Investigation and clarification of the effect of AMOS software functional process on the prioritizing of conceptual models' indexes based on structural equations model

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Abstract: Using multivariate analysis has caused basic changes in the process of social research and has enabled the researchers for better understanding of the complexity of human societies. In this way, Structural Equation Modeling, with the capability of considering the non-linear relations between phenomena, has been welcomed and encouraged by the science society. This article investigates the effective indexes in the enrichment through existing relationships in AMOS software and changing of the conceptual model as well as providing a model for empowering the human resources stemmed from thematic literature.The purpose of presenting the current article is investigation, clarification and discovery of the way of changing and effects of the process of AMOS software's function and the outputs of this software on the different conceptual models. Also, the way of prioritizing of the conceptual indexes is investigated in two methods of stepwise prioritizing and one-off prioritizing. Therefore, at first we define the scientific and university issues and definitions of the empowerment of human resources, then we investigate the results and outputs resulting from the processing and the amount of correlation between the elements and indexes presented in the AMOS software. The population of present research is some existing industrial companies in Iran. The instrument of the research is the questionnaire with the reliability of 93% and the related outputs has been made reliable through the software of AMOS.The results of research have shown that the output of these two methods has not been similar and the researchers must choose one of these models voluntarily based on their conceptual model and whether in their models the effect of variables with less priority on other variable is essential. For example, in the present research if a researcher likes that the effects of variables or the low correlation are effective in his calculations, he must use the one-off priority-measuring and if he do not like in the effect of the light variables in calculations, he must use stepwise prioritizing method.
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1. Introduction

The concept of empowerment of human resources was first entered to the domain of human resources management of organizations in 80s decade (Blanchard et al. 2000, Sagie & Kosiowsky, 2000). However, it was since the decade of 90 that it achieved high interest among the researchers, manages and the people involved in the organization (Spreitzer, 1996, Conger & Kanuago, 1998, Bowen and lawer, 1995, Spreitzer, 1995). Empowering the human resources means paying attention to the human resources of the organizations and empowering the people of a society or a social system. In other words, empowering means creating a condition that people can first do their work with the inner incentive and secondly, they can finish it with complete achievement (Dowling, 1999). Empowerment means removing the obstacles of growth, encouraging the commitment to the purposes, encouraging the acceptance of taking risks, creativity, innovation, enabling the people to solve the problem, increasing the responsibilities, removing and destroying the fear. Empowerment means finishing everything that causes the stopping of growth, freedom in performance, self-confidence and the cooperation of the people (Aghajani&Aghajani, 2006). Empowerment is not just giving power to the staffs but it causes the staffs to improve their operation and performance by learning sciences, skills and more wills. The empowerment is a new method for improving the utilization that is used by the managers through increasing the commitment of staffs and the use of managers. Empowerment is the tool that coordinates the purposes of staffs and organizations and the staffs are convinced that the growth and the improvement of organization causes the provision of their interests (Aghayar, 2007, P.22). Empowerment is the valuable process that is extended from the high stepwise management of organization to the lowest stepwise of it (Savage,

2000). Empowerment means that the staff can do their duties without telling them (Savery, 2001). Empowerment means giving the staffs whatever they need and it means giving the feeling that they are important (Conger & Kanungo, 1998). Empowerment of the staffs is the pre-requirement for developing process that causes the increase in power of staffs for solving their problems and improving their political and social insight that empowers them to identify the environmental factors and control them (Aghayar, 2003, 28). Some people considers the empowerment as giving the authority of decision making to the staffs for increasing their efficiency and implementing effective role in the organization (Erstad, 1997) that can be obtained through inner and outer organizational challenges (Nelson, 1994). Other people consider the empowerment as a process of repeating sharing of authority and controlling (Horrenkol et al., 1999, 340). Empowerment means giving more authorities to the staffs for making essential decisions without controlling and supervision of higher level of management in the beginning. Sterperker, one of the pioneers in the in empowerment, says that empowerment means conveying the power of making decision to the lowest level of organization that can make an appropriate decision (Fullam et al,, 1998). The operation of powerful staffs, is an important principle in the organization and effective management that can increase the utility of organization by giving more power and the controlling the employees. Also, the empowerment is in relation with the innovative behaviors, management and effective leadership (Abtahi et al., 2006, 7). Begler and Somech believe that empowerment is a personal belief through which the skills and sciences of people are improved and they act based on that (Bogler & Somech, 2004).

