

## Article

# Exploring the Factors Affecting Sustainable Human Resource Productivity in Railway Lines

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**Abstract:** This study aimed to identify the critical factors and items affecting the productivity of sustainable human resources in a Railway Operation Company based on the perceptions of employees and managers in the Human Resources Department. The study was motivated by research which was applied in terms of the objectives of the study and a descriptive survey was employed as the method. The statistical population of the current study consisted of all employees and managers of the Human Resources Department of the company. Random sampling was employed to collect data and the sample size was 191 people according to Morgan's Table. Methods including the correlation coefficient, multivariate regression, and factor analysis were employed for data analysis. The findings highlight the main factors and items affecting labor productivity in the Urban and Suburban Railway Operation Company as perceived by the Human Resources Department, which were mainly related to human resources management and could be attributed to motivation and requirements for their effective contribution to the improvement of public welfare. Organizational Attitude and Culture, Leadership Style, and Bonus and Ergonomics were extracted as factors affecting productivity or as independent variables. This study is the first study that has aimed to discuss the perceptions of the Human Resources Department active in a company. As such, the study highlights the standpoint of the main decision makers in the Urban and Suburban Railway Operation Company with regard to labour productivity in the urban and suburban sector.

**Keywords:** productivity; human resources; culture; leadership style; bonus and ergonomics; sustainability



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## 1. Introduction

Over the last half century, much attention has been paid to productivity issues [1,2]. Previous research has argued that low productivity in every organization could be attributed to poor human resource productivity [3–5]. Therefore, identifying the pertinent factors affecting human resource productivity is a prerequisite for any attempt to increase productivity in the organization [6,7]. Gurmu [8] pointed out that management policies and the key objective of all directors in every organization is the effective and efficient use of various resources and facilities such as workforce, capital, materials, energy, and information. Thus, productivity and the appropriate use of all production elements (including commodities and services) has become a national priority, and all societies hold the belief that their survival is conditioned upon productivity [8,9]. Since among the production factors human resources, unlike other organizational factors, is recognized as the sentient element coordinating other factors, and it is also the most important force for the increase or decrease in productivity, it maintains a special position and must be paid special attention [10,11].

Additionally, human resources are considered as more important factors in service-offering organizations because humans are the sole players on the scene of work and service [12,13]. In many cases, the failure to implement a system is often not due to technical deficiencies [5], but to human factors such as user resistance, control or power loss, deskilling, and a distrust of the objectives of the IT systems [14,15]. Motivated and skilled employees can use resources efficiently and achieve various levels of productivity, and eventually make the organization productive. In addition, due to the special characteristics of the Tehran Urban and Suburban Railway Operation Company, including severe resource constraints, people's need for public transportation services, and expensive equipment, the importance of productivity and its improvement in the organization has been emphasized. However, the problem with human resource productivity studies is that we do not know how human resources can be made productive or how productivity is increased. They are questions that are answered in different institutions and organizations according to their mission and the needs of different employees. Although such needs and factors might be similar, their severity and effect on employees' productivity are not similar. In essence, it needs to be acknowledged that the activities of every organization are influenced by a set of factors, the identification and study of which may effectively help to improve activities and to realize organizational objectives [15,16]. Besides, since productivity is a function of very different factors which are different from one organization to the other according to policy, activity, operations, and similar factors, and since the extent of the significance and effectiveness of such factors on the productivity of different organizations is not the same [17,18], it is not possible for organizations to become involved in all effective areas and aspects. In order to achieve the highest level of productivity, the identification and prioritization such factors in terms of their significance is required, based on scientific criteria and measures, and then, the relevant executive plans and programs can be developed [19,20].

