An optimal model for measuring the human resources productivity in the East Azarbaijan Gas Company

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Abstract

This synthesis research aimed to design an optimal model for measuring the human resources productivity in the East Azarbaijan Gas Company. The designed model was provided to experts for validation. The data were collected from related articles, books, and documents using databases and written resource centers. The statistical population included all valid scientific articles measuring human resource productivity. A total of 54 research articles were selected for final analysis based on inclusion and exclusion criteria due to regular searches in databases. The worksheet form designed by the researcher was used to collect the research information. The findings were analyzed using the seven-step model for the research synthesis by Marsh (1991) and open and axial coding methods. The views of experts, managers and employees of the gas department were used, and the content validity was 0.847 to determine the validity of the human resource efficiency measurement model. The results showed that the optimal model for measuring human resource productivity in East Azerbaijan Gas Company included five indicators of measuring services provided, customer perception and satisfaction, community improvement, unwanted results, and efficiency, each of which includes different components.

Keywords: Optimal model of productivity measurement, Productivity measurement, Human resource productivity, East Azarbaijan province gas Company
2020 MSC: 49K05, 62K05

1 Introduction

The role of service organizations has risen in developing communities along with the global transformations from the industrial economy to the service economy and the rapid development of service organizations. Iranian service organizations play an essential role in the success or failure of the production system as the backbone of production organizations. Improving their productivity significantly affects the excellence of the country's economy and raises the quality of life of communities in various fields over the past few decades. These changes have affected governments and put increasing pressure on them to become more productive in terms of breadth, complexity, intensity, and speed in the age of information explosion. Measuring and improving productivity is one of the essential issues in managing

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government organizations. Numerous studies in human resource management have found that proper human resource management is directly related to increasing organizational productivity. Human resources can be considered a critical factor in improving productivity. According to the 1404 (2025) vision document, Iran will be a developed country with the first economic, scientific, and technological position among the countries in the region. Therefore, Iran should be a country with advanced knowledge, capable of producing science and technology, and relying on the outstanding share of human resources and social capital in national production by increasing human resource productivity [40]. Human resource is a factor in producing goods and services with a special place among other factors of production as an intelligent factor and coordinator of other factors of production [59]. Human resources have been considered human capital to achieve productivity [2]. The need to improve employee productivity is one of the key issues in most organizations.

Employee productivity means evaluating the effectiveness and efficiency of a worker or a group of workers [53]. Rao (2016) defined employee productivity as employees' emotional and intellectual commitment to their organization to achieve success. According to Bloom et al. productivity makes people perform their tasks better every day with superior results [65]. In an actual situation, productivity is a part of the organization, which directly affects the profit and performance of the organization. Labor productivity may be the product of a worker's output over a period, the ratio of output to data over a similar period, or the extent to which an employee provides services at a given time. The position of an organization depends mainly on the productivity of its workforce as a fundamental business goal [19]. In today's world, increasing human resource productivity is one of the most important goals that managers of organizations discuss [20].

The mission of management and the primary goal of managers of any organization is to effectively use various facilities such as human resources, capital, materials, energy, and information by optimal use of the human resources (human resource productivity). The most successful organizations and developed countries paid enough attention to human resources, but the progress and development of a community still depend on its efficiency, effectiveness, and productivity. Meanwhile, organizations, organs, and social institutions play an essential role [46]. Motivated, capable, and productive human resources can make good use of other resources, achieve productivity and ultimately make the organization productive. Otherwise, stagnation and backwardness bring passive and unmotivated human capital [41], whose productivity is one of the main goals of any active and living organization [48]. The need for paying attention to employee productivity is for the viability and survival of organizations in today's competitive world. The prevailing culture of productivity leads to the optimal use of all material and spiritual facilities of organizations, facilities, and conditions. Capabilities of current human resources can be maximized with reproductive properties and creativity in achieving the organization's goals without adding new technology and human resources [26]. Given the importance and contribution of human resource productivity in public and organizational sector productivity, its measurement is one of the important research topics in this field. Therefore, determining the appropriate model for measuring employee productivity can help managers properly measure individual productivity, strengthen functional weaknesses, and increase organizational productivity. Human resource productivity has been a significant concern for researchers and those involved over the past few decades. Many employers or employees have focused on various employee contributions and incentive programs to improve employee productivity. Productivity is also considered a major factor in economic growth, but further research is required to contribute to this growth and measure productivity. Human resource is a critical factor in measuring productivity because of their ability to think and emotional fluctuations. The relationships between individuals and the attitude of the human resource should be examined before making any decision to increase productivity and the reaction of individuals [18]. Studies in other countries have considered different indicators in assessing human resources productivity, which cannot be generalized to the target organizations due to differences in cultural, social, and economic conditions. According to reports, human resource productivity indicators in Iran are low compared to countries in the region and East Asia [44]. Therefore, developing a successful strategy to improve human resource requires setting a systematic method for its evaluation.