2. Theoretical principles

Empowerment of the staffs:In oxford dictionary, empower means giving power, giving certificate or being powerful. Generally speaking this vocabulary means having power and freedom for managing yourself and in organization concept it means changing the culture and bravery in creating and leading an organizational environment. In other words, empowerment means designing an organizational structure, in the way that people have the readiness for accepting more responsibility besides controlling themselves. Empowerment makes the situation in the staffs that they can manage their own working life and they reach enough growth for accepting more responsibilities in future (Lawler, 1994: 52).

Blanchard writes that many managers look at the empowerment in this view that it gives the people the power of making decision. Many of staffs,

also, know the empowerment as achieving the freedom for implementing any work. Also, empowerment means freeing the power of inner force for obtaining the wonderful achievements. Empowerment means giving power and this means that we can help the people to improve their feeling of confidence; conquer their disabilities and create the encouragement for more activity and inner incentives in them for doing their duties. According to the Baroch, empowerment is not only a new word, but it is an imagination introductory of current desires of recent management science. It is the story of working with people and changing the direction management style from up to down that today, its importance has been added through presenting new discussions such as repeating engineering and changing the structure. Empowerment is the process through which the manager helps the staffs to achieve essential ability for making independent decision. This process not only is effective in the operation of people but it is also effective in their personality. The most important concept of empowerment, is granting authority to the lowest level of organization. The process of making decision must have the highest degree of not concentrating and people with working groups must also be responsible for a complete section of working process.

Definitions of empowerment:

-Empowerment means giving official authority and legal power to the staffs

-Empowerment is the process of development. It is the process that cause increase in the power of staffs for solving the problem of improving and promoting of the political and social insight of the staffs and help them to identify the environmental factors and control them.

-Empowerment is giving authority and decision making to the staffs for increasing their efficiency and playing effective roles in the organization

- Empowerment is not only giving the authority to the staffs but it causes that the staffs can improve their operations through learning the sciences, skills and incentives. Empowerment is the valuing process that extends from high organizational management to the lowest stepwise. (Skat & Jaf, 1997, 50).

- Empowerment means that the staffs could understand their duties very well without being told what to do in advance.

- The performance of powerful staffs is an important principle in an effective organization and management that can increase the utility of organization by giving the power and more control of employees. Also, the empowerment is in connection with the innovative behaviors, management and effective leadership. Empowerment is same process of empowering the people of the society or social

system. In other words, empowerment means creating the situation in which people at first can do their work completely with the inner motive and second with the complete success. In other words, empowerment is removing the obstacles of growth, encouragement to the commitment to the purposes, encouragement to take the risk, creativity and innovation and enabling the peopling in solving their problems, increasing the responsibility and removing the fear. In the process of empowerment the purpose is to create the environment that all the individuals have commitment and freedom for accepting the responsibility in the field of growth and development, ability and self-confidence. It should be noted that the empowerment is not something that the managers and leaders give the people but it is creating the situation in which people can ascend to the summit of their potential abilities and make the best decisions (Aghajani & Aghajani, 2006).

Empowerment has been one of the most harbinger concepts in business world that has been less considered. Despite a lot of discussions that has been done regarding the advantages of empowerment, the utilization of it has been very few but it has turned to today discussion (Blanchard et al., 2000: P.11). Some believe that empowerment can deliver a competitive advantage to an organization and many of managers believe that empowerment is desirable, however, many of organizations have problem in implementing of it and some believes that the managers can increase their efficiency through the empowerment of the staffs. Although, many managers believe that the empowerment is the skill that must be implemented, but the real implementation of it is rarely done. For the purpose of correct management of the changes, the leaders, managers and the people in charge of organizations must recognize the social processes that are effective in the view of the staffs and create the context which is important in empowering the staffs (Laschinger, 2006). For empowering the staffs, the managers can increase the feeling of power by creating attractive working situation and clarifying the purposes besides holding the periodical conferences. The managers can help the empowerment of their staffs by giving attractive lectures and making the happy working environment and investment on some of the principles such as clear purposes, self-management, giving scores and feedbacks that make the emotions (Abdollahi, 2006).

