

A Study about Factors Influencing the University Performance

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Abstract

The purpose of this study is to find out the empirical relationship and influence of Research Environment, Integration of the university with Industry, High-tech Employment and Professional & Managerial Development on the University Performance. A Questionnaire has been used to collect the data. Correlation and Regression analysis were used to determine the relationship and influence of identified dimensions over the University Performance. The findings of the study show that the identified dimensions significantly relate and influence the University Performance. This study would be helpful for the university administration while making policies to upgrade its performance. Less work has been done in Pakistan for the development of universities. This study distinctively identifies and represents the variables and their influence over the university performance. The findings increase the value of the study as it would help the decision makers at the universities to think 'out of the box'.

Keywords: University performance; research environment; industry integration

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1.0 INTRODUCTION

Brick and mortar does not make a home, the class rooms and white board does not make a university. It has associated some strong meanings in social, cultural, national and global concerns. Role of the universities have been changing with the time, for example, in ancient Greece, universities offered solutions to the intellectual curiosity of the rich and their children, in Alexandrian times, it was a source to increase the esteem of the state, in Roman and Byzantine time it built capabilities to produce high level of administrators, in Renaissance it was a place of producing knowledge that can help to understand the ultimate goal of human being, and the process went on (Rector, University of Aegean) further explained that it was actually the reaction to the need of improving the competitiveness of the country. In the dynamic world due to technological and economical war, the role of the universities has been revolutionized from just a source of knowledge to academic entrepreneur institutions²⁷, become a research institution and accomplishing teaching excellence as well. With the changing role of the universities, as there is always resistance to the change, there evolved many factors like globalization^{16,28,38}. Katsikas²⁴ considered a real university as axis of civilization, knowledge and research. Western universities managed to adapt the latest challenges. Pakistani universities also tried a lot and somehow managed to cope up with the modern demands. Political and economic instability

were solid reasons for the universities of Pakistan not to grow properly. Resources and environment for conducting the research has been in scarcity, due to which universities of Pakistan not to grow properly. Resources and environment for conducting the research has been in scarcity, due to which universities of Pakistan could not achieve its position which otherwise could have been possible. This is high time for universities of Pakistan to cope up with the need of the hour before it gets too late. If Stanford University and University of California can play their vital role for developing Silicon Valley, why can't universities of Pakistan erect such master pieces? Keeping in view the scenario, this study has been conducted to expose the factors that have notably influenced the performance of universities in Pakistan.

2.0 LITERATURE REVIEW

University has always being offering a value able solution to the society, industry, national ideology and economic concerns but with the changing role of university, from knowledge producers to knowledge capitalizes, has improved the economic performance of the countries²¹. Slaughter & Rhoades³² explained political, social and economic forces that triggered the idea of academic capitalism. Thus the idea of academic capitalism affected the University for its Performance. High speed technology, entrepreneurial demands and patterns of

changing market²¹. Sustainable economic growth²⁷ caused universities to produce such outcomes which could achieve sustainable competitive advantage in long run. Supply of skilled and qualified human resources to industry, empirical knowledge based on basic and applied research²¹, problem solving platforms for business needs, strengthen the need of Strategic planning keeping in view the human resources.

Analyzing a common problem that showed there is a gap between theory taught in the institutions and practices carried on in the market, so bridging the gap between knowledge consumer and producers³⁸ instigated universities to go accordingly. Globalization started affecting the universities in terms of knowledge explosion^{38,9,16,28}. Social development^{1,14,9} is one of the major reasons for universities to play its role for the development of the societies to produce skilled and knowledgeable citizens. Innovation triggered universities to carry on with activities that fulfill the creative standards¹⁴. University-industry relationships^{4,9,39,5,30} have reshaped the role of university in modern era.

The Possession of IT experts and application of their skills enhances the performance of any industry²¹. The quantity of IT experts in a non-technological environment represents its strength. One sign to rate the innovation is the intellectual property. The intellectual property like patents, publications etc. contributes in economic development²¹. Country with high contribution in R&D demonstrates high knowledge performance^{19,11,4,20}. Applied Research and development engenders innovations, enhances the knowledge foundation of industry, and is a key economic strengthening driver. Basic Research and development not only provides a base to applied research but also facilitates private sector to carry on with further researches. The university performance is dependent on the Entrepreneurial Activities that are executed in the university to better integration with industry. Novel ideas, innovative activities and new business models depict the university performance^{19,11,4,20}.

In knowledge based economy, workforce education and training is significant and necessary to boost the intensity of invention of creative products and services. Selecting and hiring the workers, High-Tech Employment, stimulate the innovation in the industry. High-technology jobs, then, are considered as lavish source of income for high-tech and skilled workers^{19,11,4,20}. Universities play a vital role in innovation development as identified by²² that the university's capacity helps in determining the innovation capacity of the country.

