



**International Journal of Biology, Pharmacy  
and Allied Sciences (IJBPAS)**

*'A Bridge Between Laboratory and Reader'*

[www.ijbpas.com](http://www.ijbpas.com)

---

## **MODEL OF PLANNING & PROJECT CONTROL IN PROJECT EXECUTIVE MANAGEMENT**

**HESSAM KARGARI\* AND KAMRAN JAMALI FIROUZABADI**

Department of Industrial Engineering, Management and Productivity Systems, Islamic Azad  
University, Firouzkouh branch, Firouzkouh, Iran

### **ABSTRACT**

Providing a descriptive model for planning and Project Control unit in implementation of the project and describing how the project planning and control techniques as a tool can affect the management of the project are considered in this study. Further, all the tasks and goals of a planned unit and project management problems and barriers to implementation of projects are generally considered and finally, the scientific and practical solution are presented.

This study tried to provide an execution model for planning and project control and use it to increase the efficiency of projects.

**Keywords: Planning, Project Management, Project Management**

### **INTRODUCTION**

Proceeds from the sale of gas affect the economy and so on people's livelihoods and continuity of its retardation causes loss of stability of the national capital and abundant financial losses. One of the most important and influential in gas industry lag is the extraction and refining region of South Pars gas fields with Qatar, with weakness in the executive management of the project. The use of project management techniques as a tool

can help to prevent loss or damage to a company's industrial unit and play an important role in the increased management efficiency. Lack of proper planning or lack of implementation of the project plan can result in the cost, loss of time and a waste of resources and the manpower.

### **Definitions of key terms**

#### **Planning**

Planning includes the sequencing and paralleling the necessary activities to execute a project in a given the time for the implementation of each activity and the quality assigned to that activity.

### **Project Control**

It is a process in order to keep the project to achieve an economic balance between three factors of justifying the cost, time and quality during project implementation which uses tools and techniques helping do this. In fact, control is the accurate and complete implementation of the project plan so that when you exit the program, you can identify the causes of economic activities to restore the project to the closest possible state to the primary path.

Planning and project control steps are:

- 1: Definition of the project and its characteristics
- 2: The design of the components of the Work Breakdown Structure
- 3: Determining the parameters of the project planning

- 4: The provision of information and network projects
- 5: Preparation of project schedule
- 6: Acceptability of the program
- 7: The modified program
- 8: Allocation of resources
- 9: The decision of the Project Manager
- 10: Action for reform
- 11: Determination of control
- 12: Determination of project progress
- 13: Budgeting project
- 14: The actual data collection
- 15: Stages of the project
- 16: Preparation of final report
- 17: Compliance with the program
- 18: Reporting period
- 19: Determining the causes of discrepancies
- 20: The presence or absence of a bug in the program
- 21: Action for reform
- 22: The reporting period
- 23: The decision of the Project Manager