3. Theoretical framework
3.1. Expressing the basic theory

The previous researches and studies have shown that many factors and elements had been effective in empowerment of human resources. In this base, many models and structures of these factors and

indexes have been investigated in the books, journals and articles. For example it can be mentioned to empowerment models of Bill Harley, Laverack, Dennis Kinhaw, GAO, Carrol, Walace and Strom, Thomas and Velthouse, etc. in the research with the title of comparative model of empowering of human resources that have been done by Mr. Aghajani and Ghodoosi, the human resources empowerment models have been studied and analyzed. (Aghajani & Ghodoosi, 2010). Also, according to the similar research done by Leach & Fulton, there is a significant relationship between the cooperative management and the empowerment of human resources and staffs (Leach & Fulton, 2008). In this research, the experts have considered many factors in empowerment of the staffs and each of them has presented different variables and specific indexes for their own model. The purpose of article is study of comparative models of human resources empowerment, identification and comparisons of these models, the indexes and variables that have been presented by most of these experts and these are ultimately all presented through a combinational and conceptual model. The results of this research has shown that the indexes of Participation, team working, Delegation, job satisfaction, teaching and learning, etc. has the most frequency. (Aghajani & Ghodoosi, 2010).
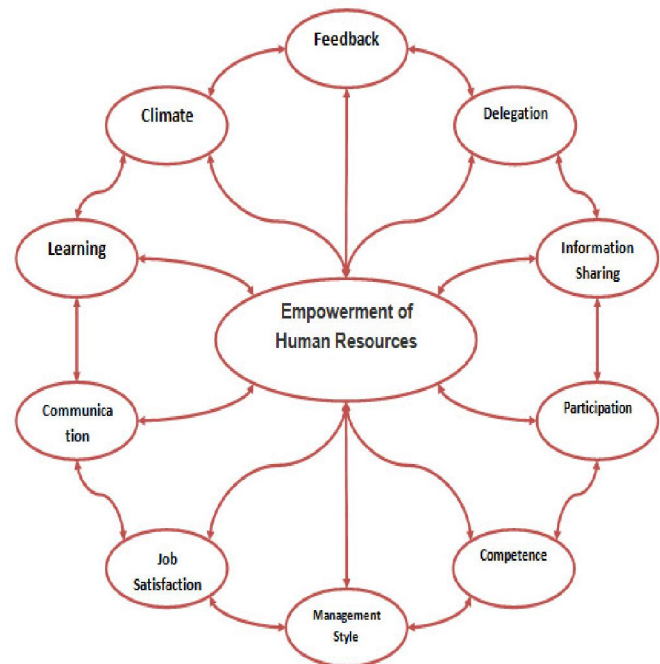
3.2. The conceptual model of research

Considering the principles of basic theory of research and also the history mentioned in above, the following conceptual model has been used for

investigation and clarification the effect of effective indexes on the empowerment of human resources relying on structural equation model.