Given the progressive increase in the number of commuters and considering the need for the increase in lines as well as trains and based on the necessity for the decrease in the travel time of trains, it seems that railway companies must move in the direction of growth and development and aim to improve productivity as soon as possible. Meanwhile, human resources play a significant role in fulfilling such matters, and thus, human resource productivity is of special significance. This study aims to identify and analyze effective factors in this regard. In particular, this study considers the special conditions in the metro organization, where highly productive sustainable human resources are a requirement for their effective contribution to the improvement of public welfare. For this study, the population of interest were all employees and managers of the Human Resources Department of the Tehran Urban and Suburban Railway Operation Company. Random sampling was employed to collect data and the sample size was 191 people according to Morgan's Table. The questionnaire consisted of 30 specialized and general demographics questions. The respondents were asked to mark the extent of the correspondence of their organization with every item based on a five-point Likert Scale (Completely Disagree, Disagree, No Idea, Agree, and Completely Agree). Since the instrument employed in this study was a researcher-made questionnaire, Cronbach's alpha was measured to establish its reliability, and in order to ensure the content validity, opinions of experts and professors were sought.

The remainder of this paper is structured as follows. The next section presents the literature review and relevant discussion. Section 3 discusses the research methodology of this work. The results and finding are provided in Section 4. Sections 5 and 6 provide the implications of the results, discussion, and conclusions, respectively.

## 2. Literature Review

In Iran, the word *Bahrevari* is presented as an equivalent for the English word productivity. In some other texts, different equivalents have been used including efficiency, returns, production power, capacity, and efficient fertility. In general, productivity is the

measure for assessing the effectiveness and efficiency of the use of resources as inputs for producing outputs needed by a society in the long run [21,22].

There is another definition offered for productivity from a systematic perspective. From this perspective, productivity determines the relationship between inputs and outputs [23]. Accordingly, productivity indicates the efficiency of combining factors in the production process [24]. In other words, if facilities are well employed, productivity will be increased. Therefore, if human resources, as one of the production factors, are employed well enough, the human resource productivity will increase as well [25].

Efficiency and productivity are the major factors for economic development, and the identification of factors that affect productivity, particularly at times of crisis, will lead to the better performance of directors, economists, and politicians, and hence the sustainability and progress of the organizations. The measurement and analysis of productivity and efficiency have long been discussed as independent scientific areas; however, they have only been merged recently [26].

In general, productivity consists of two components. The first component is efficiency, and the other is the effectiveness of doing an activity. Efficiency is defined as the ability to accomplish something with the least amount of wasted time, money, and effort or competency in performance. Effectiveness is defined as the degree to which something is successful in producing a desired result. Therefore, generally defined, productivity is “doing the right thing right” [27,28].

Productivity has become a serious concern for organizations. While individual productivity helps organizational productivity, it also helps toward achieving satisfactory results and competitive advantage [29,30]. In fact, productivity allows the maximization of the use of resources, human resources, and facilities in a scientific manner in order to reduce costs and increase the satisfaction of employees, managers, and consumers. In other definitions, human resource productivity is the maximum proper use of human resources for moving in the direction of organizational objectives with the lowest time and minimum costs [31]. According to the Iran National Productivity Organization, productivity is a rational attitude to work and life. This is similar to a culture whose goal is to improve activities for a better and transcendent life. Productivity means achieving the maximum profit from the workforce, and from the ability of human resources, as well as from talents and skills, land, cars, money, equipment, time, place, etc., in order to improve a society’s welfare; thus, its enhancement has always been considered to be a necessity for experts in politics, management, and economics in order to improve the life standards of humans and the social structure [32].

In the current era, productivity is a method, concept, and attitude toward work and life, and in fact, it is looked upon as a culture and worldview. Productivity can be involved in all individual and social aspects, work, and life, and is a determining indicator of every country’s per capita income. To increase national productivity in every country, the per capita income must be increased [33]. Numerous studies have been conducted on the factors that are effective in relation to the productivity of human resources in Iran and in the world, all of which were aimed at determining priorities for every organization for improvements in productivity.

According to Mojelan et al. [18] productivity is recognized as an important management (leadership) technique that is popular among managers due to the fact that it has become a critical part of regulations, standards, and best practices, and consistently ranges among the top five issues of CIOs. In a study on the productivity of research centers, by employing envelopment data analysis method for determining productivity improvement indicator, Podsakoff et al. [34], found that, in the studied period of time, productivity was reduced in some organizational units, was both reduced and increased in some, and remained constant in others. Eminağaoğlu et al. [35] found that holding training courses might help employees use technology properly.