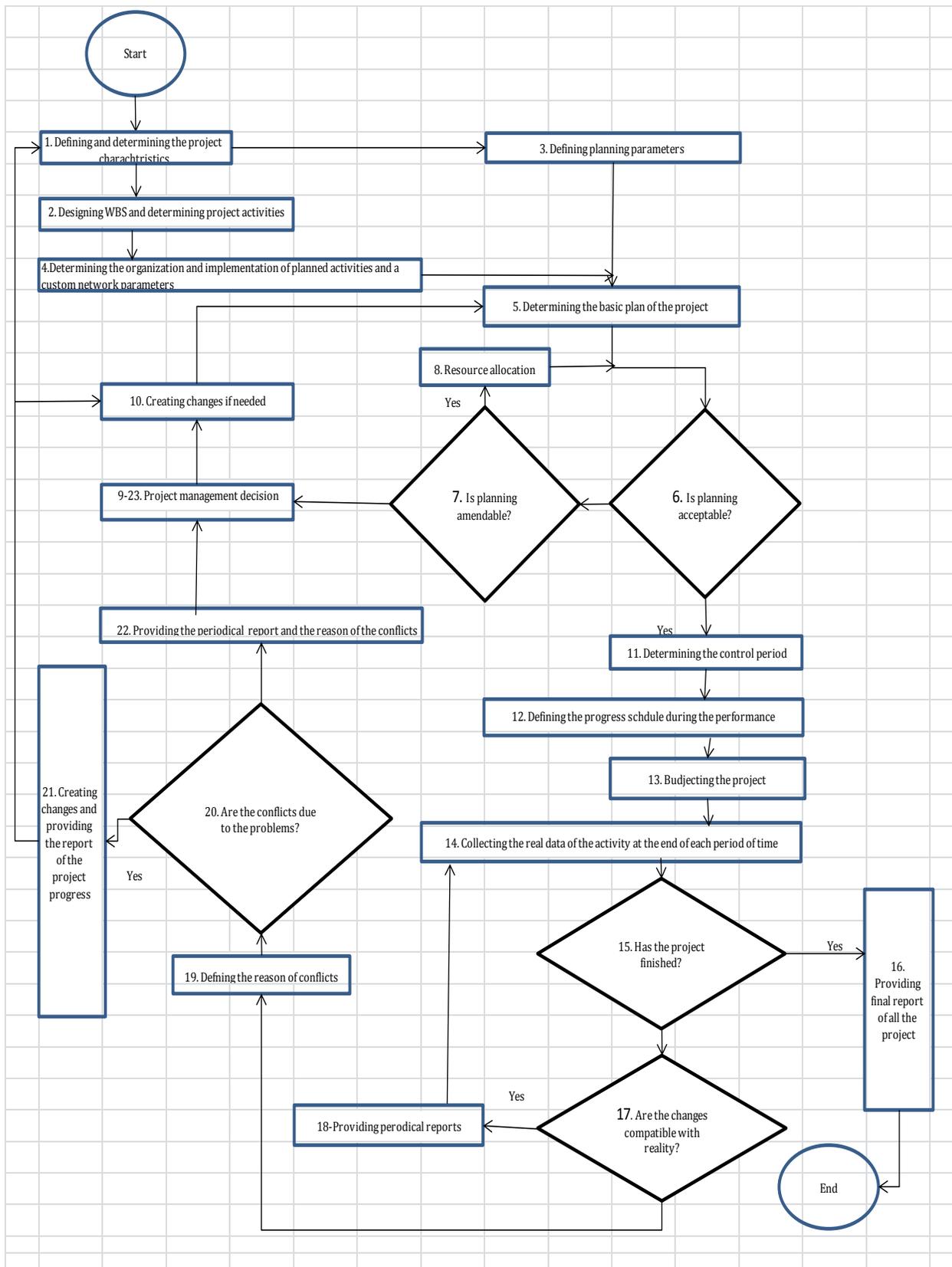


Figure 1: step of planning and project control

## **Project Management**

It is the application of the knowledge, skills, tools and necessary techniques in managing the implementation of activities to achieve the project goals and customer expectations.

## **Research Background**

**Abbas Naderpour and Masoud Mofied (2009)** in his article entitled “dynamic control project progress using Earned Value standard system “ suggested that the most important tool for making decisions about how to control the project manager and project governance is the information obtained from the report prepared by the Department of Planning and Project Control. The conventional project management due to lack of ability to update and analyze and predict the minute information barriers projects simultaneously and in all dimensions, cannot offer a clear picture of the project.

Also, due to the lack of a stable basis for measuring the activity at each moment of time, planning and scheduling of some activities to remove the obstacles to the project causes the other activities that have lagged behind the timetable to be ignored. The authors of the research believe that the world's most successful project control system is the obtained value standard. The project manager can use the parameters of the new system to identify difficulties in implementing

the project in the shortest possible time and correct understanding of the current situation and predict future problems and also provide effective solutions to meet the project's objectives.

**Hojjattollah Mehryar (2008)** in his article entitled “ the importance of the project work breakdown structure” in the journal of Electronic Industry states that in the last decades in various countries around the world, a lot of property projects has been implemented in different areas and with different time using different volumes of funds. Execution and completion of the project required the effort and technical capabilities and professional project managers. Using the small and personal computers is another aspect of effective tools used in the project management process.