4. Materials and methods

Regarding the method of research many different approaches and views have been presented so far. However, considering four method theorist model, i.e. expanding or improving the current theories, comparing different theoretical views, considering the special issues by using different theoretical frameworks and finally investigating the documentary and repetitive phenomenon in the environment and new situations (Feldman, 2004, 1-6), the current research is based on the applicable purposes and it is descriptive survey. The population of research is the experts and elites in industrial companies of Iran. The methods of sampling for present research is simple stratified accidental one and the instrument for gathering information is questionnaire that the analysis of data has been done based on that. The thematic domain of present research is formed by the related discussions to the investigation and clarification of the effect of the operational process of AMOS software on the conceptual models of empowerment of human resources relying on the structural equation model, its time period is formed by collecting date through the previous years, in cross sectional method and the its place domain is formed by the industrial companies in Iran .As it was mentioned between the four tools for gathering data, the questionnaire has been used. The questionnaire of research contains 64 questions in the scales of 10 options. Each question of questionnaire showed the variables that have measured different dimensions for investigating and clarification of native pattern of empowerment of human resources. The method of gathering data and required information has been in the way that the designed questionnaire has been given to the members of population in their first presence and the essential explanations has been presented to them and then in their second reference the questionnaires have been collected. After collecting the required information all of them were encoded then they have entered into the data of SPSS and AMOS software. Then, in addition to the classifying of the data, the descriptive statistics of the data has been calculated.

5. Result
5.1. Part one: stepwise priority-measuring

Since the purpose of this article is investigation, clarification and discovery the changes and effects of the operation of AMOS software and the outputs of this software is based on different conceptual models, at first step and previous section,

the primary conceptual model has been presented. In the second step, the mentioned indexes in this model there are converted to a 64 questions questionnaire with the reliability of 93% (Alfa- Chronbach). In the next step, this questionnaire has been presented to the experts and elites of industrial section of Iran and after complete explanation of questions and completion of them; the required information has entered in the AMOS software. In the next step, for identification of effective indexes on the empowerment of human resources which has high priority, different models have been investigated by AMOS model in following ways:
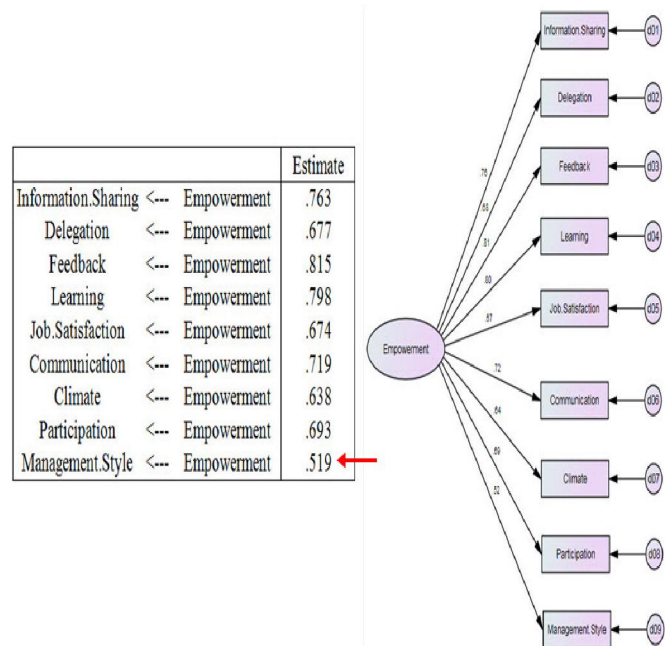

At first, the model of empowerment of human resources with 10 factors has been investigated in following method and the weight of each index and their correlation has been investigated. In the next stage, the factor which has less priority and weight in comparing with others has been omitted and the model was investigated with 9 factors or indexes. This procedure was followed until the six indexes with the most priority were identified. In each stage the changes in the correlation of indexes is sensible and traceable.

The amount of Chi-square and the degree of freedom in above model have been 103 and 35 respectively. As it is seen in the above figure and table, the index of competence has the less degree of correlation compared with other indexes that are around 58 percents. Therefore, this index has been omitted from the ten indexes and in the next stage we investigate the test of correlation in the AMOS software with nine indexes.