In another study, Dong et al. [36], evaluated the effects of information and communication technology on workforce productivity as positive and significant. Kamath [37]

studied the relationship between components of intellectual capital and the traditional criteria of a company's performance (profitability, productivity, and market valuation), and the results indicated that human capital had a significant effect on profitability and the productivity of companies. Brennan et al. [38], studied the effect of environmental factors and their role in productivity. In their study conducted in China, Wright et al. concluded that organizational culture has a positive effect on the increase in employees' motivation and production improvement. Diez et al. [39], found that there was a positive relationship between human capital and creating value in relation to productivity. Ghosh and Mondal [40], showed that the relationship between a company's intellectual capital and the traditional indicators of a company's performance could explain profitability, yet it cannot explain productivity and market valuation in India. Table 1 lists some of the factors affecting human resource productivity according to previous studies.

**Table 1.** Factors affecting human resource productivity.

Factors	References
Facilities and equipment at the workplace	Steenhuis and Bruijn [41]
Favorable physical conditions at the workplace	Sarode and Shirsath [42]; Akinyele [43]
Offering social services	Chen et al. [44]; Sulo et al. [45]
Appropriate psychological atmosphere at the workplace	Chen et al. [44]; Choi and Ha [46]; Leblebici [47]; Grant et al. [7]
Safety and comfort	Sarode and Shirsath [42]; Leblebici [47] Li et al. [48];
Supportive atmosphere	Pullig et al. [49]; Kazaz et al. [3]
Welfare services	Chen et al. [44]; Gupta et al. [50]; Ollila [51]; Wu et al. [52]; Woodhead and Berawi [53]
Intimate relationship among employees	Horst et al. [54]; Jagoda et al. [55];
Respect for each other	El-Gohary and Aziz [56]; Dai et al. [57]; Černevičiūtė and Strazdas [58]
Teamwork	Černevičiūtė and Strazdas [58]; Terzioglu et al. [59]; Akhavan et al. [60]
Asking for employees' opinions	Kumar et al. [61]; Atmaja and Puspitawati [62]
Relationship between managers and employees	Abbaszadeh et al. [63]; Putri et al. [64]; Massoudi and Hamdi [65]; Sarode and Shirsath [42]; Akhavan and Hosseini [66]
Appropriateness of employees' jobs to their age	Kotrlik et al. [67]; Hashiguchi et al. [68]
Expertise and skills commensurate with job	Kazaz and Ulubeyli [69]; Sako [70]
Work conscience	Arezi et al. [71]
Training courses	Kazaz et al. [3]; Hamza et al. [72]; Nguyen et al. [73]
Work life quality	Leitão et al. [74]; Permata et al. [75]; Harlie et al. [76]
Job satisfaction	Hoboubi et al. [77]; Miragaia and Aleixo [78]
Job appropriateness for employees	Patnaik and Bhowmick [79]; Daneshkohan et al. [80]
Job being challenging	De Pater et al. [81]; Carette et al. [82]

### 3. Research Method

All studies are based upon a conceptual framework explaining variables and their relationships. The theoretical framework is a model based on what the researcher theorizes about the relationships between the factors recognized as important for creating a problem. The theory does not necessarily need to be a statement by some other researcher but it could have logically emanated from findings from previous studies. Based on their research objectives, the researchers chooses one of the following research designs: explorative, descriptive, and causal. In every research design, one or more statistical instruments are employed for testing variables and concepts and finally presenting research findings.

