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A new approach for measuring human resource accounting

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Significance of identifying human resource competency in organizations and the necessity for valuating human resource in accounting persuade many researchers to design a conceptual model for measuring human resource accounting. This study, first, examines dimensions of various valuation models of human resource and then they are compared with Goleman individual and social competency indicators. Next, individual, organizational and social competency indicators are designed through developing Goleman model. Finally, Analytical Hierarchy Process (AHP) and experts' ideas in human resource accounting in superior universities of the world are used to classify the indicators; and the conceptual model of measuring human resource accounting is designed based on guidelines of management and human capital development vice-presidency and inspiring effort rate of return method.

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1. Introduction

Human resource accounting is considered as applying accounting concepts and methods in human resource management and it can be considered as assessing, monitoring, costing and valuating tools for human resources of every organization. On the other hands, transforming qualitative and subjective concept of human resource value in quantitative and objective form, through using human resource accounting is considered as a tool and criterion to evaluate human resource values as human capital of organizations (Tabarsa et al., 2006). Along with providing suitable and reliable information about organizations human resources, the most important and difficult step is to determine organizational human resources value considered as a necessary criterion to display the value of provided services due to increasingly importance of human factor in organizational business (Etemadi & Shahriari, 1996). Therefore, human resource accounting plays a significant role in this field as a new step in human resource accounting with valuating and recording human properties through providing human resource experts' informational needs. Researches indicated that using

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human resource accounting and quantifying every employee's value plays an important role in employees' productivity and reducing defiance. Applying human resource accounting system not only provides a framework to human resource management in organizations but also provides required information for managers about human resources and helps them understand their human resource better (Kulatiaka & Marks, 1988; Boselie, 2002). In this study, we aim to determine and to design a conceptual model in measuring human resource accounting through a new process and considering limitations and preventive factors of human resources accounting. First, research questions are provided and then a brief theoretical description and research background is given. After that, methodology is elaborated and finally the results are given.

2. The proposed method

2.1 Research questions

- 1) What is an optimum model for measuring human resource accounting?
- 2) What indicators should be considered in designing the model of measuring human resource accounting?
- 3) What are the preferences in dimensions of measuring human resource accounting?
- 4) What are the superior indicators of human resource due to AHP?
- 5) What are the barriers and problems of designing the model of measuring human resource accounting, conceptually?

2.2 Theoretical basics

2.2.1 Human resource accounting concepts

Human resource should be defined as human acquisitive knowledge obtained during life time and use it in providing better goods and services (Afiouni, 2007). Human resource accounting is an attempt to determine and to report converting human resource to make additional benefits more than current ones for organization future (Flamholtz et al., 2002).

2.2.2 Human resource accounting benefits

Flamholtz (1999) stated that the aim of setting human resource accounting is to provide related financial information, to improve and to adjust decision making in firms. They counted following benefit and goals for human resource accounting:

- 1- Human resource accounting indicated the effect of human resource on firm performance,
- 2- Human resource accounting should help managers in assessing various strategies of the firm,
- 3- Human resource accounting could develop capital budget and adjust the quality of investment return,
- 4- Human resource accounting helps managers capable in using rare human resources better.

2.2.3 Barriers and challenges of setting human resource accounting

Gathering information about human capital and lack of understanding the information suitable challenged reporting human resource and the quality gathering human recourse information. Some of the challenges are as follows:

- Capability in gathering information related to human resource value,
- Lack of information about the benefits of human resource accounting system,
- Tolerance of organization employees,
- High cost of performing human resource accounting,
- Lack of a standard accounting in human resource accounting.

2.2.4 Emotional intelligence and emotional competency in organizations:

In this study, Goleman individual and social competency indicators (1998) have been investigated to get human resource competency indicators influencing on human in organizations. According to the definitions, emotional intelligence or social intelligence is a general word to remind an effective performance. Emotional intelligence can be the ability to understand and control self-emotions and feelings to help intellectual activities, decision making and communication. The people with high emotional intelligence know how to control and guide their emotions and feelings and others, too (Goleman, 1998). Emotional intelligence includes a few dimensions in occupational environment (Rahim & Minors, 2003): Self-Awareness, Self-Regulation, Motivation, Empathy, Social Skills.