This paper focuses on the fact that proper design and use of a work breakdown structure and coding system and the use of specific words can be an effective basis for project control systems, policies and procedures for all projects. The work structure helps organizing and planning all phases of the project. Project management and all those who are involved in the operation and management need accurate and useful information on the different stages of implementation.

A well designed work breakdown structure is an appropriate basis for regulating the operation of the system provides information for project control.

**Sayyid Musa Khaleshizade and Mohammad Hadi Nourani (2004)** in their paper entitled “the data from the project control environment” suggested that the planning and the project control are applied in various projects in both centralized and decentralized form. Centralized Projects are those whose all stages of the design and its implementation are done within the organization and by relying on the dynamics of the organization. In contrast, decentralized projects are the ones in which all or part of the design process, implementation and monitoring is done by outside the organization.

The most important factor in successful decentralized project management is a strong and coherent information system for collecting and processing the obtained information from the contractors and decision support with a high confidence level. The purpose of this paper is to introduce an information system and decision support which presents the measurement indicators, the performance and progress of project implementation and design requirements of the decision tree, to coordinate the monitoring

of the organization decentralized projects. To achieve this goal, the Software needed to integrate the capabilities of a decision support system and knowledge of project management is designed and implemented. This software is examined as a case study in Petroleum Development Company.

**Qi and Zhao Jian, in 2012** presented the new algorithm to find the critical path of the planned network.

**Gabriel Zeneca and GabberBrakes, in 2012**, in an article entitled “lines in the planning and project control evaluation” introduced a new chart called lines of progress.

### **Research Purpose**

The scientific purpose of the study is to explain how to influence project management project planning and control system. In practical terms, this is followed by the question that what should be the focus of an industrial engineer for expert planning and project control and in terms of research; it is aimed to identify challenges and obstacles in implementation of standard planning and project control and to present in a descriptive or template suitable model and applying the concepts of planning and project control in order to improve the quality and efficiency of the executive management of the project.

## **METHODOLOGY**

Qualitative research methods were used in the implementation process, the research results are practical and analytical (experimental or observational). The method of qualitative analysis (content analysis), brainstorming, cause and effect, and the Delphi technique are used to validate the proposed model and analyze the data.

### **Data collection**

Data collection for this study was using the books and articles published in prestigious national and international databases, national and international databases, field observations, research, search. Also the tools for gathering information included field observations, interview and questionnaire.

### **Conceptual framework**

The conceptual framework outlined in this study is shown in the figure.

It is worth noting that the practice of project management is influenced by many factors. One of the most important factors is the planning and projects control in which many items are effective. Improved project planning and control of administrative steps can improve its performance and thereby improve the performance management system and increase productivity (**Figure 3**).

### **Model**

A model was presented by analyzing the findings and concluding the presented information and solutions and also modeling the process and steps of the planning process and project management based on P.M. Book standard (**Figure 4**):

### **Validation of the model**

After the model is developed, it was tested using the Delphi method and questionnaire.

Project management process:

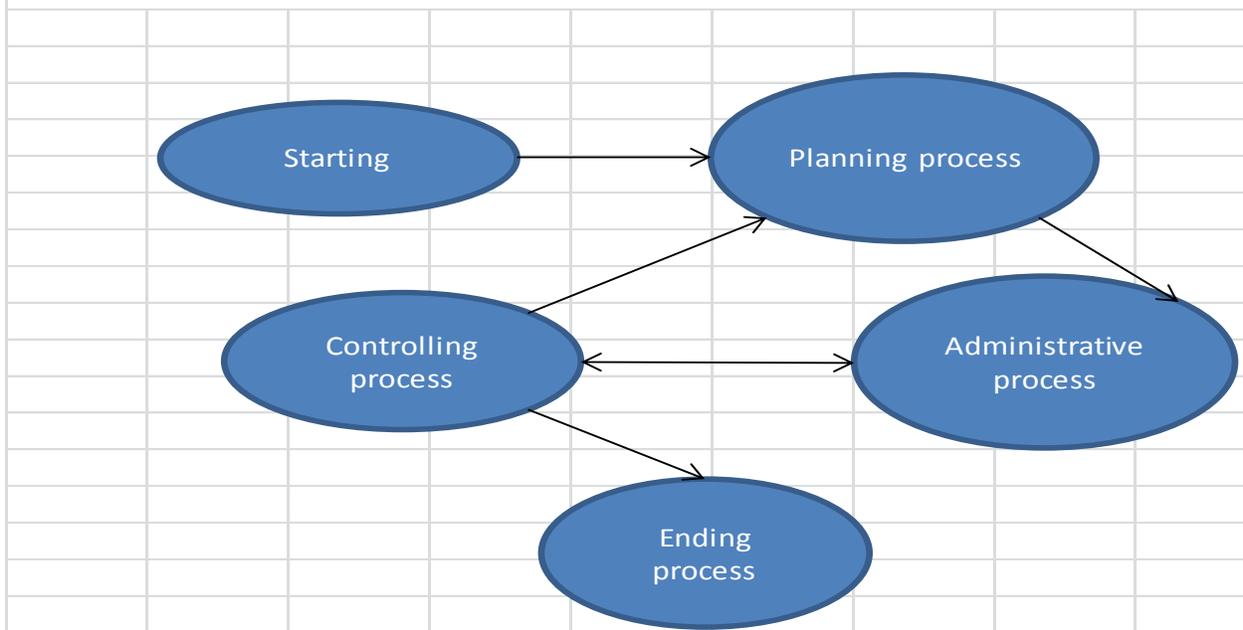


Figure 2: Project management process

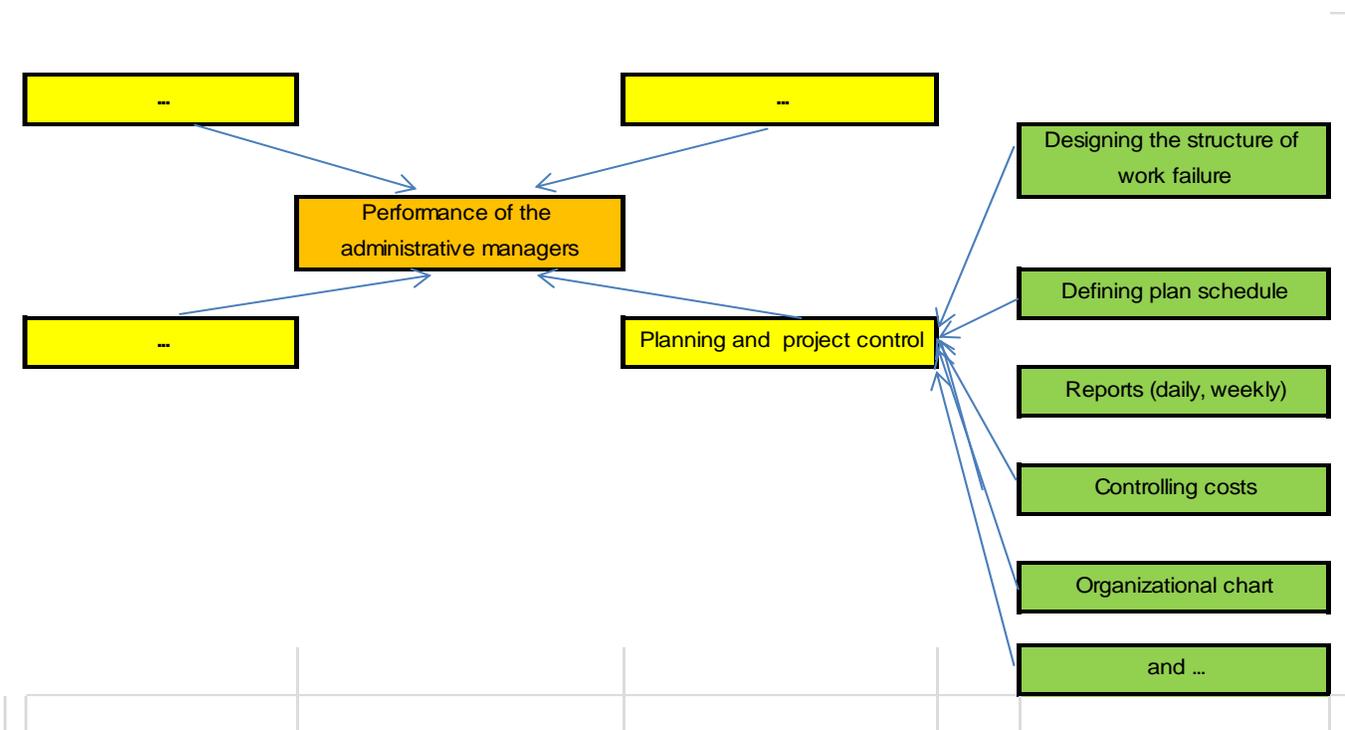


Figure 3: A conceptual framework for research

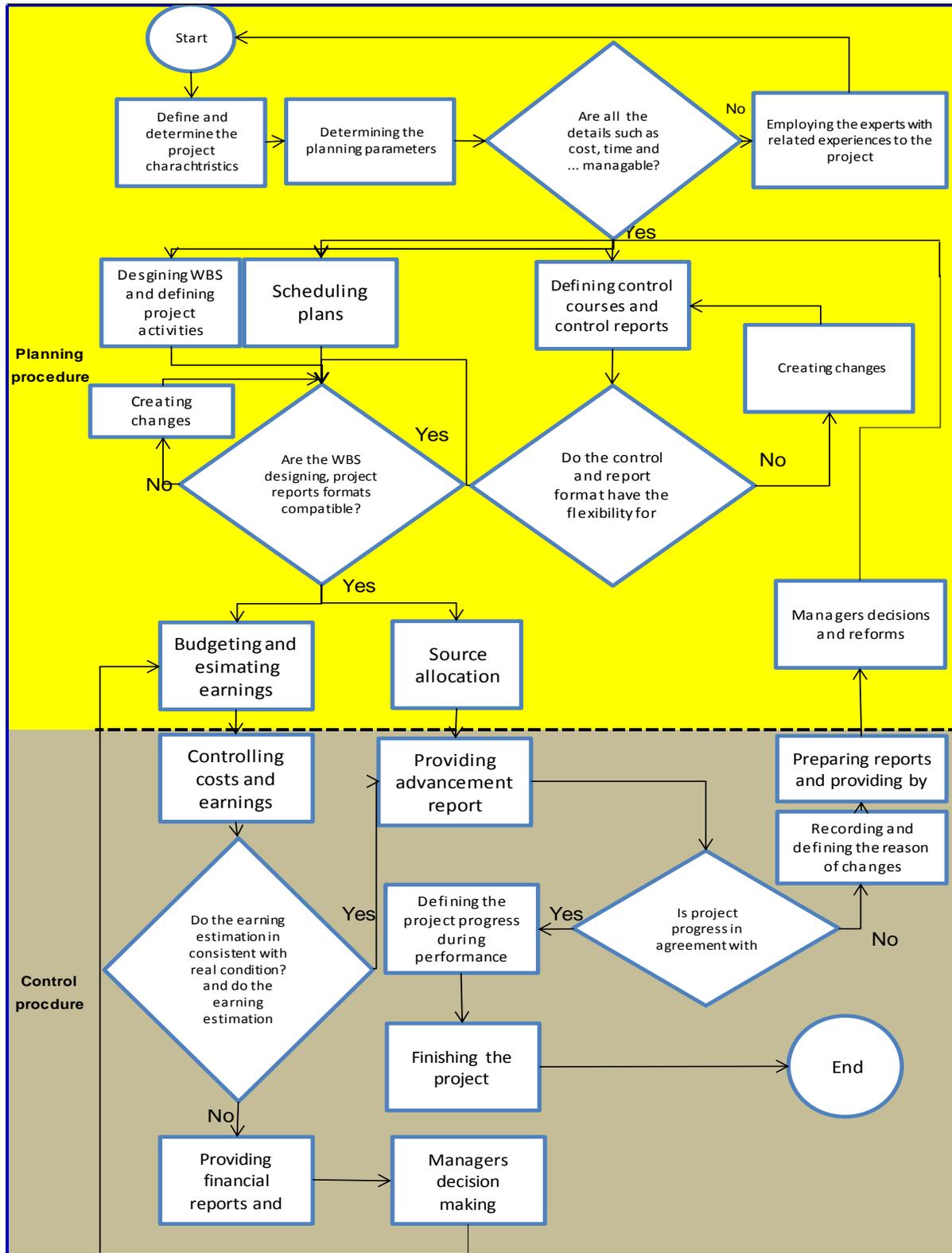


Figure 4: The proposed model

## RESULTS

Results are shown in the following table using Excel software:

To clarify ambiguities and questions measuring respondents' average response time and also to determine the reliability of the questionnaire, they were sent for 8 experts and the answer was analyzed using SPSS software and Cronbach's alpha

The main table is a **Table 1** of Reliability Statistics here the value of Cronbach's alpha 0.903 is obtained.

In the Item-Total Statistics table, the variable name (FAQ) is given in the first column. The second column is the average score for each question after the removal of the question, the third column is the variance of scores, correlation between points are given in the fourth column, Cronbach's alpha value are in the fifth column. A total of 25 questionnaires were distributed among 25 project planning and control specialist and a total of 24 questionnaires were returned.

The results are shown in the **Table 2** on the next page with the help of Excel software design:

## CONCLUSION

Mean scores and scores of statements obtained were calculated by the terms of any of the Experts and the average total scores.