This paper originated from research which was applied in terms of the objectives of the study and a descriptive survey was employed as the method. The statistical population of the current study consisted of all employees and managers of the Human Resources Department of the Tehran Urban and Suburban Railway Operation Company. Random sampling was employed to collect data and the sample size was 191 people according to Morgan's Table. The questionnaire consisted of 30 specialized and general demographics questions. The respondents were asked to mark the extent of the correspondence of their organization with every item based on a five-point Likert Scale (Completely Disagree, Disagree, No Idea, Agree, and Completely Agree). Since the instrument employed in this study was a researcher-made questionnaire, Cronbach's alpha was measured (0.932) to establish its reliability, and in order to ensure the content validity, opinions of experts and professors were sought. Methods including the correlation coefficient, multivariate regression, and factor analysis were employed for data analysis.

#### 4. Data Analysis

##### 4.1. Descriptive Findings

Given the findings of the first part of the questionnaire (demographic questions), the data about the characteristics of the statistical sample are provided briefly. Men constituted 51.3% of the population and women 48.7%. A total of 14.7% of the respondents held associate degrees, 53.9% held a bachelor's degree, 25.1% held a master's degree, 1% had a PhD and 5.2% held a high school diploma. The age range of 25 to 35 had the highest frequency at 52.4%, while 12% of the population were between 20 and 25 years old, 18.8% were between 35 and 40 years old, and 16.8% were older than 40 years old. With respect to work records, 61.8% had a work record of fewer than 10 years, 19.9% had a work record of between 10 and 15 years, and 18.3% of the population had more than 15 years of work record experience. A total of 42.4% held the position of expert assistant and operators, 30.9% were experts, 18.3% were officers, 7.9% were directors, and 5% held management positions. A total of 18.8% were staff at the Education Department, 23.6% were staff at the Administrative Affairs and Planning for Human Resources Department, 20.9% were staff at the Health, Safety and Occupational Medicine Department, 18.3% were staff at the Human Resources Organization and Studies Department, and 18.3% were staff at the Employees' Welfare Affairs Department.

##### 4.2. Exploratory Factor Analysis

Table 2 shows the result of Bartlett's test which is an approximation of the chi-square statistic. The value of Bartlett's test was smaller than 5% (0.000), signifying that an exploratory analysis is good for identifying the factor model structure. The hypothesis assuming that the correlation matrix was known was rejected. Since the value of KMO at 0.914, shown in Table 2, is close to 1, the number of samples (here, the number of respondents) was adequate for the exploratory factor analysis.

**Table 2.** Results of KMO and Bartlett's Tests.

Measure	Amount
Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.914
Bartlett's Test of Sphericity	Approx. Chi-Square degree of freedom Df
	1952.928
	190
	Sig.
	0.000

Table 3 is concerned with eigenvalues and shows the factors whose eigenvalues were more than 1 and were retained in the analysis. The second part is concerned with non-rotating extraction factor eigenvalues. The third part indicates rotating extraction factor eigenvalues. In this study, factors 1, 2, and 3 had an eigenvalue bigger than 1 and were

retained in the analysis. Considering the cumulative variance, these three factors can explain 58.159% of the variables' variance. Rotation and Varimax indicate that the changes among factors were distributed evenly.

