



A Model for Factors Involved in Human Resource Productivity in the Affiliated Offices of a Government Organization

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Abstract

The purpose of this study was to identify and explain the factors related to human resource productivity in the affiliated offices of one of the government organizations in South Khorasan province. The present study is applied in terms of purpose which employs mixed design. The statistical population in the qualitative part of the study is consisted of 30 scientific and executive experts who had valuable experiences and information in the field of human resource management and productivity, while the statistical population in the quantitative part is all the employees of the affiliated branches of a government agency in South Khorasan province. Findings from the qualitative part of the research indicated that several factors are involved in human resource productivity, namely organizational culture, motivational factors, leadership style, training and empowerment of human resources, compensation of staff services, quality of human resources, information technology, organizational structure and work environment. The validity of the research was confirmed by experts in the field of human resource management as well as factor analysis. Cronbach's alpha coefficient was used to measure the reliability of the questionnaires and the internal consistency of all dimensions was confirmed. The results of the quantitative part of the research also revealed that the effect of Compensation of Staff Services ($p = 0.059$, $\beta = 0.077$) and Organizational Structure ($p = 0.052$, $\beta = 0.079$) on Human Resource Productivity is significant at the level of 1%. While, the impact of variables of Organizational Culture ($p = 0.001$, $\beta = 0.340$), Motivational Factors ($p = 0.035$, $\beta = 0.086$), Leadership Style ($p = 0.001$, $\beta = 0.391$), Staff Training and Empowerment ($p = 0.001$, $\beta = 0.281$), Quality of Human Resources ($p = 0.001$, $\beta = 0.201$), Information Technology ($p = 0.001$, $\beta = 0.224$) and Work Environment ($p = 0.001$, $\beta = 0.273$) is significant on Human Resource Productivity at the level of 5%. The positive path coefficients show indicate that these structures have positive (direct) effect on human resource productivity.

Keywords: Employee Performance, Human Resource Productivity, Human Resources, Productivity.

Introduction

Employing available resources to obtain the required output is an issue that has been always sought-after in human life since its creation (Sobhan-Allahi, 2015). In overall, productivity is now considered a kind of economic, technical and cultural perception of production, through which humans perform intelligently and wisely with the purpose of achieving the optimal results at the lowest cost and in the shortest time possible. Although productivity has been classically more debated in economic topic, its concept is of interest in many academic fields – ranging from micro issues to macro ones (Alvani & Ahmadi, 2001).

The main asset of any organization is its human resources. In more traditional and mechanical organizations, human resources are given more importance in terms of physical strength, but in modern and organic organizations, employees are prioritized based on their intellectual ability. In organizations of the past, employees can disturb the performance of the organization with their physical absence, but in modern organizations, it is the lack of intellectual ability and creativity and innovative decisions that hit the organization hardest (Khaki, 2013).

One of the most important purposes of seeking productivity is to increase the desirability of life, and achieve better welfare, peace and comfort in human beings. Today, in the economies of all countries, either developed or underdeveloped, achieving optimal productivity has become of paramount importance, since the optimal use of scarce resources can help countries produce high quality goods and gain more competitive power, in turn leading to the welfare and

comfort of the people of the society. To this end, a plethora of countries have taken huge and extensive monetary strides to promote and develop productivity at all levels of society, through which they have achieved high levels of growth and development. (Ahmadzadeh & Bohloli, 2020).

Identifying the factors influencing the productivity of human resources is garnering ever-increasing value among organization. Designing a model for factors that affects the productivity of human resources is of utmost significance (Aghaie, 2015). In this regard, the author seeks to identify and explain the factors related to human resource productivity in the affiliated departments of a particular government organization in South Khorasan Province.

Theoretical foundations and research Background

The term productivity has been interchangeably used with efficiency, efficacy, capability, skill and usefulness, and its main purpose is to achieve maximum efficiency by considering all the factors in production or service activities. Productivity is defined as the power and capacity for the production required. In the Oxford Dictionary, productivity means efficiency that is measured in industry by production and the time spent or resources consumed therein. In overall, the definitions offered for productivity are close to each other as the most important factor common in all definitions is determining the ratio of what is used for production to what is

achieved therefrom (Ahmadzadeh & Bohloli, 2020).