In contrast, organizational resources have a special place at the level of the human resources gas company, which is known as knowledgeable and coordinator in increasing or decreasing productivity in the gas company, unlike other organizational resources. When employees are motivated and capable, they can use other resources efficiently and productively to prevent stagnation and backwardness. Human resource managers should measure human resource productivity, but the main problem is the lack of an appropriate model for measuring human resource productivity. Therefore, human resource productivity and its measurement were inappropriately neglected, which leads to ignoring the individual abilities of employees and reducing work motivation in employees. Since individual productivity is the determining factor of organizational productivity, addressing human resource productivity is vital.

On the other hand, most research has examined organizational productivity, and individual productivity has been ignored. Therefore, determining the factors affecting the measurement of human resource productivity at the

East Azerbaijan Gas Company is a research project. Given that the gas company has its own goals and missions, it is necessary to analyze the human resources productivity with a different approach from private or industrial organizations. As one of the essential and extensive subdivisions of the organization, East Azerbaijan Province Gas Company has its missions, conditions, and requirements, which should be considered in measuring and analyzing the efficiency of its human resource. Thus, this study aimed to find an appropriate model to measure the human resources productivity in the East Azerbaijan Gas Company.

2 Research methods

In this synthesis research, first-hand resources were identified according to the keywords related to the subject, including human resource productivity measurement, human resource evaluation, productivity measurement, and productivity measurement. Then, the concepts were analyzed to form the model clusters. The information was divided within each category, and then the cluster categories were sorted and interpreted. The statistical population included written works including Ph.D. dissertations, master's theses, and articles published in journals and conferences focused on measuring human resources productivity. A search of scientific databases identified 107 studies, and finally, 54 studies were selected for final analysis.

All articles, theses, and dissertations related to human resource productivity were collected using the keywords of measuring human resources productivity, evaluating human resources, and measuring productivity. The resources were gathered from the Iranian Science Citation Index (sci.isc.), Iran Medex (iranmedex), Noormags Database, University Jihad Scientific Database (SID), Magiran Database (Iranian Research Institute for Information Science and Technology (IranDoc), Dissertation Database Of medical sciences, and foreign databases PubMed, EBSCO, WorldCat, ScienceDirect, Springer, ProQuest and google scholar search engine.
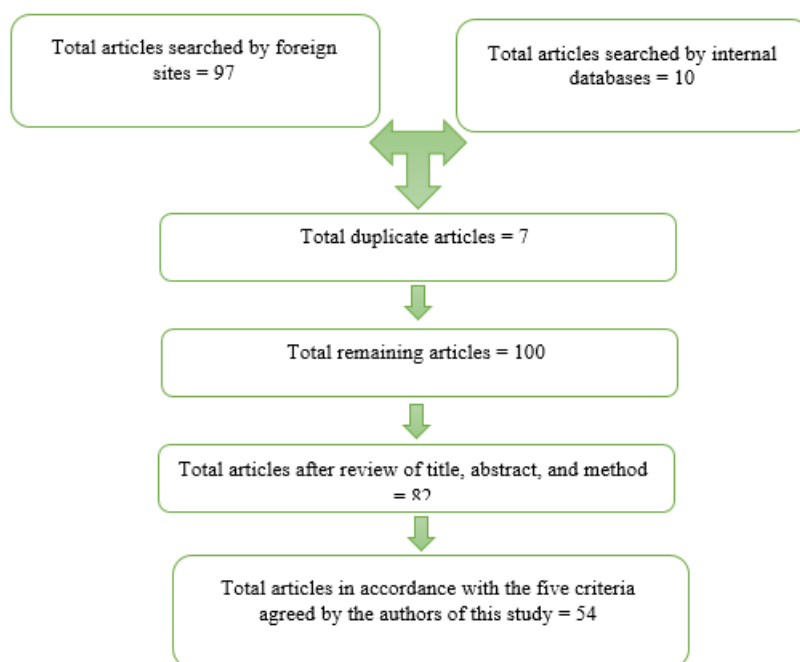

