0.85 and results suggested the data justified the discriminant validity requirement.

Fit Measures. According to Balakrishnan et al. (2016) there are more than 20 fit indices and no agreement which to report for measuring the hypothesized model. According to Balakrishnan et al. (2016) and Byrne (2009) these measures have been characterized into

four indices categories. In this research all four indices categories are reported, 1) absolute fit index, 2) Relative fit index, 3) Noncentrality based index and 4) Parsimonious fit index. Complete cut off results for all the indices have been stated in Table no. 3.

Confirmatory Factor Analysis. The results of Confirmatory factor analysis, which were tested on the basis of theory for all the factors and indicators presented in Table no. 4. The summarized CFA results of all the constructs are followed the limit for Absolute fit index $GFI > 0.95$ except Job at HI and EMI. Relative fit indices for all the constructs show $NFI > 0.90$ except Jobs at HI and EMI once again. $IFI > 0.95$ for all the constructs except for Jobs at HI, although, $TLI > 0.95$ for all the constructs except Jobs at HI and OL. Similarly Non-centrality-based indices show $CFI > 0.95$ for the entire constructs except Jobs in EMI. $RMSEA \leq 0.05$ value indicates approximately close model fitness and values between 0.05 and 0.10 indicate reasonable error of approximation, $RMSEA < 0.05$ for all the constructs except Jobs in HI and EMI, however, $RNI > 0.95$ for all the constructs except for Jobs in EMI and OL. Finally in Parsimonious Fit indices $PCFI > 0.75$ for all the constructs except for Jobs in EMI, whereas, $PNFI > 0.75$ for entire constructs except for Jobs in HI and EMI, though, $PGFI > 0.75$ for all the constructs except for Jobs in HI and EMI, which indicate good model fitness according to Hooper et al. (2008). According to the Hooper et al. (2008) values of the Normed chi-square of 2.0, 3.0, or even as high as 5.0 have been considered as indicating reasonable fit. Therefore, Table no. 4 shows the calculated values of normed Chi-square for all the constructs show reasonable model fitness.

Hypotheses: testing and results

Effects of predictors on dependent variable. Table no. 5 shows the results of Hypotheses, which are relevant to the relationship of independent variables on dependent variable. H_1 is accepted because ($p < 0.01$ & $\beta = 0.2375$), H_2 also accepted since ($p < 0.01$ & $\beta = 0.1775$), H_3 again accepted because ($p < 0.01$ & $\beta = 0.1764$), H_4 , H_5 and H_6 are also accepted because ($p < 0.01$ & $\beta = 0.3496$), ($p < 0.01$ & $\beta = 0.2249$) and ($p < 0.01$ & $\beta = 0.2186$), hence jobs in sales, plants, retailer & wholesalers, distributors & dealers, hotel Industry and event management industry have a significant impact on overall job creation. The results are further substantiated through LLCI and ULCI because all the β values located between LLCI and ULCI, therefore, it is further validated that all the Hypotheses H_1 , H_2 , H_3 , H_4 , H_5 and H_6 are accepted and all the predictors have a significant impact on dependent variable.

Tests of significance for multiple mediation effects. The results are obtained through Hayes (2012) macro for SPSS that not only measures the direct effect of predictors on Job creation as discussed in the previous section but also produces the results of four mediating variables. The output from bootstrapping method provides the 95% bias-corrected bootstrapped confidence interval if ZERO lies within the Biased Corrected Confidence Interval (BCCI) range (LL = Lower Limit and UL = Upper Limit) of the Confidence interval then the TRUE indirect effect would be ZERO (no mediation). If zero does NOT occur between LL and UL then the researcher concludes that the indirect effect of the mediator is significant.

Table no. 3: Fit indices reported in this study

| Construct | Absolute Fit Indices | | | | | Relative Fit Indices | | | Noncentrality-based Indices | | | Parsimonious Fit Indices | | |
|-----------|----------------------|-----|-------------|-------------|--------|----------------------|--------|--------|-----------------------------|-------|--------|--------------------------|--------|--------|
| | χ^2 | Df | χ^2/df | Probability | GFI | NFI | IFI | TLI | CFI | RMSEA | RNI | PCFI | PNFI | PGFI |
| Criteria | Low | N/A | < 5.0 | <0.05 | > 0.95 | > 0.90 | > 0.95 | > 0.95 | > 0.95 | <0.05 | > 0.95 | > 0.75 | > 0.75 | > 0.75 |