Human resource productivity is defined as the consistent human effort coupled with the optimal use of individual ability and motivation, which is influenced by various factors of empowering, management, facilities and organizational motivators to better perform tasks and responsibilities, with the ultimate purpose of providing the product or service with the desired quality (efficiency), and customer satisfaction (efficacy) (Shojaei, 2016). Human resource productivity is also defined as the maximum graceful use of human resources with the aim of achieving high efficiency and effectiveness within the organization, itself being affected by various individual, organizational and environmental factors that many researchers have sought to explained. In this regard, the studies by (Hersey & Gold Smith, 1980) are more notable, who have rather focused on the ability and motivation of individuals. (Delbari et al., 2020) consider motivation as the most effective and strongest factor in human resource productivity.

(Allah Verdi et al., 2010) identified management style, personal characteristics, organizational culture, organizational structure, physical space and compensation system as the factors effective on human resource productivity.

(Sobhan-Allahi, 2015) has considered the factors of leadership style, meritocracy, staff training and empowerment, type of supervision, performance management, fair compensation of services, and promotion of organizational culture as effective factors on human resource productivity.

(Alvani & Ahmadi, 2001) have identified motivation, leadership style, competitive

spirit, physical and mental condition, applied and general education, history and experience, creativity and innovation and demographic characteristics as the effective contributing to human resource productivity.

(Shojaei, 2016) have identified variables of (a) organizational motivating factors, (b) Empowering factors, (c) facility factors and (d) Management factors as variables influencing human resource productivity.

(Yu et al., 2019) studied leadership and management skills, the result of which indicate that employee empowerment is a major component of organizational productivity activities (Delbari et al., 2020).

(Jajri & Ismail, 2010) reported that there is a positive and significant relationship between the quality of human resources and their productivity. Moreover, showed that the quality of human resources has a positive and significant effect on improving the productivity of Malaysian human resources.

In a study on the effect of motivation on employee productivity, (Tahria, 2017), concluded that motivating employee has a strong impact on their productivity and no organization is able to achieve its primary organizational goals without properly motivating human resources.

(Eskanyua & Mukuru, 2013) revealed that there is a positive correlation between employee motivation and human resource productivity.

(Dadjoo, 2016) reported that motivational factors such as occupational enrichment and reward system have a significant effect on the performance of employees.

(Awadh & Saad, 2013) concluded that a strong organizational culture improves the

level of performance and productivity of the employees in the organization

(Dewi & Wibowo, 2020) argued that leadership style, organizational culture and motivation contribute to employee performance.

The results of (Setiyanto & Natalia, 2017) research implied that physical and non-physical work environment has a positive and statistically significant effect on human resource productivity.

Conceptual model of research

According to aforementioned the theoretical foundations and research background, a

conceptual model of research was developed, based on which research hypotheses were presented. The dimensions of ability, understanding and cognition, organizational support, motivation, feedback, credibility and adaptability are extracted from the human resource productivity model of (Hersey & Gold Smith, 1980), while the dimension of effort was extracted from the human resource productivity model of (Shojaei, 2016). Therefore, the conceptual model of the research is presented as follows (Figure 1).

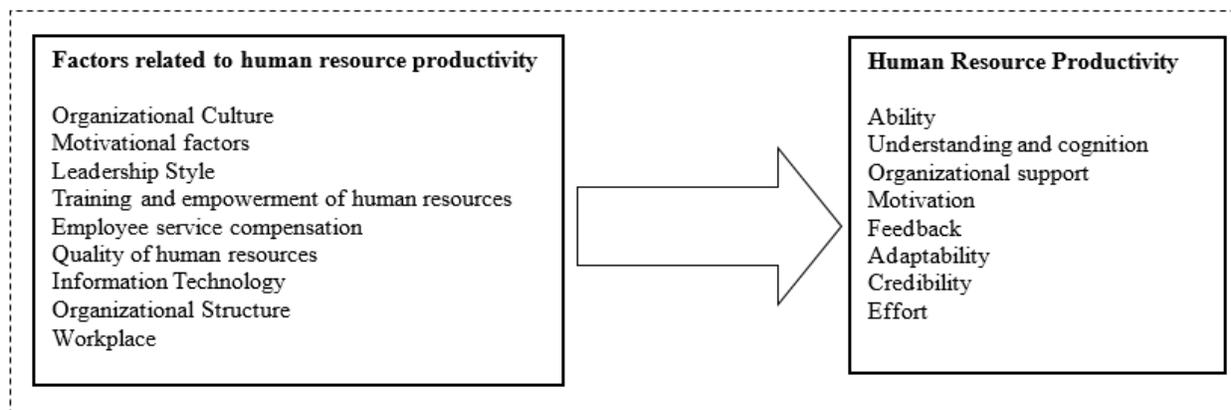


Figure 1. Conceptual model

The main research question: What are the factors related to human resource productivity?