Figure 1: Study selection process

The inclusion and exclusion criteria were:

1. Master's theses, Ph.D. dissertations, and review and scientific-research articles, which were published with the focus on measuring productivity in domestic and foreign databases;

2. The research subject was measuring human resource productivity, evaluating human resources, and measuring productivity.

3. Qualitative research and field research methods were used;

4. At least one of the elements of productivity measurement was examined in them;

5. Productivity measurement was used in the field of human resources;

Each author reviewed the articles, theses, and dissertations separately and independently based on the above criteria before conducting any analysis.

This study was conducted on 15 experts, managers, and employees of the gas department, who were selected by purposive method to validate the model.

Simplifying the text, discovering the connection between concepts and categories, coding the connections, drawing the results, and concluding were performed to analyze information and determine categories. The formula of content validity ratio and the amount determined in the table was used based on the number of participants in the test to answer the second question of the research and determine the validity of the developed model.

3 Results

The findings of 54 scientific studies were used for the final analysis of this research. Table 1 presents the characteristics of this research based on the article code, names of researchers, year of publication, and the results of each research from the implementation of the proposed model for measuring human resources productivity.

Table 1: Basic characteristics of research and presentation of primary research results based on open coding

Article code	Author	Year	Results
1	[12]	2017	Services provided by government agencies should be accurate.
2	[27]	2020	The quality of the services provided is essential in measuring effectiveness.
3	[37]	2017	The speed of services provided is one of the factors of service effectiveness.
4	[50]	2010	The efforts of employees should be valuable and vital to be effective.
5	[58]	2019	Indicators of service accuracy, quality and speed of service, and appropriate customer treatment are among the critical priorities in the four sections, which have a very high degree of importance.
6	[56]	2001	Timely provision of services from the perspective of experts is one of the factors affecting the effectiveness of employees.
7	[57]	2005	The results showed that the effort to improve services is one of the factors that increased the human resources productivity .
8	[64]	2020	The results showed that service continuity is one of the factors, which increased the effectiveness of human resource productivity.
9	[8]	2015	The results showed that the variety of service delivery methods is one of the factors, which increased the effectiveness of human resource productivity.
10	[15]	2018	The results showed that the appropriate hours of service are one of the factors, which increased the effectiveness of human resource productivity.
11	[22]	2009	Productivity indicators will also be beneficial for budgeting activities and can be used to set a high-productivity budget. These indicators will review the allocation of resources to effective activities to identify cheap but effective changes and make changes with minimal cost to provide cheaper but more appropriate services that satisfy citizens and customers of government agencies.
12	[23]	2009	The results showed that the fulfillment of promises is one of the factors, which increased the effectiveness of human resource productivity.