The amount of Chi-square and degree of

			Estimate
Information.Sharing	<---	Empowerment	.718
Delegation	<---	Empowerment	.691
Feedback	<---	Empowerment	.877
Learning	<---	Empowerment	.782
Job.Satisfaction	<---	Empowerment	.705
Communication	<---	Empowerment	.663
Climate	<---	Empowerment	.580
Participation	<---	Empowerment	.643
Management.Style	<---	Empowerment	.594
Competence	<---	Empowerment	.579
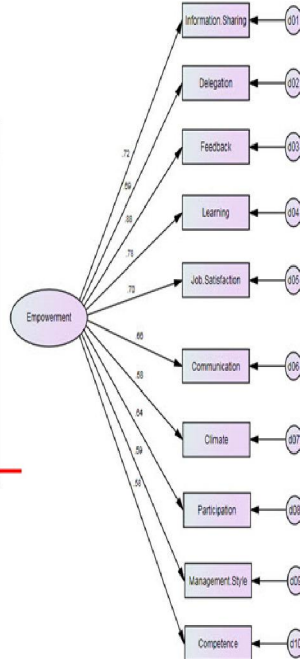
The amount of chi -square and degree of freedom in above model is 52 and 20 respectively. As it is observed in the above figure and table, the job satisfaction has the least degree of correlation
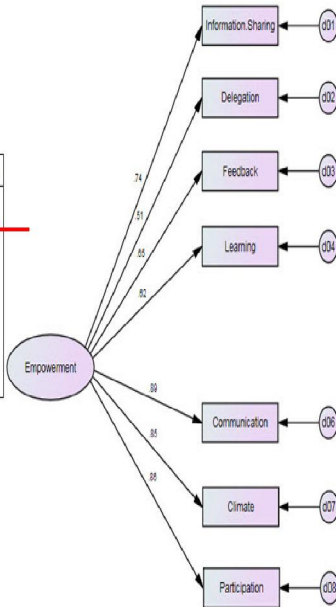
			Estimate
Information.Sharing	<---	Empowerment	.772
Delegation	<---	Empowerment	.563
Feedback	<---	Empowerment	.699
Learning	<---	Empowerment	.680
Job.Satisfaction	<---	Empowerment	.444
Communication	<---	Empowerment	.859
Climate	<---	Empowerment	.808
Participation	<---	Empowerment	.827
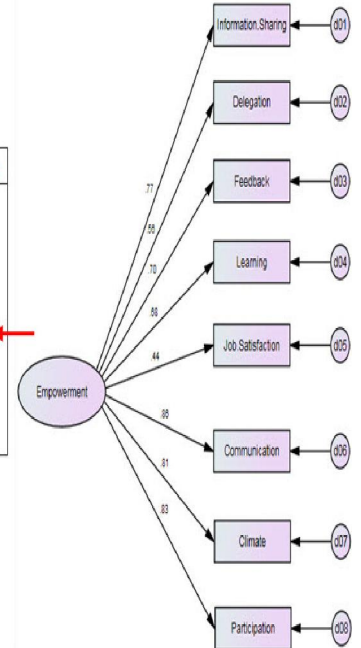
freedom in above model is 81 and 27 respectively. As it is observed in the above figure and table, the index of management style has the least degree of correlation compare with other indexes which is around 52 percents. Therefore, this index is omitted between nine indexes and in the next stage of the test of correlation in the AMOS software the eight indexes were investigated.
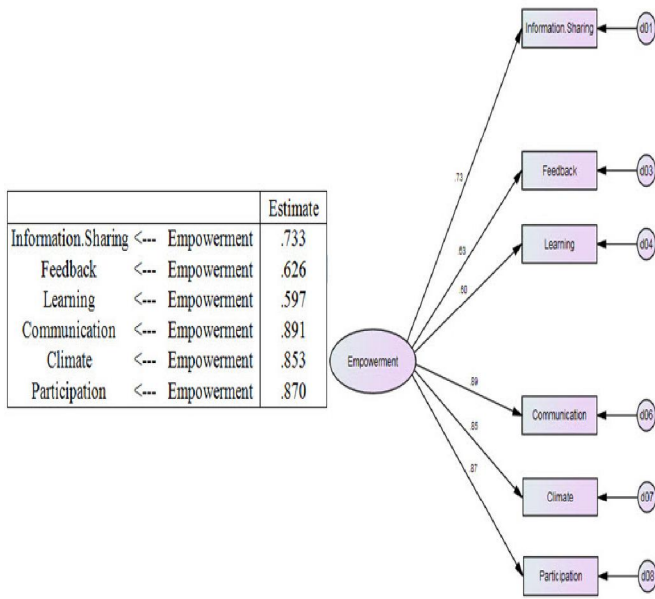
comparing with other indexes that is around 44%. Therefore, this index is omitted between eight indexes and in the next stage of test of correlation in AMOS, seven indexes were investigated.