3. Methodology

This research is descriptive and the used method is heuristic. The statistical community includes the expert professors, specialists in human resource accounting in superior universities during the second semester of 2012 educational year. According to the statistical community, this study is conducted based on a questionnaire and 40 questionnaires were sent to the experts' professors from superior universities of the world, online 17 filled questionnaires were collected. The Iranian professors' ideas about human resource accounting have been used to design the questionnaire for validating process and due to the fact the AHP questionnaire is used in this paper, the questionnaires is valid by itself.

3.1. Dimensions and indicators of individual, organizational and social competency

Enhancing human resource includes a set of competencies required for having better performance in organizations. According to Goleman individual and social competency indicators (1988) we have,

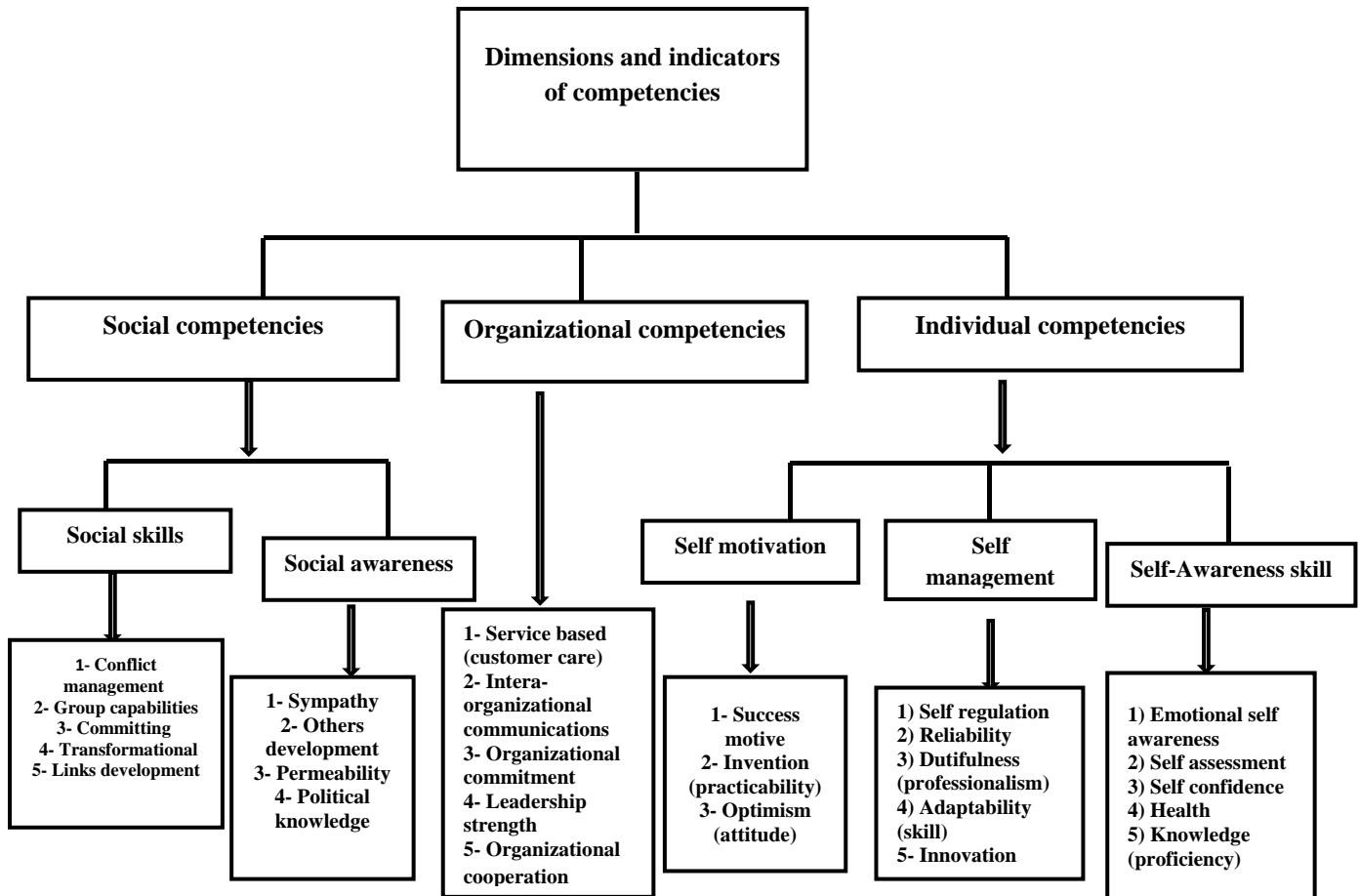


Fig. 1. Indicators of individual, organizational and social competency

3.2. classifying competency indicators by AHP

Analytical Hierarchy Process can be used when decision-making faces some adverse and standard options. The mentioned standards can be quantitative or qualitative; this process is based on decision making on pair comparisons. The decision maker started to decide through providing hierarchy tree. The decision hierarchy tree displays compared factors and various assessed options (Ghodsypour & O'Brien, 1998). Applying this process includes four general steps:

- **Modeling:** In this step, decision problem and goal is explained by hierarchy of decision elements. The decision elements are individual, organizational and social competency indicators, in this study. High level indicates the main goal in decision making process. Second level indicates basic and general indicators, which can be divided into subsidiary and detailed ones at next level.