13	[28]	2016	The results showed that the time taken to receive services and the number of visits to receive services are one of the factors, which increased the effectiveness of human resource productivity.
14	[30]	2008	The results showed that the time taken to receive services and the number of visits to receive services are one of the factors, which increased the effectiveness of human resource productivity.
15	[32]	2005	Increasing accountability, citizens' trust, and justice in the distribution of government services in all four sectors are critical.
16	[42]	2012	The results showed that the positive reputation of the organization is one of the factors, which increased the effectiveness of human resource productivity.
17	[47]	2006	The results showed that ease of understanding the information provided is one of the factors, which increased the effectiveness of human resource productivity.
18	[43]	2008	According to the information, the cost of services provided, the level and quality of services, and the level of citizens' satisfaction with their needs have been determined, and decision-making and evaluation of affairs are easily possible.
19	[52]	2015	The results showed that the adequacy of information with customer needs is one of the factors, which increased the effectiveness of human resource productivity.
20	[55]	2006	According to the research results, the comprehensibility of the forms and instructions positively affects the effectiveness of the organization's human resources.
21	[60]	2016	According to the research results, the stability of the information provided is one of the effective factors in increasing the effectiveness of human resources of the organization.
22	[60]	2009	According to the research results, the number of submitted complaints is one of the essential factors affecting the increase of the effectiveness of human resources of the organization, which determines the mentality of customers towards the organization and the services provided.
23	[63]	2012	According to the research results, the adequacy of information with customer needs is one of the most critical factors in increasing the effectiveness of human resources in the organization.
24	[66]	2015	According to the research results, the adequacy of information with customer needs is one of the most important factors in increasing the effectiveness of human resources in the organization.
25	[67]	2012	The usual strategy in these cases is to focus on the returns that can be measured and then use the mental assessment of customers and citizens to collect data about this type of return measurement.
26	[68]	2013	According to the research results, determining the exact type of services is one of the indicators for measuring the productivity and effectiveness of the organization's human resources.
27	[59]	2016	According to the research results, the number of customers in the service queue is one of the indicators for measuring the productivity and effectiveness of the organization's human resources.
28	[46]	2017	According to the research results, the guidance provided by managers is one of the indicators for measuring the productivity and effectiveness of human resources of the organization.
29	[53]	2012	This section should pay special attention to four crucial areas: cost, quality, time, and innovation. The organization should strive to reduce costs, increase quality, respond faster, and be more innovative.

30	[8]	2016	Increasing accountability, citizens' trust, and justice in distributing government services in all four sectors are essential.
31	[18]	2013	Government agencies provide a diverse range of services to different groups of citizens with different expectations. In productivity, government agencies should consider both quantity and quality, as well as customer orientation and social justice.
32	[1]	2016	The services provided to the community and the organization's customers, the mental perception and the satisfaction of the customer or citizens, the improvement of the community's conditions, the unwanted results, and the negative results of the organization's services were confirmed by statistical retesting the effect of the four dimensions mentioned on the effectiveness with 99% confidence.
33	[3]	2010	The results of this study showed that creating quality control standards positively affects the effectiveness and overall productivity of the organization.
34	[4]	2012	The results of this study showed that increasing public welfare and quality of life positively affects the effectiveness and overall productivity of the organization.
35	[5]	2016	The results of this study showed that creating equality in the distribution of benefits of gas services positively affects the effectiveness and overall productivity of the organization.
36	[6]	2018	The results of this study showed that increasing the amount of general knowledge positively affects the effectiveness and overall productivity of the organization
37	[7]	2011	The two indicators of non-response to citizens and distrust in all three sectors are essential for unintended consequences.
38	[9]	2012	The results showed that distrust in customers and citizens is one of the barriers to the productivity and effectiveness of the organization.
39	[10]	2012	The results showed that non-compliance with the rules and regulations of parallel work and lack of coordination with other organizations are among the barriers to the productivity and effectiveness of the organization.
40	[11]	2012	The results showed that letter distribution and unnecessary formalities are among the barriers to the productivity and effectiveness of the organization.
41	[13]	2011	The results showed that environmental pollution is one of the barriers to the productivity and effectiveness of the organization.
42	[14]	2010	The results showed that increasing the time wasted by citizens is one of the barriers to productivity and effectiveness of the organization.
43	[16]	2015	The results showed that the imposition of low-quality costs is among the barriers to productivity and effectiveness of the organization.
44	[17]	2012	The results showed that parallel work and lack of coordination with other organizations are among the barriers to productivity and effectiveness of the organization.
45	[21]	2013	The results showed that the value-added of capital is one of the factors affecting the measurement of organizational efficiency.
46	[25]	2012	The results showed that the value-added of labor is one of the factors affecting the measurement of organizational efficiency.
47	[24]	2018	The results showed that service output and capital inflow are among the factors affecting the measurement of organizational efficiency.
48	[31]	2011	The results showed that service output and labor input are among the factors affecting the measurement of organizational efficiency.
49	[33]	2017	The results showed that the number of services provided and the budget consumed affect the measurement of the organization's efficiency.
50	[34]	2012	The results showed that the average time to provide services and the cost of the service unit affect the effectiveness of the organization.
51	[36]	2016	The results showed that the number of services provided and the number of employees affect the effectiveness of the organization.
52	[38]	2015	The results showed that the value of goods and services and the cost of resources spent affect the effectiveness of the organization.