**Table 3.** Output of the Principal Components Analysis.

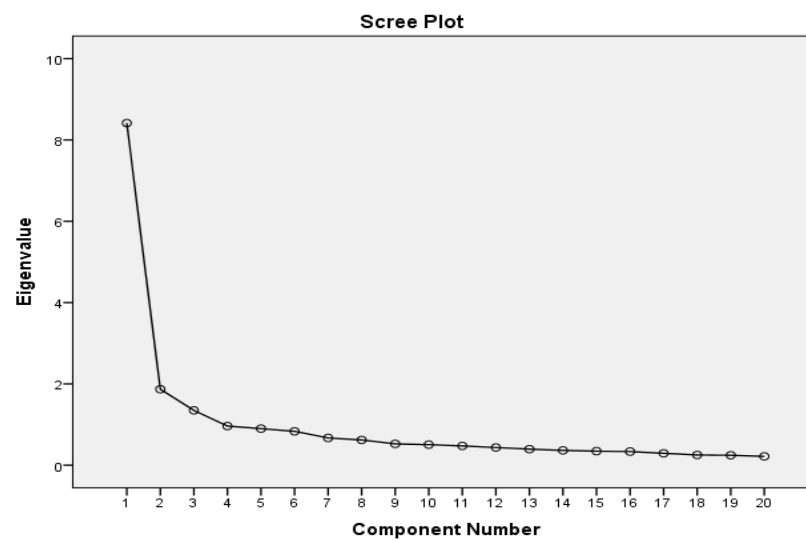
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.414	42.072	42.072	8.414	42.072	42.072
2	1.869	9.343	51.414	1.869	9.343	51.414
3	1.349	6.745	58.159	1.349	6.745	58.159
4	0.962	4.809	62.968			
5	0.900	4.498	67.466			
6	0.833	4.166	71.633			
7	0.670	3.348	74.980			
8	0.621	3.107	78.087			
9	0.524	2.619	80.706			
10	0.505	2.527	83.233			
11	0.474	2.370	85.603			
12	0.435	2.173	87.776			
13	0.396	1.978	89.755			
14	0.363	1.817	91.571			
15	0.345	1.724	93.295			
16	0.335	1.674	94.969			
17	0.293	1.464	96.434			
18	0.252	1.260	97.693			
19	0.245	1.223	98.917			
20	0.217	1.083	100.000			

Table 4 shows the rotated components matrix which includes the factor loadings of every variable in the three retained factors after rotation. This matrix can be interpreted more easily than the previous non-rotated matrix. The more the absolute value of the coefficients, the more effective the related factor will be in the changes (variance) in question.

The Scree plot is a graphic representation of the eigenvalues of each extracted factor as depicted in Figure 1. The variance explained (eigenvalue) decreased drastically by extracting factors following the third factor. The eigenvalues of the first, second, and third factors were more than 1; hence, they were retained in the output.

**Table 4.** Rotated Components Matrix.

	Component		
	Leadership Style	Bonus and Ergonomics	Organizational Attitude and Culture
Employees' experience gained from their jobs	−0.016	0.066	0.743
Existence of areas for cooperation and teamwork	0.129	0.196	0.727
Individual's attitude toward performing tasks better	0.238	0.103	0.690
Increase in senior managers' support and commitment	0.716	0.232	0.068
Job Knowledge	0.396	0.196	0.564
Organization's effort toward creating a productivity attitude in employees	0.536	0.116	0.538
Laying the groundwork for establishing open communication between employees and managers	0.711	0.350	0.103
Accurate determination of job description	0.675	0.102	0.293
Clarifying work methods	0.548	0.379	0.264
Correction of work processes	0.598	0.326	0.301
Correspondence of employees' field of study to their jobs	0.504	0.252	0.384
Proper and logical distribution of human resources in different parts	0.693	0.226	0.158
Appropriateness of employees' salary and bonus to their performance	0.484	0.637	0.045
Delegation of authority to complete some work	0.662	0.024	0.435
Benefitting from proper technology and necessary facilities	0.148	0.745	0.337
Managers' attention to and admiration for productive employees	0.634	0.414	−0.005
Providing proper welfare facilities	0.326	0.710	0.057
Providing minimum physical standards for the work environment	0.199	0.772	0.207
Favorable organizational atmosphere for expressing ideas	0.232	0.236	0.681
Observing safety and health principles in work environments	0.189	0.721	0.195



**Figure 1.** Extracted Factors Chart.

Given the result of the factor analysis on 20 productivity variables, 3 factors were recognized as principal factors. Considering the factors with a higher factor loading and given the nature of the above variables, the factors were named as follows. Variables 1, 2, 3, 5, and 19 had a higher factor loading only on factor 3, and this factor was named Organizational Attitude and Culture. Variables 4, 7, 8, 9, 10, 12, 14, and 16 had a bigger factor loading on factor 1, which was named as Leadership Style. Variables 13, 15, 17, 18, and 20 had a bigger factor loading on factor 2. Thus, it was named Bonus and Ergonomics. These three factors were uncorrelated. On the other hand, the correlation among the 20 variables can be explained by these three factors. It is to be noted that the sixth variable (organization's effort for creating productivity attitude in employees) can be ignored due to the proximity of the results of factors 1 and 3, and variable 11 can be ignored due to the low measured values.