- **Pair comparisons:** the decision maker should make the matrix set measuring indicators due to their numerical significance and relative preferences, after designing decision hierarchy. It is conducted by comparing decision elements two by two (Pair comparisons) and specifying numerical grants indicating preferences and significance between two decision elements.
- **Relative weights Calculation:** next step in Analytical Hierarchy Process is doing necessary calculations to determine each decision element class through using pair comparison matrixes. The summary equation of this step is given as follows. Total amount of numbers in each column of pair comparison matrix is provided and divided by every column element. The new matrix is called normalized comparison matrix. The mean of numbers in each row of normalized comparison matrix is calculated. This mean provides relative weight of decision elements to matrix rows.
- **Relative weights Integration:** to prefer decision-making indicators, relative weight of each element should multiply to weight of higher elements to get the final weight. By doing this for each indicator, final weight is provided. To fill couple comparing matrix, the scale , 1 to 9 , is used to determine relative importance of each element to others , and for that trait. Following table displays scoring scale of couple comparisons (Momeni & Sharifi, 2012).

Table 1
Definition of scores

Description	Definition	Score
Two elements are similarly significant.	Same significance	1
One element is averagely preferred to another one.	Average preference	3
One element is highly preferred to another one.	High preference	5
One element is much preferred to another one.	much preference	7
One element is extremely preferred to another one.	Extra preference	9
Middle cases in deciding	Middle values	8,6,4,2
When element i is compared to j , one of the above numbers is given to. in comparing i and j , the reverse amount is given too: ($x_{ji} = \frac{1}{x_{ij}}$)		

4. The results

4.1. Results of preferring competency indicators by AHP

Briefly, in Table 2, the sub-weights of all individual, organization and social indicators long with their subsidiaries are given by weigh and percentage, respectively. In every pair comparison level, if the inconsistency is less than or equal to 0.10, there is a consistency in comparison.