| 53 | [39] | 2016 | The results showed that value-added and equipment resources spent affect the measurement of organizational efficiency. |
| 54 | [45] | 2011 | The results showed that service credibility, product quality, information technology, money, and physical assets of employees affect the measurement of organizational efficiency. |

All components were extracted through the open coding process and categorized based on common concepts according to the findings related to the research objective. The findings were drawn in the form of a general and comprehensive model according to the coding process obtained from the first stage, productivity indicators in the Gas Department of East Azerbaijan Province, and the code of each article.

human resources productivity = Efficiency human resources + Effectiveness human resources (1)

$$TFP^1 = \frac{AV}{\alpha L + \beta D}$$

AV: Added value

L: Employee service compensation

D: Depreciation of fixed assets

α: Manpower elasticity factor

β: Traction factor of capital production factor

$$HRP^{2.} = \frac{AV}{HC}$$

AV: Added value

HC : human compensation

Efficiency human resources = Services effectiveness + Value added in capital   (2)

$$EFF = MAXZ = \frac{U^T Y_p}{W^T Y X_p}$$

where W and U are the vectors of inputs and outputs respectively.

Effectiveness human resources = customer perception and satisfaction + service provided (3)

$$EHR = \sum CP + SP.$$

The template summary and related questions were sent to 15 professors and experts in human resource productivity who could judge to finalize the validity of the proposed model for measuring the human resources productivity of the East Azerbaijan Gas Department. These included university professors. The questionnaire included experts on model validation in three options (high, medium, and low). In general, the following results were obtained after reviewing the answers.

Fifteen respondents rated the measurement of services provided in the proposed model of measuring human resource productivity of the East Azerbaijan Gas Department to a large extent.

Fifteen respondents rated the measurement of customer perception and satisfaction in the proposed model for measuring the human resources productivity of the East Azerbaijan Gas Department to a large extent.

Fifteen respondents rated the measurement of customer perception and satisfaction in the proposed model for measuring the human resources productivity of the East Azerbaijan Gas Department to a large extent.

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1. Total Factor Productivity
2. human resources productivity

Table 2: Productivity Measurement Indicators in the Human Resources Productivity Measurement Model of East Azerbaijan Gas Department

	Index	Component
1	Measurement of services provided	Accuracy of service [18] , quality of service [2] , speed of service (3), usefulness of staff efforts (4), proper treatment [26] , timely provision of service [53] , effort to improve service [46] , Service continuity [59] , variety of service delivery methods [20] , appropriate service delivery hours [44] , service price or cost [48] , fulfillment of promises [1] , time taken to receive services [3] , number of visits to receive services [4] .
2	Measuring customer perception and satisfaction	Accountability to customers [5] , positive reputation of the organization [6] , ease of understanding the information provided [8] , quality of information for decision making [7] , relevance of the information to customer needs [9] , comprehensibility of forms and instructions [10] , consistency of information provided [11] , number of complaints submitted [12] , response to customer complaints [13] , time taken to make corrections [14] , understanding the needs of specific customers [14] , specifying the exact type Services [15] , number of customers in the service queue [16] , tips provided by managers [19] .
3	Measuring community improvement	Increasing accountability [17] , increasing citizens' trust [21] , creating justice in the distribution of services [22] , increasing compliance with laws and regulations [23] , creating quality control standards [25] , increasing public welfare and quality of life [27] , creating equality in the distribution of benefits of gas services [28] , increasing the amount of public knowledge [24]
4	Measuring unwanted results	Lack of accountability to customers and citizens [30] , creating distrust in customers and citizens [31] , non-compliance with laws and regulations and parallel work and lack of coordination with other organizations [32] , distribution of letters and unnecessary formalities [33] , environmental pollution [34] , increasing citizens' wasted time [35] , imposing low-quality costs [37] , parallel work and lack of coordination with other organizations [36] .
5	Measuring efficiency	Value added in the capital [41] , value-added in labor [38] , service output and capital inflow [39] , service output and labor input [42] , amount of services provided and budget spent [43] , Average service delivery time and service unit cost [45] , output of services provided and input of employees [47] , value of goods and services and cost of resources spent [49] , value-added and equipment resources spent [50] , services of credit, quality of goods, information technology, money, physical assets, staff [51]

Fifteen respondents rated the measurement of unwanted results in the proposed model of measuring the human resource efficiency of the East Azerbaijan Gas Department to a large extent.