- **Hypothesis 1:** There is a relationship between organizational culture and human resource productivity
- **Hypothesis 2:** There is a relationship between motivational factors and human resource productivity.
- **Hypothesis 3:** There is a relationship between leadership style and human resource productivity.
- **Hypothesis 4:** There is a relationship between staff training and empowerment and human resource productivity.
- **Hypothesis 5:** There is a relationship between employee service compensation and human resource productivity.



- **Hypothesis 6:** There is a relationship between human resource quality and human resource productivity.
- **Hypothesis 7:** There is a relationship between information technology and human resource productivity.
- **Hypothesis 8:** There is a relationship between organizational structure and human resource productivity.
- **Hypothesis 9:** There is a relationship between the work environment and human resource productivity.

Methodology

The present study is applied in terms of purpose and employs a mixed method design. In this design, first qualitative data are collected and analysis, followed by the examination of the quantitative (Delbari et al., 2020). In this research, library methods (reviewing literature and theoretical foundations of research and employing documents such as books, journals, etc.) and interviews with scientific and executive experts (including professors and experts mastering the field of human resources management) were primary used to identify factors related to human resource productivity as well as its dimensions and indicators. Following the identification of factor contributing to human resource productivity, a questionnaire was devised to survey the employees of the study organization, and hence the research variables were examined.

The statistical population in the qualitative sector is consisted of 30 scientific and executive experts who had gain invaluable experiences and information in the fields of

human resource management and productivity, while the statistical population in the quantitative sector consisted of all employees of one of the government agencies in the South Khorasan province in 2019, which was approximately 700 people. Owing to the fact that the structural equation approach and confirmatory factor analysis were used, the sample size was considered to be 5 to 10 times the number of items on the questionnaire and individuals were selected and hence studied using random sampling method. Considering the potential emergences of invalid questionnaires, a total of 520 questionnaires were first distributed, from which 498 complete questionnaires were ultimately used as a basis for statistical analysis.

In order to evaluate the factors associated with human resource productivity in this study, a 61-item questionnaire with a five-point Likert scale was employed, which was prepared based on the findings of the qualitative part of the research and. Moreover, a 31-item questionnaire was used to measure the variable of human resource productivity used. For this questionnaire, the dimensions of ability, understanding and cognition, organizational support, motivation, feedback, credibility and adaptability are extracted from the human resource productivity model of (Hersey & Gold Smith, 1980), while the dimension of effort was extracted from the human resource productivity model of (Shojaei, 2016).

The validity of the research was confirmed using face validity by 30 experts in the field of human resource management and productivity, through which the validity of factor analysis was also confirmed. Cronbach's alpha coefficient was employed to measure the

reliability of the questionnaires. Considering that Cronbach's alpha values of all dimensions of the questionnaires were higher than (0.7), the internal consistency of all the dimensions can be confirmed.

Results

Results of the model proposed for measuring factors associated with human resource productivity

According to the indicators presented in (Table 1), it is safe to argue that model proposed for measuring factors associated

human resource productivity is of good fitness. According to the calculated factor loads, none were less than 0.5, meaning that no items were needed to be excluded from the analysis process.

The results from confirmatory factor analysis (Figure 2) indicate that among the factors related to human resource productivity, the dimensions of leadership style and training and empowerment of employees were respectively the most important in explaining the dependent variable, such that the two aforementioned dimensions each explain 88% of the changes in factors associated with human resource productivity.

Table 1. Indices of fit for the proposed model on factors related to human resources productivity

Index	Acceptable range	Value
Normalized Chi-square (CMIN / DF)	≤ 3	2.680
Goodness of Fit Index (GFI)	≥ 0.9	0.857
Adjusted Goodness of Fit Index (AGFI)	≥ 0.9	0.837
Bentler-Bonett Normed Fit Index (NFI)	≥ 0.9	0.910
Incremental Fit Index (IFI)	≥ 0.9	0.903
Tucker-Lewis Index (TLI)	≥ 0.9	0.905
Comparative Fit Index (CFI)	≥ 0.9	0.903
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.058