The mean total scores is 3.640 and with regard to the explanations given in the introduction to this chapter, the obtained score of 66 percent is higher than the agreed 60%. So it can be concluded the proposed model is verified for authenticity by the experts and specialists. Then by separating the statements in the questionnaire and compliance with the proposed model each of the models has been evaluated. The result is displayed on the next page.

As can be seen, the results of the analysis show that the proposed model in separation process planning and process control specialists achieved the acceptable score of 75%. In the process of determining the details of data collection and processing and the use of expert planning and project management experience, the same score of 71.525% is won. In the preparation of schedules, work breakdown structure, reporting formats and full compatibility of features with each other simultaneously and the flexibility in report format have taken the score of 64.925% by the experts. Resource allocation and budgeting and forecasting revenue, as the last stage of project planning, has achieved scores of 72.925%. In addition, periodic progress reporting and control costs and revenue, as the first step in the control process, had the scores of 57.3% and finally determining time

and recognition of the controversy and delays received the score 75% from the experts.

## REFERENCE

- [1] Creatively solve problems ,Volker Bugdahl
- [2] International Trade Statistics (2011), Retrieved from www.wto.org
- [3] Ahmdyannejad, D, third edition (2011), accelerated learning Microsoft project 2010, Mehrgan Ghalam Publications
- [4] Aziri et al., (2012), management, strategic planning, Saffar Publication