Note. χ^2 =Chi Square; χ^2/df =Relative Chi Square; df =degree of freedom; CFI=Comparative Fit Index; NFI=Normed Fixed Index; IFI=Incremental Fixed Index; TLI=Tucker-Lewis Index; GFI=Goodness of Fit Index; RNI= Relative Noncentrality Index; RMSEA= Root Mean Square Error of Approximation; PNFI=Parsimony-adjusted Normed Fit Index; PCFI=Parsimony-adjusted Fit Index; PGFI=Parsimony-adjusted Goodness of Fit

Table no. 4: Confirmatory factor analysis

| Construct | Absolute Fit Indices | | | | | Relative Fit Indices | | | Noncentrality-based Indices | | | Parsimonious Fit Indices | | |
|------------------|----------------------|-----|-------------|-------------|--------|----------------------|--------|--------|-----------------------------|-------|--------|--------------------------|--------|--------|
| | χ^2 | df | χ^2/df | Probability | GFI | NFI | IFI | TLI | CFI | RMSEA | RNI | PCFI | PNFI | PGFI |
| Jobs in Sales | 4.028 | 1 | 4.028 | 0.028 | 0.969 | 0.950 | 0.970 | 0.951 | 0.970 | 0.032 | 0.952 | 0.757 | 0.825 | 0.798 |
| Jobs at Plants | 5.023 | 2 | 2.511 | 0.042 | 0.971 | 0.901 | 0.960 | 0.952 | 0.956 | 0.005 | 0.955 | 0.822 | 0.780 | 0.890 |
| Jobs in D/D | 4.978 | 2 | 2.489 | 0.025 | 0.951 | 0.932 | 0.994 | 0.961 | 0.996 | 0.041 | 0.967 | 0.899 | 0.866 | 0.912 |
| Jobs in R/W | 5.982 | 2 | 2.991 | 0.045 | 0.966 | 0.918 | 0.969 | 0.991 | 0.990 | 0.049 | 0.976 | 0.922 | 0.935 | 0.758 |
| Jobs in HI | 6.750 | 2 | 3.375 | 0.041 | 0.679 | 0.802 | 0.918 | 0.787 | 0.965 | 0.062 | 0.957 | 0.911 | 0.621 | 0.711 |
| Jobs in EMI | 4.011 | 1 | 4.011 | 0.052 | 0.759 | 0.860 | 0.959 | 0.955 | 0.745 | 0.058 | 0.891 | 0.700 | 0.701 | 0.704 |
| Impact on Job Cr | 6.211 | 2 | 3.105 | 0.032 | 0.980 | 0.949 | 0.952 | 0.966 | 0.989 | 0.002 | 0.995 | 0.877 | 0.789 | 0.956 |
| Skill-based Tr. | 4.979 | 2 | 2.489 | 0.020 | 0.967 | 0.914 | 0.990 | 0.971 | 0.990 | 0.019 | 0.953 | 0.830 | 0.828 | 0.977 |
| Org. Learn. | 4.216 | 2 | 2.108 | 0.050 | 0.952 | 0.910 | 0.995 | 0.856 | 0.995 | 0.039 | 0.758 | 0.835 | 0.770 | 0.811 |
| Motivation | 6.510 | 2 | 3.255 | 0.064 | 0.977 | 0.922 | 0.994 | 0.967 | 0.994 | 0.038 | 0.981 | 0.931 | 0.760 | 0.812 |
| Inter. Influence | 16.51 | 4 | 4.128 | 0.005 | 0.954 | 0.975 | 0.995 | 0.951 | 0.996 | 0.044 | 0.951 | 0.889 | 0.786 | 0.899 |
| Criteria | Low | N/A | < 5.0 | <0.05 | > 0.95 | > 0.90 | > 0.95 | > 0.95 | > 0.95 | <0.05 | > 0.95 | > 0.75 | > 0.75 | > 0.75 |

Note. χ^2 =Chi Square; χ^2/df =Relative Chi Square; df =degree of freedom; CFI=Comparative Fit Index; NFI=Normed Fixed Index; IFI=Incremental Fixed Index; TLI=Tucker-Lewis Index; GFI=Goodness of Fit Index; RNI= Relative Noncentrality Index; RMSEA= Root Mean Square Error of Approximation; PNFI=Parsimony-adjusted Normed Fit Index; PCFI=Parsimony-adjusted Fit Index; PGFI=Parsimony-adjusted Goodness of Fit