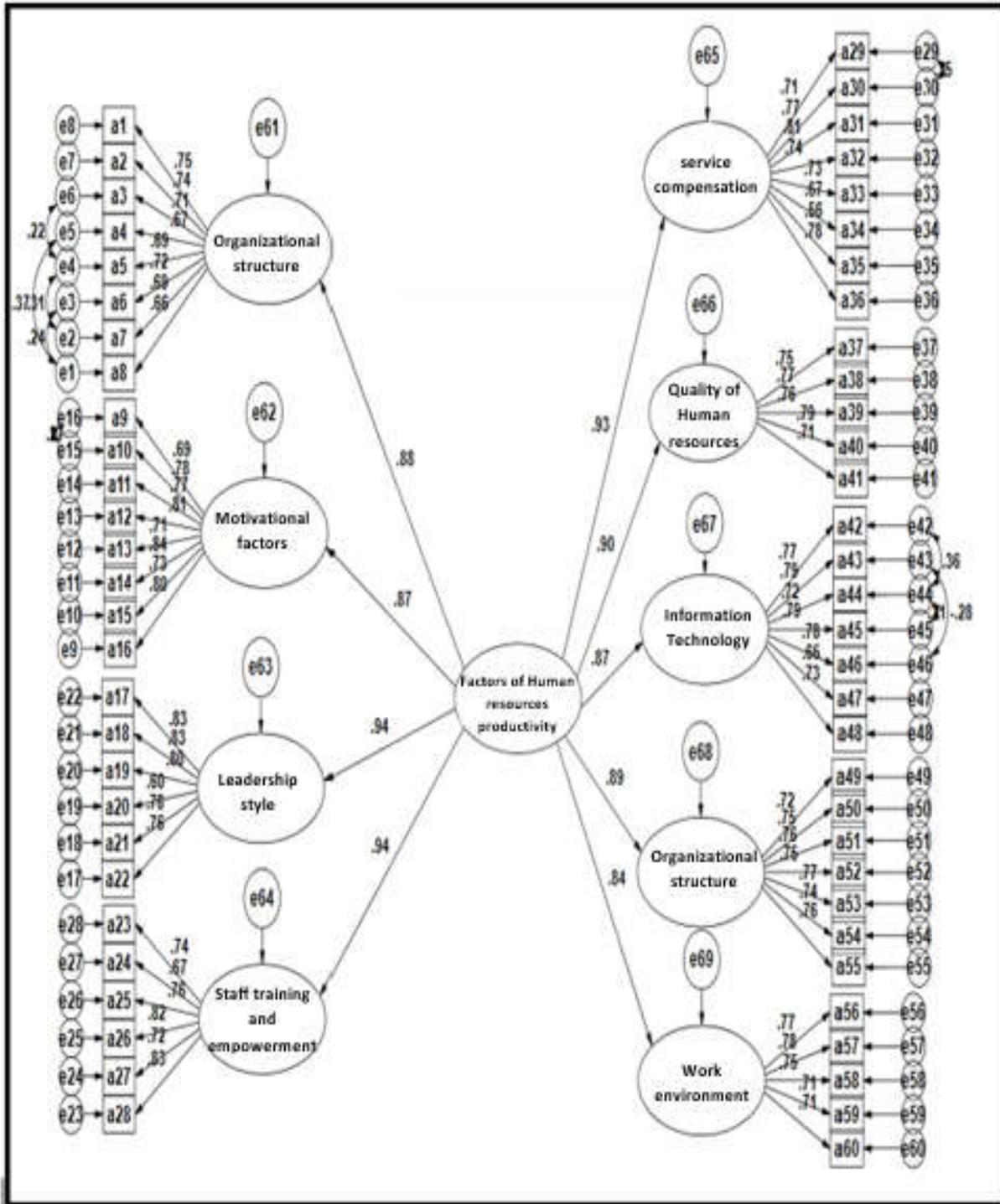


Figure 2. Results of confirmatory factor analysis of factors related to human resource productivity (standardized factor load)

Fitness of the model for human resource productivity

The results of model fitness for the human resource productivity questionnaire are shown in (Figure 3). According to the indicators presented in (Table 2), it can be said that the model for measuring the productivity of human resources has a good fit.

The results of confirmatory factor analysis (Figure 3) indicate that for variable of human

resource productivity, the dimensions of understanding and cognition, and organizational support were respectively the most important in explaining the studied variable, such that the dimension of Understanding and cognition explained 92% of changes in human resource productivity, while the dimension of organizational support explained 88% of changes therein.