Thirteen respondents rated the efficiency measurement in the proposed model of measuring the human resource efficiency of the East Azerbaijan Gas Department to a large extent.

The formula for Content validity ratio and the value specified in the table was used based on the number of participants in the test to check the final validity of the proposed model. According to the number of participants (15 people) and based on the values of the Lawshe table, questions with a content validity ratio greater than 0.49 were accepted. All validity score questions had more content than the value specified in the table. Table 3 represents the
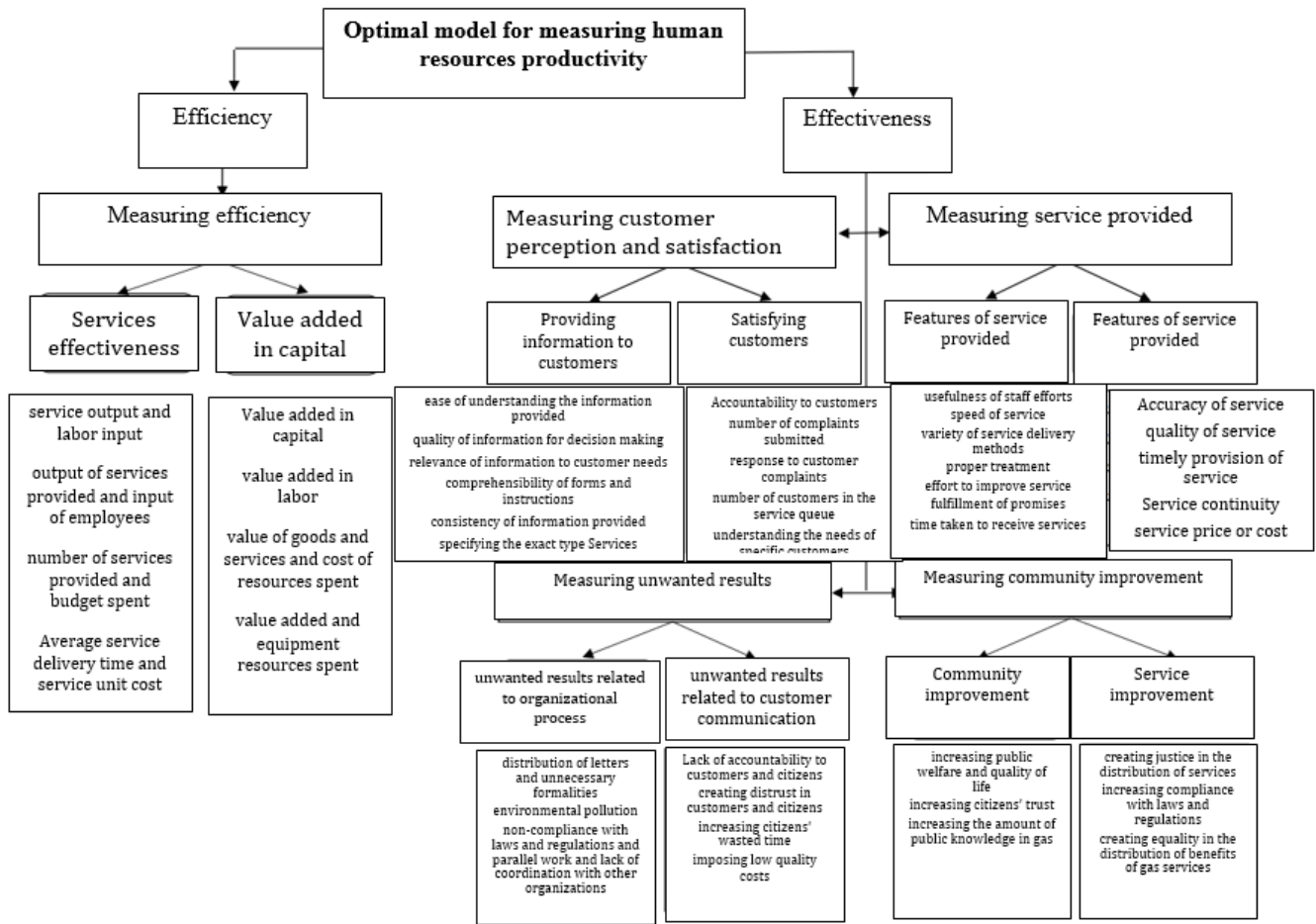
Figure 2:

e results of validating the proposed model for measuring the human resources productivity of the Gas Department of East Azerbaijan Province for each question. According to the results presented in the above table, the average lavage coefficient obtained for all questions of the proposed model was estimated to be CVR = 0.847.

$$CVR = \frac{ne - \frac{N}{2}}{\frac{N}{2}}. \tag{4}$$

Therefore, the model of measuring the human resources productivity of the Gas Department of East Azerbaijan Province was valid.

4 Discussion and conclusion

The productivity management process includes measurement, implementation, evaluation, and improvement. Measuring and improving productivity in the public sector is one of the most important issues in the management of government organizations, especially oversight and policy-making agencies. Productivity should be improved at three national, government, and organizational levels. Competition is possible through higher productivity at the national level, and living standards increase with increasing productivity (42). Increasing productivity leads to increased economic power, which can enhance political power. According to Holzer, improving productivity at the state level has focused on various societies and a productive community based on a productive state. As living standards increase, people demand better services from the government, and more should be achieved using fewer resources in response to this demand. With productivity growth, the government can provide better social services, do things better, and

Table 3: Validation of the proposed model for measuring the human resources productivity of the Gas Department of East Azerbaijan Province

Productivity indicators	Frequency and frequency percentage			CVR
	High	Moderate	Low	
Measure the services provided	15 people (100%)	–	–	1
Measuring customer perception and satisfaction	15 people (100%)	–	–	1
Measuring community improvement	14 people (93%)	1 person (7%)	–	87/0
Measuring unwanted results	15 people (100%)	–	–	1
Measuring efficiency	13 people (87%)	1 person (7%)	–	73/0
General agreement with the proposed model	14 people (93%)	1 person (7%)	–	87/0

develop more effective and efficient programs (62). Measuring productivity at the level of policymakers and drafters of government bylaws and laws can be used to guide action, significantly affecting government policies and selecting general and lower-level managers. The use of productivity for government oversight bodies is also considered an effective tool for control to improve decisions, increase accountability to individuals in the community and increase the transparency of government performance. As a result, public confidence in government increases, and this measure of productivity improves the performance of government agencies and ultimately improves budgeting. Measuring productivity at the organizational level can improve the following:

- Strategic planning and operational planning of budget allocation and organizational resources

- Specifying the customer's expectations,

- Identifying opportunities for improvement (especially quality improvement) and activities that need to be reviewed;

- Comparison of individuals, units, organizations, and industries to assist in managerial decisions;

- Comparison of organizational performance with internal standards (process control and improvement)

- Comparison of organizational performance with foreign standards,

- Self-assessment tools of government organizations

- Guidance for Continuing or Stopping Organizational Programs Basis for Determining Payroll [14].

The need for a productivity measurement system in Iranian government agencies is inevitable, considering the positive effects of measuring productivity in the public sector and its central role in improving productivity. However, managers are more focused on financial products and do not pay much attention to the organization's effectiveness. Public sector analysts criticize the efforts of government agencies to focus more on the economic concept of productivity measurement [34].

Some scholars emphasize the role of productivity measurement in increasing government transparency. In contrast, others believe that improving critical data in the public sector and providing this information to government policy makers, implementers, and stakeholders enhance decision-making [49]. Productivity can be defined as the effective

and efficient use of resources to achieve efficiency. Effectiveness is the level of return, and efficiency is defined as the ratio of data return. The use of efficiency and effectiveness makes the definition of productivity more comprehensive than efficiency, which has been endorsed by many thinkers. Some believe that limiting productivity to efficiency causes ambiguity and does not provide accurate information to the organization. Equality should be measured in gas management and measuring effectiveness and efficiency. Profit organizations emphasize measuring efficiency, while the gas department, while a government agency focuses on efficiency, and only government agencies focus on equality. Performance measurement is a crucial point in measuring productivity, which should be considered by government agencies [51].