Table no. 5: Direct effect (Predictors on dependent variable)

| Direct Relationship | Effect (β) | SE | T | P | LLCI | ULCI | Decision |
|---------------------------------------|--------------------|--------|--------|--------|--------|--------|----------|
| H ₁ : SJ† → Job Creation | 0.2375 | 0.0580 | 4.0984 | 0.0001 | 0.1235 | 0.3516 | Accepted |
| H ₂ : PJ† → Job Creation | 0.1775 | 0.0447 | 3.9727 | 0.0001 | 0.0896 | 0.2655 | Accepted |
| H ₃ : JDD† → Job Creation | 0.1764 | 0.0433 | 4.0738 | 0.0001 | 0.0912 | 0.2617 | Accepted |
| H ₄ : JRW† → Job Creation | 0.3496 | 0.0370 | 9.4600 | 0.0000 | 0.2768 | 0.4223 | Accepted |
| H ₅ : JHI† → Job Creation | 0.2249 | 0.0439 | 5.1267 | 0.0000 | 0.1386 | 0.3112 | Accepted |
| H ₆ : JEMI† → Job Creation | 0.2186 | 0.0423 | 5.1641 | 0.0000 | 0.1353 | 0.3019 | Accepted |

Note: † = Predictor; DV = Job creation; EMI = Event management industry; HI = Hotel industry; R/W = Retailer/wholesaler; D/D = Distributor/dealer; PJ = Jobs at Plant; SJ = Sales Jobs

Bootstrapping method for Indirect effect (Mediation). Table no. 6 shows the multiple mediating effects of skilled-based training (SBT), organizational learning (OL), motivation and interpersonal influence on the relationship of SJ with job creation by using bootstrapping method. Since, zero does not place between BootLLCI and BootULCI and all (β s) do lies between BootLLCI and BootULCI, therefore, it is concluded that all four mediating variables have significant effects on SJ. Thus, finally concluded that Hypotheses H_{7A} , H_{8A} , H_{9A} & H_{10A} are accepted. Table no. 6 further shows the only two mediating variables SBT, and OL have a significant effect on the relationship of PJ with job creation by using bootstrapping method. Since zero does not occur between BootLLCI and BootULCI also (β s) for these variables do lies between BootLLCI and BootULCI, therefore, it is substantiated that these mediating variables have significant effect on PJ. Hence, it is concluded that Hypotheses H_{7B} , & H_{8B} are accepted. It is further observed from Table 6, H_{9C} has accepted because zero does not locate between BootLLCI and BootULCI and corresponding β also within the range of BootLLCI and BootULCI. Finally H_{7E} and H_{8F} are also accepted and both mediating variables have a significant effect because zero does not place between BootLLCI and BootULCI and β s for both mediating variables are within the range of BootLLCI and BootULCI.

Therefore, it is finally concluded that SBT has a significant effect in relationship between HI and Job creation; moreover, OL has a significant effect in a relationship of EMI and Job creation. The other results exhibited that there are no mediating effects of OL on the relationship of Job Creation with exogenous variables (JDD, JWR & JHI) and SBT on JDD, JWR & JEMI, and motivation on PJ, JRW, JHI & JEMI, and interpersonal influence does not have any effect on either of exogenous variables except SJ. Thus, the Hypotheses H_{7C} , H_{7D} , H_{7F} , H_{8C} , H_{8D} , H_{8E} , H_{9B} , H_{9D} , H_{9E} , H_{9F} , H_{10B} , H_{10C} , H_{10D} , H_{10E} , and H_{10F} have rejected.

Normal theory method for specific indirect effects (Mediation). The results derived from Normal theory method (Sobel, 1982) are same, as the researchers have already obtained through bootstrapping method. Since $p < 0.05$ in all the cases ($p = 0.0172$, $p = 0.0264$, $p = 0.0147$ & $p = 0.0243$). Moreover, indirect effect is significant with $\beta = 0.2585$, $\beta = 0.1558$, $\beta = 0.2421$ & $\beta = 0.1503$. It is further validated through Z-values because all the Z-values > 1.96 ($z = 2.9844$, $z = 2.6032$, $z = 2.5034$ & $z = 2.1076$). Therefore, it is concluded that Hypotheses H_{7A} , H_{8A} , H_{9A} & H_{10A} are accepted. Table 6 further shows that only two mediating variables SBT, and OL have a significant effect on the relationship of plant jobs with job creation through Normal theory method. Since $p < 0.05$ in these two cases ($p = 0.0314$ & $p = 0.0190$). It is further substantiated through β s values ($\beta = 0.3880$ & $\beta = 0.2300$) that these two mediating variables have a significant effect only on Plant Jobs. It is further validated through Z-value because the Z-values > 1.96 ($z = 2.0395$ & $z = 2.2293$). Thus, finally it is concluded that Hypotheses H_{7B} , & H_{8B} are accepted. It is further determined from Table 6, H_{9C} has accepted because $p < 0.05$ ($p = 0.0364$) and Z-value > 1.96 ($z = 2.0673$) and further validated through $\beta = 0.1502$, which has a significant indirect effect on the relationship of variables. H_{7E} and H_{8F} are also accepted and both mediating variables have significant effect because $p < 0.05$ ($p = 0.0352$ & $p = 0.0363$). Hence, it is finally concluded that SBT has a significant effect ($\beta = 0.2685$) in relationship between HI & Job creation and OL has a significant effect ($\beta = 0.2471$) in a relationship of EMI and Job creation. Further results exhibited that OL does not have any mediating effect on the relationship of job creation with exogenous variables (JDD, JWR & JHI) and SBT on JDD, JWR & JEMI, and motivation on PJ, JRW, JHI & JEMI, and interpersonal influence does not have any effect