Table 2. Indices of fit for the model on human resources productivity

Index	Acceptable range	Value
Normalized Chi-square (CMIN / DF)	≤ 3	3.719
Goodness of Fit Index (GFI)	≥ 0.9	0.920
Adjusted Goodness of Fit Index (AGFI)	≥ 0.9	0.886
Bentler-Bonett Normed Fit Index (NFI)	≥ 0.9	0.907
Incremental Fit Index (IFI)	≥ 0.9	0.903
Tucker-Lewis Index (TLI)	≥ 0.9	0.909
Comparative Fit Index (CFI)	≥ 0.9	0.903
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.074

Results of hypothesis test and fitness of the proposed research model

To test the aforementioned hypotheses, the assumptions of structural equations are first

examined and confirmed. assumptions of structural equations are valid, the hypothesis can be examined and testes, the results of which are shown in (Table 3) and (Table 4), (Figure 3).

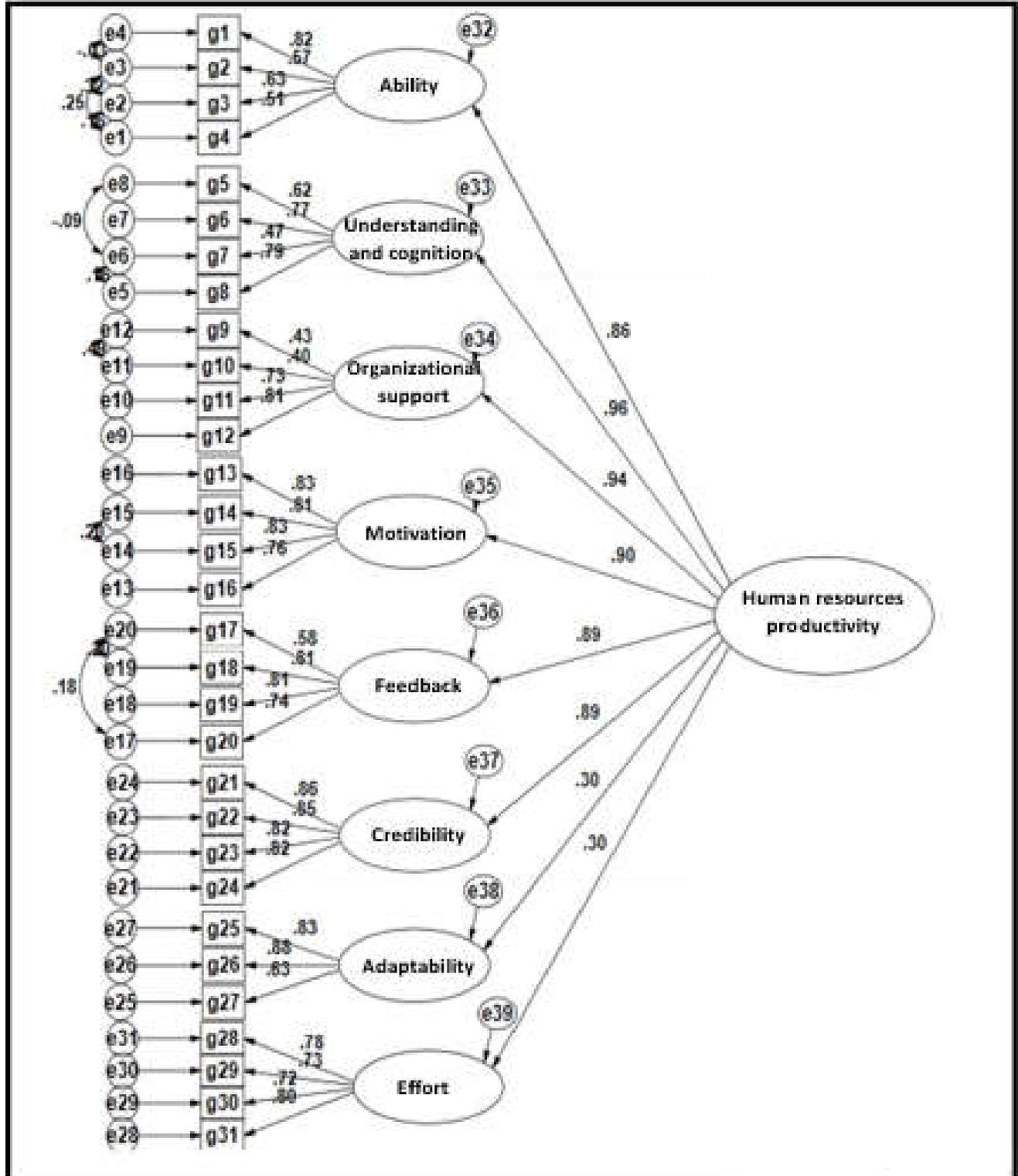


Figure 3. Results of confirmatory factor analysis for human resource productivity (standardized factor load)