In order to assess the extent of the effectiveness of each of extracted factors on productivity, a regression model was employed. In this model, independent variables included three extracted factors of Organizational Attitude and Culture, Leadership Style, Bonus and Ergonomics, and the dependent variable was human resource productivity.

In Table 5, column R is the multiple correlation coefficient and column R Square is the coefficient of multiple determination. The determination coefficient of 0.329 signifies the extent of the impact of the three mentioned factors on human resource productivity.

**Table 5.** The correlation coefficient and R Square.

Model	R	R Square	Std. Error of the Estimate
1	0.574 <sup>a</sup>	0.329	0.58587

<sup>a</sup> Predictors: (Constant): Bonus and Ergonomics, Organizational Attitude and Culture, Leadership Style.

Regression variance analysis in Table 6 and its significance ( $p$ -Value = 0.000) signifies that the prediction power of the regression equation was 95% and above.

**Table 6.** Regression Variance Analysis.

Model	Sum of Squares	df	Mean Square	F	Sig.
<b>Regression</b>	31.513	3	10.504	30.602	0.000 <sup>b</sup>
<b>Residual</b>	64.187	187	0.343		
<b>Total</b>	95.700	190			

Dependent variable: productivity. <sup>b</sup> Predictors: (Constant): Bonus and Ergonomics, Organizational Attitude and Culture, Leadership Style.



According to Table 7, Bonus and Ergonomics plays the most important role in the regression equation because a change equal to one standard deviation in Bonus and Ergonomics leads to a standard deviation of 0.444 in human resource productivity. However, Leadership Style had no considerable impact on the regression model.

**Table 7.** Coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.894	0.358		2.497	0.013
Organizational Attitude and Culture	0.198	0.079	0.176	2.520	0.013
Leadership Style	0.085	0.075	0.075	1.132	0.259
Bonus and Ergonomics	0.404	0.061	0.444	6.636	0.000

Table 8 indicates the correlation of age and job title factors with Organizational Attitude and Culture. It is to be noted that no significant relationship was observed between the other factors.

**Table 8.** Correlation.

		Productivity	Organizational Attitude and Culture	Leadership Style	Bonus and Ergonomics
Age	Correlation Coefficient	0.043	0.127 *	0.060	0.061
	Sig. (2-tailed)	0.455	0.042	0.328	0.336
	N	191	191	191	191
Job Title	Correlation Coefficient	0.075	0.129 *	0.069	0.078
	Sig. (2-tailed)	0.192	0.040	0.265	0.220
	N	191	191	191	191

\* Correlation is significant at the 0.05 level (2-tailed).

## 5. Implications

### 5.1. Theoretical Implications

In this study, we identified critical factors and items affecting the productivity of human resources in an Urban and Suburban Railway Operation Company based on the perceptions of employees and managers in the Human Resources Department. The majority of previous studies have highlighted the relationship between productivity and different factors. This paper focused on the special conditions in a metro organization, where highly productive human resources are a requirement for their effective contribution to the improvement of public welfare. The staff working at the Human Resources Department were selected as the statistical population. According to organizational learning, a company can learn and acquire knowledge at a faster rate to create new knowledge and improve their productivity and performance. The study results confirm that 20 variables were classified into three categories through a factor analysis. Organizational Attitude and Culture, Leadership Style, and Bonus and Ergonomics were extracted as the factors affecting productivity or as independent variables.

## 5.2. Managerial Implications

This study highlights the standpoint of the main decision makers in an Urban and Suburban Railway Operation Company in regard to human resource productivity in this sector. Productivity improvement and enhancement requires comprehensively planned efforts by relevant people and officials, which in turn, requires an improvement of working conditions, a change in the employees' drives and motivations, and an improvement of the systems, laws, circulars, instructions, methods, and technologies. Thus, the organization needs to identify such factors and develop strategies for the effective and efficient use of such resources. The findings suggest that an organization needs to manage its human resources, skills, and capabilities effectively to increase performance. Managers should be aware of the factors identified in this study, such as Organizational Attitude and Culture, Leadership Style, and Bonus and Ergonomics. For example, managers need to know how to manage their human resources so that the organization can benefit and increase their productivity and performance. Based on the findings, managers can improve their business strategy to create firm productivity in a highly competitive market.