on either of exogenous variables except SJ. Therefore, the Hypotheses H_{7C}, H_{7D}, H_{7F}, H_{8C}, H_{8D}, H_{8E}, H_{9B}, H_{9D}, H_{9E}, H_{9F}, H_{10B}, H_{10C}, H_{10D}, H_{10E}, and H_{10F} have rejected.

Table no 6: Bootstrapping Method and Normal theory Method (Sobel Test) for specific indirect effects (Mediation)

| Mediation | | | | Bootstrapping Method | | | | Normal Theory Method | | | | Decision |
|--------------------|------|---|-----------|----------------------|---------|-----------|-----------|----------------------|--------|--------|--------|----------|
| | | | | Effect (β) | Boot SE | Boot LLCI | Boot ULCI | Effect (β) | SE | Z | Prob. | |
| H _{7A} : | SJ | → | SBT | 0.2585 | 0.0313 | 0.0513 | 0.3236 | 0.2585 | 0.0293 | 2.9844 | 0.0172 | Accept |
| H _{8A} : | SJ | → | OL | 0.1558 | 0.0327 | 0.0521 | 0.1825 | 0.1558 | 0.0262 | 2.6032 | 0.0264 | Accept |
| H _{9A} : | SJ | → | Motiv. | 0.2421 | 0.0239 | 0.1241 | 0.3143 | 0.2421 | 0.0421 | 2.5034 | 0.0147 | Accept |
| H _{10A} : | SJ | → | Int. Inf. | 0.1503 | 0.0232 | 0.0182 | 0.2037 | 0.1503 | 0.0292 | 2.1076 | 0.0243 | Accept |
| H _{7B} : | PJ | → | SBT | 0.3880 | 0.0212 | 0.0097 | 0.3934 | 0.3880 | 0.0190 | 2.0395 | 0.0314 | Accept |
| H _{8B} : | PJ | → | OL | 0.2300 | 0.0180 | 0.0099 | 0.2619 | 0.2300 | 0.0197 | 2.2293 | 0.0190 | Accept |
| H _{9B} : | PJ | → | Motiv. | 0.0002 | 0.0040 | 0.0061 | 0.0113 | 0.0002 | 0.0045 | 0.0548 | 0.9563 | Reject |
| H _{10B} : | PJ | → | Int. Inf. | 0.0000 | 0.0028 | 0.0069 | 0.0057 | 0.0000 | 0.0029 | 0.0087 | 0.9930 | Reject |
| H _{7C} : | JDD | → | SBT | 0.0091 | 0.0125 | 0.0095 | 0.0419 | 0.0091 | 0.0108 | 0.8391 | 0.4014 | Reject |
| H _{8C} : | JDD | → | OL | 0.0037 | 0.0054 | 0.0042 | 0.0183 | 0.0037 | 0.0060 | 0.6133 | 0.5364 | Reject |
| H _{9C} : | JDD | → | Motiv. | 0.1502 | 0.0032 | 0.0104 | 0.2043 | 0.1502 | 0.0030 | 2.0673 | 0.0364 | Accept |
| H _{10C} : | JDD | → | Int. Inf. | 0.0009 | 0.0043 | 0.0149 | 0.0053 | 0.0009 | 0.0039 | 0.2232 | 0.8234 | Reject |
| H _{7D} : | JRW | → | SBT | 0.0042 | 0.0078 | 0.0056 | 0.0280 | 0.0042 | 0.0062 | 0.6730 | 0.5010 | Reject |
| H _{8D} : | JRW | → | OL | 0.0009 | 0.0033 | 0.0046 | 0.0096 | 0.0009 | 0.0039 | 0.2413 | 0.8093 | Reject |
| H _{9D} : | JRW | → | Motiv. | 0.0001 | 0.0027 | 0.0042 | 0.0076 | 0.0001 | 0.0026 | 0.0537 | 0.9572 | Reject |
| H _{10D} : | JRW | → | Int. Inf. | 0.0012 | 0.0032 | 0.0142 | 0.0020 | 0.0012 | 0.0032 | 0.3723 | 0.7097 | Reject |
| H _{7E} : | JHI | → | SBT | 0.2685 | 0.0134 | 0.0154 | 0.2882 | 0.2685 | 0.0128 | 2.5313 | 0.0352 | Accept |
| H _{8E} : | JHI | → | OL | 0.0030 | 0.0041 | 0.0019 | 0.0159 | 0.0030 | 0.0045 | 0.6585 | 0.5102 | Reject |
| H _{9E} : | JHI | → | Motiv. | 0.0020 | 0.0041 | 0.0163 | 0.0026 | 0.0020 | 0.0041 | 0.4993 | 0.6176 | Reject |
| H _{10E} : | JHI | → | Int. Inf. | 0.0018 | 0.0043 | 0.0027 | 0.0177 | 0.0018 | 0.0041 | 0.4375 | 0.6617 | Reject |
| H _{7F} : | JEMI | → | SBT | 0.0091 | 0.0081 | 0.0294 | 0.0036 | 0.0091 | 0.0084 | 1.0841 | 0.2783 | Reject |
| H _{8F} : | JEMI | → | OL | 0.2471 | 0.0052 | 0.0220 | 0.2501 | 0.2471 | 0.0055 | 2.8664 | 0.0363 | Accept |
| H _{9F} : | JEMI | → | Motiv. | 0.0009 | 0.0031 | 0.0123 | 0.0023 | 0.0009 | 0.0034 | 0.2644 | 0.7914 | Reject |
| H _{10F} : | JEMI | → | Int. Inf. | 0.0005 | 0.0030 | 0.0105 | 0.0032 | 0.0005 | 0.0030 | 0.1772 | 0.8593 | Reject |