The results for testing the research hypotheses reveal that the effect of Employee service compensation ($p = 0.059$, $\beta = 0.07$) and Organizational structure ($p = 0.052$, $\beta = 0.079$) on human resource productivity are significant at the level of 1%. Moreover, the correlation between variables of Organizational culture ($p = 0.001$, $\beta = 0.340$), Motivational factors ($p = 0.035$, $\beta = 0.086$), Leadership style ($p = 0.001$, $\beta = 0.391$), Staff training and empowerment (p

$= 0.001$, $\beta = 0.281$), Quality of human resources ($p = 0.001$, $\beta = 0.201$), Information technology ($p = 0.001$, $\beta = 0.224$) and Work environment ($p = 0.001$, $\beta = 0.273$), and human resource productivity are significant at the level of 5%, and the positive path coefficients show that these structures have an positive (direct) effect on human resource productivity.

Table 3. Indices of fit for the proposed research model

Index	Acceptable range	Value
Normalized Chi-square (CMIN / DF)	≤ 3	4.558
Goodness of Fit Index (GFI)	≥ 0.9	0.835
Adjusted Goodness of Fit Index (AGFI)	≥ 0.9	0.802
Bentler-Bonett Normed Fit Index (NFI)	≥ 0.9	0.907
Incremental Fit Index (IFI)	≥ 0.9	0.901
Tucker-Lewis Index (TLI)	≥ 0.9	0.889
Comparative Fit Index (CFI)	≥ 0.9	0.900
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.085

Table 4. Testing research hypotheses

Hypothesis	Path coefficient	t-statistic	p-value
Organizational culture -> human resources productivity	0.340	6.461	0.001
Motivational factors -> human resources productivity	0.086	2.111	0.035
Leadership style -> human resources productivity	0.391	7.372	0.001
Staff training and empowerment -> human resources productivity	0.281	5.966	0.011
Compensation of services-> human resources productivity	0.077	1.889	0.059
Quality of human resources-> human resources productivity	0.201	4.474	0.001
Information technology-> human resources productivity	0.224	4.953	0.001
Organizational structure-> human resources productivity	0.079	1.939	0.052
Work environment-> human resources productivity	0.273	5.679	0.001

Discussion

The purpose of this research was to identify and explain the factors associated with human resource productivity in the affiliated offices

of one of the government organizations in South Khorasan province.

According to the model indices fit, all indicators are in the desired range, and hence it can be concluded that the proposed model



has the required validity. According to the results of structural equations modeling and standard paths coefficients, which include high and significant factor loads, the model for factors related to human resource productivity in the study organization is a proper representation of the topic.

The findings of the qualitative part of the research indicated that the dimension associated with the productivity of human resources of the studied organization according to scientific and executive experts are organizational culture, motivational factors, leadership style, training and empowerment of human resources, compensation of employees, quality of human resources, Information technology, organizational structure and work environment. The results of factor analysis also implied that the factors selected for the dependent variable (i.e. factors related to human resource productivity) and the corresponding indicators have an acceptable factor load.

The results showed that organizational culture has a direct and significant correlation with the dependent variable, i.e. human resource productivity. This research finding is in line with those of (Allah Verdi et al., 2010), (Sobhan-Allahi, 2015), (Awadh & Saad, 2013) and (Dewi & Wibowo, 2020).

Compared to weak organizational culture, strong organizational culture enhances the morale and motivation of employees and promotes job satisfaction and organizational commitment (Delbari et al., 2020). issues such as rule of law, administrative discipline, meritocracy, occupational conscience, grounds for creativity and innovation in the organization, team spirit and employee accountability are appropriate indicators of productivity culture.