With its reshaped role, the university performance reflects the nation's capacity to deliver knowledge to world market²², knowledge capitalism¹⁴ and generating and disseminating the knowledge³¹. The other reflections of the university performance include patents and publications^{19,11,4}. Publications are considered as scholarly image of university value³³. The university performance also reflects social cohesion⁹, social sciences²⁶, national economic prosperity¹⁴ national development^{31,41} global competitiveness³¹ supporting and legitimating government actions³¹.

Research findings considered as University's research represents the university performance, institutional and educational intensification²⁵. Research findings, either in the form of basic research or patent, have noteworthy impact on social and economic life of people²⁶. Universities carry on to play an outstanding function in knowledge production, particularly in the pure or basic research fields,^{3,8,17,26}. Objectives of universities and its stakeholders drive them to attain excellence in research areas²⁵. Research in humanities and social sciences has promoted social and economic concerns²⁶. Hill¹⁸ explained that university research provides new testing

instruments and legal services to the changing needs of the markets. Universities produce such human capital that caters the needs of the labor markets⁴⁰, the importance of entrepreneurial activities for economic and social growth is well known across the world^{7,23}. Universities have the ability to produce "better entrepreneurs", who in return boost up the social and economic growth².

This study has been conducted to determine the empirical relationship of the factors that influence the university performance. Integration with industry^{3,8,17,25,18,12,40}, helps the universities to produce such knowledge that enhances and boosts up the university performance. Research Environment in the universities^{10,29,42,15,34,35,36,40}, creates such a conducive place where students and faculty have the feelings to generate and disseminate the knowledge. High-Tech Employment have strong influence on the university performance. Professional and Managerial development is a strong factor to increase the university performance. Professionals, managers, and technicians, as an outcome of the university, play a vital role in the economy and with the level of their expertise and automation, they purge the routine jobs,^{19,11,4,20}.

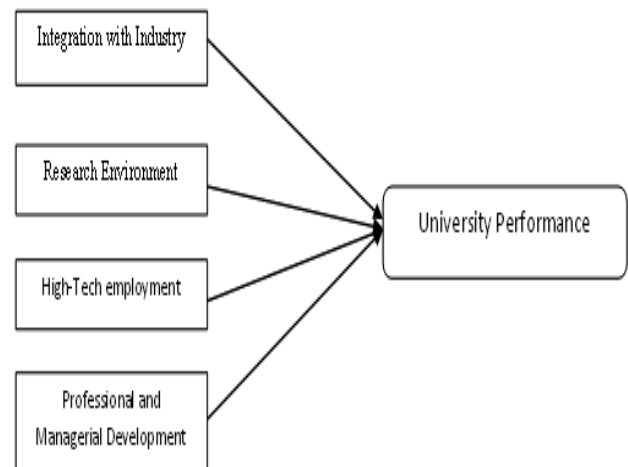


Figure 1 Conceptual model to determine the influence of factors on the University Performance

2.1 Hypotheses Development:

Following hypotheses are developed to determine the relationship and influence of independent variable (Research Environment, Integration with Industry, High-tech Employment and Professional & Managerial development) over the dependent variable (University Performance).

- H1:* Integration with industry would have significant relationship with university performance.
- H2:* The research environment in universities has strong relationship with university performance.
- H3:* There is relationship between professional & managerial development and university performance.
- H4:* High-tech employment significantly influences the university performance.

3.0 RESEARCH METHODOLOGY

3.1 Analysis Methods

The data has been analyzed by using SPSS 16 by applying techniques like Cronbach's alpha, test of collinearity, correlation and regression.

3.2 Research Instrument

To collect the data a questionnaire was used as research instrument. The instrument was adapted from (Iqbal *et al.*, 2011a). It consisted 22 items on 5 point Likert scale. The technique of Cronbach's alpha was applied to measure the internal reliability of the instrument. The value of Cronbach's alpha was 0.925 which is far greater than the standard value (0.7).

3.3 Sample Size and Data Collection

The Data has been collected from faculty members and students of The Islamia University of Bahawalpur and Bahauddin Zakariya University Multan. Accordingly to (Hair *et al.*, 2006), the sample size relies on number of items developed for some specific attributes. It was suggested that every item should be represented by using 5 samples. According to this criterion, the sample size is 130. Out of which 128 respondents returned the questionnaire

4.0 RESULTS AND DISCUSSION

4.1 Correlation Analysis

Pearson Correlation was applied to find out the relationship between independent variable (Research Environment, Integration with Industry, High-tech Employment and Professional & Managerial development) and the dependent variable (University Performance).

Table:1 Correlations

variables	Integ. With Ind	Research environ	High-tech Empl.	Proff.& Manag. Dev.	Uni.Perf.
Integ.with Ind.	1				
Research environment	0.524**	1			
Hi-tech Employment	0.560**	0.742**	1		
Proff.&Manag.Dev.	0.747**	0.343**	0.415**	1	
University Perf.	0.833**	0.712**	0.731**	0.832**	1

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

All the independent variables have positive and strong correlation values with university Performance and significant at p value of 0.01. Integration with industry and Professional & Managerial Development were strongly correlated to University Performance with Pearson correlation values 0.833 and 0.832 respectively, and significant at p value of 0.01. Research Environment and High-tech Employment were also found significantly correlated to University Performance with Pearson correlation values 0.712 and 0.731 respectively at p value of 0.01. Keeping in view the Pearson correlation values, it is stated that all the independent variables are significantly correlated with University Performance at p value of 0.01

4.2 Test of Collinearity

The presence of multicollinearity of the independent variables in the research model was checked by applying the test of collinearity.