Note: Level of confidence for all confidence intervals in output: 95.00

3. Discussions

A review of the literature on the relationship between exogenous variables on the one hand, and endogenous variable on the other hand, skilled-based training, organizational learning, motivation and interpersonal influence seem to support the idea that these factors may mediate the relationship between exogenous variables and job creation opportunities. The results of the study are consistent with previous researches, which were conducted to establish the mediation relationship of these variables (Hakkak et al., 2016; Chen and Huang, 2009). Multiple mediation analysis indicated skilled-based training, and organizational learning have a significant mediating relationship of plant jobs with job

creation. The results are consistent with the previous researches and support the previous literature (Nezam et al., 2016; Gomez et al., 2005; McGill and Slocum, 1993). Results of mediating relationship of all four variables, which is concluded in our research, are also consistent with empirical studies on previous literature (Chen and Huang 2009). The result of undertaken study shows that training is a key tool in enhancing the organizational capability of the firms (Ogbonnaya and Valizade, 2016). Organizational learning has a positive impact in a relationship of Event management industry and Job creation. Motivation has a significant mediating effect in relationship between Jobs at distributors/dealers and Job Creation. These results are also consistent with previous literature (Cotti et al., 2016; Aragón et al., 2014; Camps and Luna-Aroca, 2012). In brief, there is substantial literature examining the relationship between various conceptualizations of motivation as mediator in performance (Peterson and Meissel, 2015). The result of fourth mediating variable, interpersonal influence is also in lined with previous researches (Aktan and Chao, 2016; Ogbonnaya and Valizade, 2016).

Conclusion

The results and above discussion concluded that pharmaceutical industry is playing a vital role in job creation for Pakistani economy. Pharmaceutical industry has a direct and significant impact on job creation by providing indigenous job opportunities in sales, marketing, and other supporting departments for both skilled and unskilled workers. Pharmaceutical Industry is also providing job opportunities indirectly through other industries, such as: pharmaceutical distributors, dealers, retailers, wholesalers, Hotel industry, and Event management industry. It is further concluded that pharmaceutical industry is acting like knowledge and skills imparting institutions. Therefore, mediating variables, skilled-based training, organizational learning, motivation and interpersonal influence also mediate their role in further job creation. Since skilled-based training and organizational learning are major mediating variables that transform unskilled people into human assets, which further triggers the current and future job opportunities. Since, pharmaceutical industry providing ample opportunities in job creation and it is one of the biggest employment providing industries of Pakistan. Therefore, other two mediating variables, motivation and interpersonal influence also have a significant impact on human behavior, which further stimulate and have a vital role in new job creation within and outside the industry in a long-term. Existing and potential employees get influences from these factors and industry further grows and more job opportunities multiply.

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