The results showed that motivational factors have a positive and significant correlation with human resource productivity, a finding which is line with those argued by (Alvani & Ahmadi, 2001), (Shojaei, 2016 and (Tahria, 2017). As the most important factor of productivity, human resources will only achieve optimal productivity when there is the necessary motivation to do so. Paying attention to the work environment, individual needs and economic problems of the employees is of paramount importance in motivating people to work. Providing favorable and psychologically peaceful environment for performing optimal work in proportion to the level of skill, interest and training makes employees satisfied with the work, as a result of which many effective factors in productivity are provided (Alvani & Ahmadi, 2001) (Figure 4).

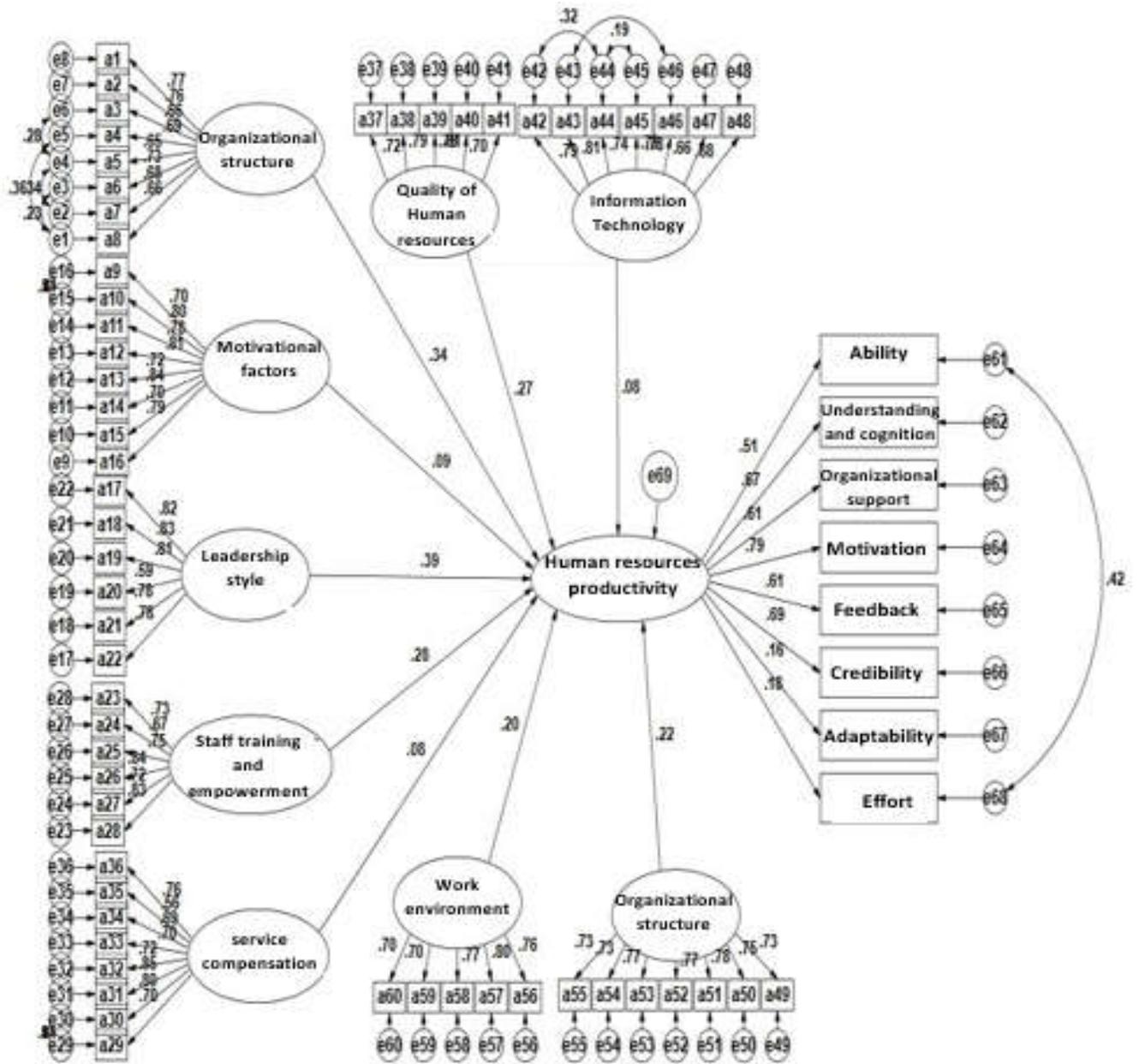


Figure 4. SEM results

The results showed that leadership style has a positive and significant effect on human resource productivity. This research finding is in line with the results of (Sobhan-Allahi, 2015), (Dewi & Wibowo, 2020) and (Alvani & Ahmadi, 2001). The key to the creating and maintaining successful organizations in the current climate is a leadership skill.