## 6. Discussion and Conclusions

The productivity of human resources is one of the most important factors in economic policymaking [83]. Given the role of the railway (metro) transportation industry in Iran and considering the huge population working directly or indirectly in the human resources industry, it is evident that the better the productivity in the metro company, the more considerable the impact will be on the improvement in the transportation industry. Therefore, in the current paper, the factors effecting the productivity of human resources in the Tehran Urban and Suburban Railway Operation Company were studied. Numerous factors affect the productivity of human resources, but in this paper, considering the special conditions in the metro organization, where highly productive human resources are a requirement for their effective contribution to the improvement of public welfare, the staff working at the Human Resources Department were selected as the statistical population. A total of 20 variables were classified into three categories through a factor analysis. Organizational Attitude and Culture, Leadership Style, and Bonus and Ergonomics were extracted as the factors affecting productivity or as independent variables. Productivity was also selected as the dependent variable. The data were collected and analyzed (explorative factor analysis) and the findings indicated that there was a positive and significant relationship between all mentioned factors and the productivity of human resources. The majority of previous studies, some of which were mentioned earlier in the Literature Review, have studied the relationship between productivity and different factors.

### 6.1. Organizational Attitude and Culture

This concept refers to a set of shared beliefs and values influencing members' attitudes and behaviors. A requisite condition for this culture is equity in organization, meritocracy, and participation accompanied by discipline in the work environment. Work culture, work conscience, and social and economic discipline operate in interaction with each other. Employees are precious capital in every organization. Organizational culture factors address the issue related to the managerial and organizational atmosphere for employees.

Considering the significant correlation of Job Title with Organizational Attitude and Culture (Table 8), it can be concluded that people with a higher job rank find a better understanding of the organization and can establish a better relationship with the above-mentioned factor.

Average answers suggest that employees believe the more they gain experience, the more their productivity will be increased. In other words, there is a positive relationship between employees' experience based on their job and human resources productivity. Therefore, when the older generation communicate their experience to the new generation more completely and more accurately, the human resource productivity also increases. Thus, communicating experiences must become a systematic process.

The results indicate there is a direct relationship between the level of academic degree and human resource productivity; in other words, the higher the academic degree, the more productive the human resource will be. Perhaps one of the powerful motivations for increasing productivity is making payments to manpower based on their abilities.

It is worth noting that with respect to the significant correlation between age and Organizational Attitude and Culture, it seems that people of older ages have more experience regarding understanding the organizational culture and can establish a better relationship with Organizational Attitude and Culture. Moreover, an individual's age has a dual effect on productivity; on the one hand, the productivity decreases with old age due to the decrease in physical abilities. On the other hand, the older the age, the more experience an individual will gain, hence the increase in productivity. Therefore, with respect to the relationship between age and productivity, human resource productivity may increase or decrease with age, depending on which factor will lead.

Considering Job Knowledge and its effect on human resources productivity, the mean values suggest that trainings provided for human resources may increase productivity if employed in practice [84]. Otherwise, the increase in productivity cannot be achieved through training. Employees' in-service trainings must be considered as vital and continuous since only through training can employees' efforts be coordinated with available facilities and scientific advances.

More than half of the people (including men and women) agreed that there was a relationship between cooperation and teamwork with human resource productivity in the metro organization. This may be due to the fact that most of the work is performed as team in the organization.

### 6.2. Leadership Style

Leadership style is the style through which a leader benefits from his influence to achieve goals. In other words, a leader's use of power and influence is referred to as Leadership Style. Leadership Style is basically a manager's attitude toward the role of himself and that of his employees.