- [5] -Birbil,S.I.,Fang,S.C.,2003.An Electromagnetism-like Mechanism for Global Optimization. Journal of global optimization 25, pp. 263-282
- [6] -Bryman,A.,& Bell, B.2007,Business research methods (2nd ed.), Oxford: Oxford University Press .
- [7] -Chen, C.-Y. 2011,Managing projects from a client perspective: the concept of the meetings-flow approach. International Journal of Project Management,..29, 671-686
- [8] -Cieland , king , 1983,System analysis & project management, Mc graw hill
- [9] -Cleland,D.I,King,W.R.1989, Project Management,Handbook, 2nd ed. Van Nostrand-Reinhold, New York,
- [10] Delgoshaiiee, Bahrammaleki, M., (2012), dissertation thesis, research projects and scientific research, publications, Firdous
- [11] -Elmaghraby,S.E., Herroelen,W.S., 1980.On the Measurement of Complexity in Activity Networks.European Journal of Operational Research, 4,5
- [12] -Falco,M.Macchiaroli,1998.Timing of Control Activities in Project Planning. International Journal of Project Management,.. 1.16
- [13] Golshani, M., planning and control of projects, publications, Nashrezman Publication
- [14] Haj Shirmohammadi, A., (2009), management and project control, industrial emissions of SID
- [15] -Harrison ,1982, Advance project management, Gower press aldershot
- [16] Houshangi, A, problem solving techniques using statistical techniques
- [17] Jafarnejad, A., (2012), The New Production and Operations Management, Tehran University Press
- [18] -jianxum Qi,Xiuhua zhao.2012,Algorithm of finding Hypo-critical path in network