Nevertheless, organizations succeeds through leadership only if all the key people in the organization have such skills, in which case they can better communicate with each other and develop trust and job satisfaction within the organization.

The results of the study showed that there is a direct and significant relationship between



staff training and empowerment, and human resource productivity. This research finding is consistent with those of (Sobhan-Allahi, 2015), (Alvani & Ahmadi, 2001), and (Yu et al., 2019). In the development of three domains of knowledge, attitude and finally ability (skill), the learning process is decisively involved role, that is learning directly leads to empowerment (Khaki, 2013). Moreover, the results also revealed that service compensation highly contributes to human resource productivity, a finding which is consistent with that of (Sobhan-Allahi, 2015). Compensation systems (salaries, rewards, welfare benefits, health and wellness) should be planned and deployed in a systematic and effective manner and, hence be in accordance with organizational culture with the purpose of motivating, satisfying and thus maintain human resources (Sobhan-Allahi, 2015).

The results showed that the quality of human resources has a direct and significant effect on the productivity of human resources. This research finding is in line with that of (Jajri & Ismail, 2010). The quality of human resources plays a vital role in the prosperity of any organization, as productive and effective people have the potential to enhance the quality and performance throughout the organization. People with such qualities often direct the organizational culture and make the organization far more influencing compared to its competitors. As such, one of the distinguishing features of developed and underdeveloped societies is basically the quality of human resources (Sobhan-Allahi, 2015).

The results showed that there is a direct and significant relationship between information technology and human resource productivity, a finding which is in line with the results of (Mutuku & Nyaribo, 2015). In this regard, access of employees to new technologies and their familiarity with specialized and occupational software allows them perform their job and organizational tasks with more secure mechanisms, speed, ease and accuracy and thus reach new heights in organizational productivity.

The results showed that organizational structure has a direct and significant effect on human resource productivity. This research finding is consistent with the results of the research of (Allah Verdi et al., 2010). One of the reasons for the low productivity of many organizations and firms is their structural inflexibility. Organizations with a non-dynamic structure are unable to anticipate and respond to changes in the environment, and thus ignore the capabilities and talents of the workforce, as well as the opportunities presented by new technologies and other external and environmental factors. In such organizations, horizontal and vertical communication is weak, bureaucracy prevails and decisions are either adopted or implemented slowly. All structures, even the optimally-designed ones, are invariably useful and efficient in all conditions, so flexibility is embedded in their design to achieve maximum productivity (Khaki, 2013).

The results of the research showed that there is positive and significant correlation between work environment and human resource productivity. This research finding is in line

with those of (Allah Verdi et al., 2010), (Dewi & Wibowo, 2020) and (Setiyanto & Natalia, 2017) concluded that in case a suitable work environment is provided for employees, the morale and sense of belonging to the organization within the employees is enhanced, which will ultimately lead to better productivity.

Given the significance and the pivotal role of identified factors in improving the level of employee performance and thus human resource productivity, policy makers, managers and relevant officials are recommended to strengthen each of the factors through appropriate planning in the short, medium and long term with the purpose of improving employee productivity and, as a consequence, the productivity of the organization.

Conclusion

Furthermore, considering the importance and vital role of productivity in the prosperity of the organization, and in order to develop and promote the culture of productivity at different levels of any organization, providing a productivity training course for all employees seems of paramount value. Authorities involved in relevant should seek to attract and hire people whose beliefs and values are more consistent with the primary beliefs and values of the organization (i.e. organizational culture). Reviewing and redesigning jobs, as well as enriching and empowering the content of the occupational roles within the organization in such way as to encourage employees in seeking ways to achieve organizational goals. The authors recommend managers to adopt necessary measures for

providing the grounds for more employee participation in organizational decision-making, and holding regular and periodic specialized and practical meetings (at least on a seasonal basis) for the employees, so that they would be able to act more efficiently and effectively in solving their own issues. Finally, considering that in the present study, the indirect relationships and effects of each of the factors related to human resource productivity were not examined, the authors suggest this analysis as future research avenue.

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