Table 2
The results of AHP

consistency Rate 0.01	1-organizational competency 55.5%	consistency Rate 0.07	1- Customer care 29.1%	consistency Rate 0.06	1- Committing 30.1%
			2- Organizational commitment 23.9 %		2- Group capabilities 25.8%
			3- Leadership strength 18.5%		3- Transformational 25.7%
			4- Inter-organizational 17.6 %		4- Conflict regulation 10.3%
			5- Organizational cooperation 10.9 %		5- Links development 8.1%
	2- social competency 31%	consistency Rate 0	1- Social skill 59.8 %	consistency Rate 0.05	1- Others development 51.5%
			2- social-awareness 40.2 %		2- Political knowledge 22.1%
					3- Permeability 14.3%
					4- Sympathy 12.1%
	3- Individual competency 13.6%	consistency Rate 0.06	1- Self motivation 42.9 %	Consistency Rate 0.05	1- Invention (practicability) 51.7%
					2- Success motive 30.8%
					3- Optimism (attitude) 17.6%
		consistency Rate 0.04	2- Self-awareness 32.8 %	Consistency Rate 0.04	1- Knowledge(proficiency) 38.4%
					2- Self assessment 28.8%
			3- Self-confidence 11.9%		
			4- Health 10.6%		
			5- Emotional self awareness 10.3%		
consistency Rate 0.10		3- Self regulation 24.3%	consistency Rate 0.10	1- Innovation 39.9%	
				2- Adaptability (skill) 21.2%	
			3- Reliability 19.2%		
			4- Dutifulness (professionalism) 13.2%		
			5- Self regulation 6.4%		

4.2. Designing the conceptual model of measuring human resource accounting

The conceptual model for measuring human resource accounting was given through Table 2 based on human resource performance assessment model and according to guidelines of management and human capital development vice-presidency and inspiring effort rate of return method. The results are as follows:

- 1- In the first column, indicator, the preferred individual, organizational and social competency indicators are evidenced and it helps to evaluate each person's value based on individual, organizational and social indicators and their subsidiaries and to determine the value created by each personnel due to separated competencies.
- 2- In assessment unit column, the assessment unit of mentioned indicator is given, which can be percentage or number. Here, it is percentage.
- 3- In expected goal column, the pre-determined quantitative goal is given, which can be stated in percentage or number. Here, the goal is accessing to 100% of each competency.
- 4- In highest score column, a score is given to each indicator due to its significance to other competency indicators. Here preferring percentage of each competency is used that is 100 in sum.
- 5- In performance column, the accessed goal is given in percentage.
- 6- In acquired score column, the acquired score by each personnel for the competency indicators is determined.
- 7- When adding all scores of personnel in an organization, total score of the organization is provided. When the net assessment value of organization is divided by total score, net value of each score is obtained and if net value of each score is multiplied by score numbers of each person, the value of each person to net assess value of organization is provided.

$$\frac{\text{highest score} \times \text{performance}}{\text{quantitative goal}}$$

The provided individual, organization and social indicators percentages, in previous stage, are given as the highest score in Table 3. In addition, performance scores are given in percentage as instance. Other indicators and subsidiaries, classified in this study, are given in similar tables; to provide the scores of each personnel to different competency indicators.

Table 3
General indicators of employees' performance assessment

Number	General indicators	Assessment unit	Expected quantitative goal	Highest score	Performance	Acquired score
1	Individual competency	percentage	100	14	80	11.2
2	Organizational competency	percentage	100	55	75	41.25
3	Social competency	percentage	100	31	70	21.7
Total				100		74.15

5. Discussion and conclusion

In this century, human is the basis of all activities in communities and organizations and it is considered as strategic property for each organization. Focusing on human and intellectual resources is important and the shift indicates general attitude to reach real position of each person in organization. Evaluating the valuable resources and giving them the necessary information help make financial, investment and other decisions for organizational management, significantly. By disregarding the employees' value in managerial reports and giving a quantitative value to them, we cannot expect to make any progress for development in organizational environment. Progressing and evaluating human resource accounting have not reached to an adoptable level, using current human resource models is complex, and managers and human resource accountant in various organizations cannot analyze them. Therefore, this model does not have much chance to remain in this practical filed and we hope to meet expected progresses by providing new models of measuring human resource accounting and to see all firms and organizations measure their own human resource and develop to higher levels.

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