The huge responsibility of management and leadership must fall on those who, in addition to possessing special personality characteristics, employ proper leadership and management methods, and are role models morally as well, i.e., does the organizational manager allow his subordinates to express new ideas and thoughts or not? Are people employed based on their qualifications and merits? Or is the criterion solely based on relations and pure information? What is the level of participation in the organization?

According to the investigation, the majority of employees with any level of academic degrees (associate, undergraduate, graduate, PhD, etc.) agreed with the impact of job knowledge and the delegation of authority for performing some tasks, on the productivity of human resources in the metro organization [84]. Perhaps this is because the job status of most employees was commensurate with their academic degrees.

In addition, the study of the employees' ages indicated that the participants of 35 years of age and older completely agreed with the effect of delegating authorities for performing certain tasks on the productivity of human resources. This can be explained by the employees' work records and experience. Average opinions of organization managers suggest that the increase in commitment and support by senior managers had a positive effect on productivity and that they completely agreed with this matter, which may be due to their direct and continuous relationship with managers.

### 6.3. Bonus and Ergonomics

Financial factors depend on the individuals' salaries and wages in comparison with the level of prices in society and the estimation of the basic needs of individuals (Maslow needs). Is there a fair reward and punishment system in organization? To what extent have managers made the work environment attractive? If every individual is paid commensurate with their efforts, they will have greater motivation to increase their productivity. In order

to attract and retain its employees, every organization needs to employ the right model in terms of the appropriate employee benefits. According to Hersey and Blanchard, money is a very complicated incentive which, in addition to physiological needs, is concerned with all kinds of needs, and its significance can hardly be determined; therefore, money is a complicated incentive.

Average answers show that an individual's satisfaction with a job which has a positive effect on their productivity may be increased by providing appropriate welfare facilities. In other words, if an individual works with satisfaction, their work results will be better and the productivity will be increased, and vice versa.

In order to enhance the productivity of human resources in the metro company, the following suggestions are put forward:

- a. One way to accelerate an organization's scientific growth is the employees' participation in in-service training courses;
- b. Lack of knowledge of one's responsibility and how to fulfill it is an obstacle for changes to the current behavior. In fact, there must be written and clear work description for all employees. It is the responsibility of a manager of human resources as an employer, in every organization to provide a clear and written work description for every job and position;
- c. Today, one of the primary duties of human resources managers is to develop and implement a system for employees' salaries, wages, and allowances. Developing a payment system follows numerous objectives, one of which is to design a fair system for making payments to all employees;
- d. Employees who fail to find a relationship between their interests, education, and job most often lack the motivation to use their working capacities. Therefore, it is required that human resources policies be directed toward attracting and employing skilled and interested employees, not just to fill vacancies in organizational positions;
- e. As suggested by other studies, it seems necessary to delegate authority more properly to lower levels so employees will work with more motivation for the realization of the organizational objectives.

## 7. Research Limitations and Recommendations for Future Research

There are some limitations attributed to this study that should be noted. These limitations stemmed from the research paradigm, approach, and methodology, which is part of the nature of quantitative research. Field data from this research relied heavily on the interviews and the survey. The researcher played numerous roles in different phases of this study. These roles included: research question design, data collector, interpreter, and data analyst. Still, there may have been conflicts between different roles and these conflicts may have impacted the results of the research because this research is an intentional effort to create a subjective understanding of phenomena.

This paper originated from research which was applied in terms of the objectives of the study and employed a descriptive survey in terms of the method. The statistical population of the current study consisted of all employees and managers of the Human Resources Department of Tehran Ur-ban and Suburban Railway Operation Company. So, additional case studies must be conducted to increase the credibility and reliability of the theoretical propositions developed in this research.

Further, the following suggestions are also provided in order to continue this study:

- a. To assess the effective factors related to the productivity of human resources in other organizations and to compare results with this study;
- b. To study the effect of organizational culture on productivity improvement;
- c. To study leadership styles and the productivity of human resources;
- d. To study other factors that affect productivity, including equipment productivity.

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