Table: 2 Test of collinearity

Variables	Tolerance	VIF
Integration with Industry	0.677	1.477
Research environment	0.434	2.302
High-tech Employment	0.380	2.630
Proff.&Manag.Dev.	0.824	1.214

Collinearity is judged by the Tolerance (TOL) and Variation-Inflation Factor (VIF). Collinearity is found if TOL is less than 0.2 and the VIF greater than 5 (Belsely). For all the variables, the values of TOL and VIF are less than 0.2 and greater than 5 respectively. So the research model shows no multicollinearity and we can interpret the regression results with greater degree of confidence.

4.3 Regression Analysis

The regression analysis was carried on to test the hypotheses. The results for each variable are discussed according to the hypotheses developed.

4.3.1 Hypothesis One

H1: Integration with industry would have significant relationship with university performance.

The value of coefficient beta 0.833 depicts significant relationship between the variables. The value of R-square 0.693 shows that 69.3% variation in the dependant variable, University Performance, is explained by independent variable i.e. Integration with industry. The model's goodness of fit is shown by F-value that is 284.59 at P-value 0.000. Therefore H1 is accepted and we conclude that integration with industry would have significant relationship with university performance.

Variable	R-Square	t-value	Coefficient	F-Value	P-value
Integration with industry	0.693	16.87	0.833	284.59	0.000

4.3.2 Hypothesis Two

H2: The research environment in universities has strong relationship with university performance.

The value of coefficient beta 0.712 depicts significant relationship between the variables. The value of R-square 0.507 shows that 50.7% variation in the dependent variable, University Performance, is explained by independent variable i.e. research environment. The model's goodness of fit is shown by F-value that is 129.503 at P-value 0.000. Therefore H2 is accepted and we conclude that research environment in universities has strong relationship with university performance.

Variable	R-Square	t-value	Coefficient	F-Value	P-value
Research Environment	0.507	11.380	0.712	129.503	0.000

4.3.3 Hypothesis Three

H3: There is relationship between professional & managerial development and university performance.

The value of coefficient beta 0.731 depicts significant relationship between the variables. The value of R-square 0.535 shows that 53.3% variation in the dependent variable, University Performance, is explained by independent variable i.e. professional & managerial development. The model's goodness of fit is shown by F-value that is 144.947 at P-value 0.000. Therefore H3 is accepted and we conclude that there is relationship between professional & managerial development and university performance.

Variable	R-Square	t-value	Coefficient	F-Value	P-value
High-tech Employment	0.535	12.039	0.731	144.947	0.000

4.3.4 Hypothesis Four

H4: High-tech employment significantly influences the university performance.

The value of coefficient beta 0.832 depicts significant relationship between the variables. The value of R-square 0.692 shows that 69.2% variation in the dependent variable, University Performance, is explained by independent variable i.e. High-tech employment. The model's goodness of fit is shown by F-value that is 282.571 at P-value 0.000. Therefore H4 is accepted and we conclude that High-tech employment significantly influences the university performance.

Variable	R-Square	t-value	Coefficient	F-Value	P-value
Professional & Managerial Development	0.692	16.810	0.832	282.571	0.000

5.0 CONCLUSION

This study has determined the influence of factors on university performance (The Islamia University of Bahawalpur and Bahauddin Zakariya University Multan) in Pakistani context. Factors have been identified and their influence is determined empirically. The study would help university management to establish policies for boosting up the performance. The study found that integration of the university with industry is strongly significant and has confirmed the results of^{18,12,40,37,8}. Secondly, the research environment also found to have strong relationship with university performance. The environment would enhance the capacity of the students and faculty members to play their role in very positive manner. Significant results for research environment confirmed the results of^{10,29,42,34,35,36}. Finally, High-tech Employment and Professional & Managerial Development were also found to have significant relationship with University Performance. Strategically, these Human Resource management factors influence any institution but this study has determined their influence in an empirical manner and that has confirmed the results of^{21,19,11,4,20,25}.

The findings of the study would help university administration to tailor their policies and strategies to maximize the university performance.

6.0 LIMITATIONS

The knowledge of the respondents about the study or general factors creates hurdles regarding data collection. Time constraints were also a limitation for the study.

7.0 ROUTE FOR FUTURE RESEARCH

The study has determined only four dimensions that influence the university performance. Due to the importance of the universities in the progress of knowledge production, knowledge dissemination, economic and social development, a comprehensive study can be conducted to identify more dimensions.

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