The amount of chi-square and degree of freedom in above model is 21 and 14 respectively. As it is shown in above figure and table, the index delegation has the least degree of correlation comparing with the other indexes that is around 51 percent. Therefore, this index is omitted between the seven indexes and in the next stage of test the reliability is investigated using six indexes.

The amount of chi-square and degree of freedom in above model is 12 and 9 respectively. As it is shown in above table and figure, the six remained indexes have the correlation above the 50 percents and it can be said that these indexes are the main and most effective indexes in empowerment of human resources in industrial companies of Iran.

			Estimate
Information.Sharing	<---	Empowerment	.744
Delegation	<---	Empowerment	.515
Feedback	<---	Empowerment	.653
Learning	<---	Empowerment	.621
Communication	<---	Empowerment	.885
Climate	<---	Empowerment	.845
Participation	<---	Empowerment	.856

and clarify the effect of functional process of AMOS software on the conceptual models relying on the structural equations model of empowerment of human resources in the industrial companies of Iran. Therefore, since the AMOS software is one of the

	Estimate
Information.Sharing <--- Empowerment	.733
Feedback <--- Empowerment	.626
Learning <--- Empowerment	.597
Communication <--- Empowerment	.891
Climate <--- Empowerment	.853
Participation <--- Empowerment	.870

The amount of correlation of empowerment of human resources has been reported with indexes of communication 89%, Participation 87%, climate 85%, sharing the information 73%, feedback 62% and finally teaching and learning 59%.

The diagram of the amount of correlation between the effective indexes on the empowerment of human resources with the stepwise priority
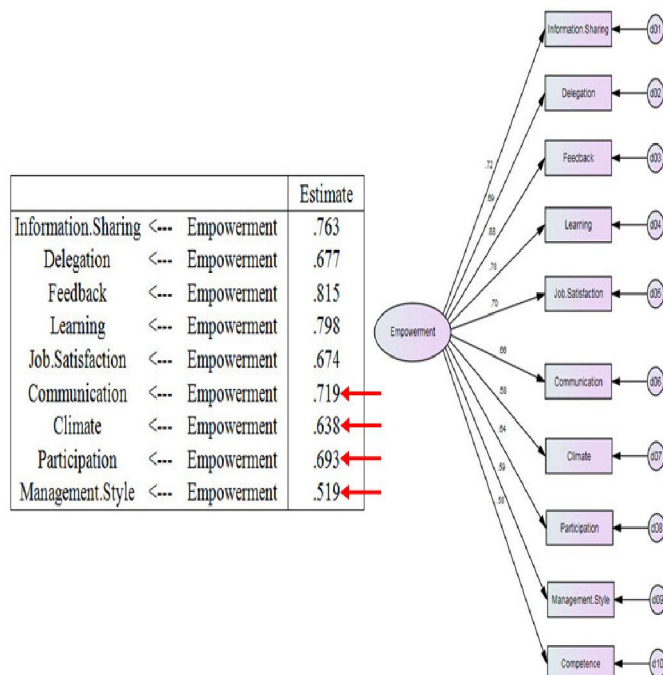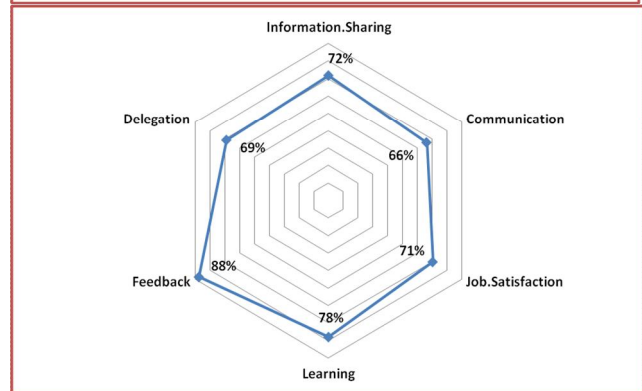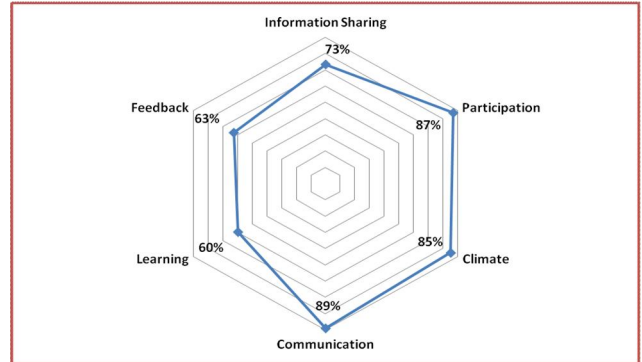
5.2. Section 2: one-off priority-measuring: As it was mentioned in the section 5.1, the priority of effective indexes on the empowerment of human resources has been done in stepwise mode and step by step that has been led to the output of six indexes. However, since the AMOS also calculates the effect of variables on each others, in this section the indexes are not omitted in stepwise mode. In the first software output it omits the four indexes that have the least amount of correlation and the six remained indexes are considered.