Long-term returns and outputs measure the ultimate goals of organizations and should be distinguished from each other to measure effectiveness. Such goals cover periods of three to five years and sometimes longer. Output is defined as the direct returns showing immediate results of the strategy, often called short-term returns. The first problem in measuring effectiveness is identifying key returns and outputs. Program efficiencies are often not transparent, and managers can determine substantial organizational efficiencies by taking questions from employees and stakeholders when taking on new responsibilities. Therefore, the importance of different returns and outputs is determined according to the needs of customers and customers. Sometimes it is complicated to measure returns, and the usual strategy in these cases is to first focus on the returns that can be measured.

Then, there is customer and citizen mental assessment to collect data on this type of efficiency measurement. Efficiency is also measured in different ways. In a simple approach, efficiency is achieved by specifying all returns and dividing them by all data. This type of measurement is called comprehensive performance measurement. Comprehensive efficiency requires all reported costs, including wages, overheads, and materials, but most performance measurements focus on one return, which is called partial efficiency. This measurement is useful in some situations, but it can be misleading to look at partial performance indicators separately.

In some cases, efficiency measurements are interpreted as cost-benefit or cost-effectiveness estimates. In cost-benefit or cost-effectiveness analysis, all costs and returns should be determined. Workload should be measured regarding productivity by evaluating activities or strategies. Measuring equality is also an important part of measuring productivity (38). Four dimensions were proposed to measure the effectiveness, of which the dimension of measuring the perception and satisfaction of the customer has an essential priority. Today, the gas department should take steps towards customer satisfaction like the private sector. Studies have shown that organizations were more committed to higher productivity by focusing on customer satisfaction and put customer orientation at the forefront of their performance. Customer satisfaction can be achieved by crystallizing it in the goals and missions of the organization, finding the necessary knowledge about their needs, the commitment of the organization, and using customer feedback. The measurement of services provided to the community and customers of the organization is another important indicator of the human resource efficiency of the gas department. The services provided and customer satisfaction is closely related. The organization should strive to reduce costs, increase quality, respond faster and be more innovative. Measuring the improvement of the community's conditions is another indicator of human resource efficiency in gas management. Hence, the organization examines the community conditions in its mission to measure productivity. The efforts of organizations should be based on using the mentioned indicators due to the vital role of organizations in the growth and promotion of society. Measuring the unwanted and negative results of the organization's services is another indicator of human resource efficiency in gas management.

The productivity model provides a framework for the productivity measurement system in the gas management department and makes it possible to evaluate the performance of the organization. The mentioned model can be re-implemented in different periods. Therefore, managers of the organization should first be aware of the components and indicators in implementing this model. Then, this system should be coordinated with the strategic plan of the organization. Effectiveness and efficiency are two critical dimensions of measuring productivity. Effectiveness and efficiency have an extroverted and introverted view in the organization's operations, respectively. The dimension of measuring the perception and satisfaction of customers has an important priority to the dimension of measuring the perception and satisfaction of the customer has an important priority.

Today, the gas department, like the private sector, should take steps toward customer satisfaction. Studies have confirmed that organizations, which are more committed to higher productivity have an increasing focus on customer satisfaction and put customer orientation at the forefront of their performance. Customer satisfaction can be achieved by crystallizing the goals and missions of the organization, finding the necessary knowledge about their needs, the commitment of the organization, and using customer feedback. The measurement of services provided to the community and customers of the organization is another important indicator of the human resource efficiency of the gas department. The services provided and customer satisfaction is closely related to each other. The organization should strive to reduce costs, increase quality, respond faster and be more innovative. Measuring the improvement of the

community's conditions is another indicator of human resource efficiency in gas management. Hence, the organization examines the community conditions in its mission to measure productivity. The efforts of organizations should be based on using the mentioned indicators due to the vital role of organizations in the growth and promotion of society. Measuring the unwanted and negative results of the organization's services is another indicator of human resource efficiency in gas management. The dimension is less important than other dimensions of effectiveness due to the efforts of organizations to reduce unwanted and undesirable results.

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