The diagram of the amount of correlation between the effective indexes on the empowerment of human resources by one-off priority-measuring.

6. Discussions

Generally speaking it can be said that the limitations of time and place in the researchers of all humanistic fields, especially in the field of management do not give this opportunity to the users to use the results of above studies in different times or places. For applying the results of mentioned studies it is essential that at first adopting the models to different place and time context be done so that the application of these findings would be economic and accurate.The present article has tried to investigate

	Estimate
Information.Sharing <--- Empowerment	.763
Delegation <--- Empowerment	.677
Feedback <--- Empowerment	.815
Learning <--- Empowerment	.798
Job.Satisfaction <--- Empowerment	.674
Communication <--- Empowerment	.719
Climate <--- Empowerment	.638
Participation <--- Empowerment	.693
Management.Style <--- Empowerment	.519

newest software for analyzing the statistical data, this article has tried to investigate the method of prioritizing in conceptual models and the issue that

how one can weigh the indexes affecting the dependent variable. In comparing the conducted research with other researches mentioned in article, it can be mentioned to these issues that in this research a conceptual model besides the investigation of the process of priority-finding of independent indexes in AMOS software have been addressed.

7. Conclusions

Since the present article for the process of making the effective indexes of priority on dependent variable such as empowerment of human resources through the AMOS software, the conceptual model of thematic literature with ten effective indexes on the empowerment has been presented and in the next stage two methods of stepwise priority and one-off priority-measuring with selection of six indexes with higher weights and more correlation. As it has been observed in the previous diagrams and figures, the outputs of these two methods were not similar and the researchers must choose one model based on their conceptual model and based on this issue that

whether in their model the effect of variables with less priority on the other variables are essential or not. For example, if the researcher wants that the effect of light variables to be effective in his calculation he must use the method of one-off priority-measuring and if he does not like the effect of the light variables in the calculation, he must use the stepwise priority-measuring. The ten-part indexes that are presented in the primary conceptual model include participation, delegation, sharing of the information, competence, management style, job satisfaction, communications, learning, climate and feedback. These indexes were reduced to six indexes of sharing the information 73%, feedback 56%, teaching and learning 59%, communication 89%, climate 85% and participation87%following the processing with AMOS software. However, if the reliability of these 10 indexes is investigated by the one-off priority-measuring, they are reduced to six indexes of sharing information 71%, delegation69%, feedback 87%, job satisfaction 70% and communication 66%

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