- planning, Physics procedia24-1520,1529
- [19] Khadem, H., (2008), cause and effect chart of quality improvement tools, the expertise of a management team of Imam Reza (5)
- [20] Khalesizde, et al., (no date), Recovering data from a project management environment, Sharif University of Technology, Faculty of Industrial Engineering, Sharif No. 28
- [21] - Kolltveit, B.J., Karlsen, J.T., & Grønhaug, K. 2007. Perspectives on project management. *International Journal of Project Management*, 25, 3-9.
- [22] - Kwak, Y.H., & Anbari, F.T. 2009. Analyzing project management research: perspectives from top management journals. *International Journal of Project Management*, 27, 435-446.
- [23] Mehryary, H., (2008), the importance of the project work breakdown structure, monthly electricity industry
- [24] - Meredith, J.R., Mantel, S.J. 1995, Project Management. A Managerial Approach, 3rd ed. Wiley, New York,
- [25] - Mike Robson, A problem-solving approach
- [26] - Milkos Hajda Gabriella, Szenik Gabor Bardocz, 2013, Application of evaluation lines in project planning and control, *Procedia –social and behavioral sciences*, 74: (175-180).
- [27] Naderpoor, A., Mofied, M., (2009), the dynamic control project progress using Earned Value standard system, Sharif
- [28] Partovi, F.Y., Burton, J., 1993. Timing of Monitoring and Control of CPM Projects. *IEEE Transactions on Engineering Management*. 40, 1,
- [29] Pournaderi, M, Planning and Project Control, Management and Planning Organization
- [30] Raz, T., Erel, E., 2000. Optimal Timing of Project Control Points. *European Journal of Operational Research*., 127.
- [31] Rees-Caldwell, K., & Pinnington, A.H. 2013. National culture differences in project management: comparing British and Arab project
- [32] Russell Kenley, Toby Harfield, 2014, Reviewing the IJPM for wbs: the search for planning and control, *Procedia –social and behavioral sciences* 119(887-893).

[33] Sabzeparvar., M., project Mathematics and Computation. management, Terme Publication 173(2), ,pp. 1200-1207

[34] Sayt WWW.SID.IR

[35] Tareghian, H.R., Taheri, H., 2006. An Application of Randomized Minimum Cut to the Project Time/cost Tradeoff Problem. Applied

[36] Turner,J.R.1993,The Handbook of Project Based Management.McGraw-Hill,New York ,

[37] WWW.IOEC.COM

[38] WWW.POGC.IR

Table 1: Results of panel members

Item	Idea 1	Idea 2	Idea 3	Idea 4	Idea 5	CVR	Mean value of the judges
1	2	2	2	2	2	1	2
2	2	1	2	2	0	0.2	1.4
3	1	2	0	2	1	-0.2	1.2
4	2	2	2	2	1	0.6	1.8
5	1	1	0	2	1	-0.6	1
6	2	2	2	2	2	1	2
7	2	1	2	1	2	0.2	1.6
8	1	2	2	2	2	0.6	1.8
9	0	1	2	1	1	0.6	1
10	2	1	1	2	2	1	1.6
11	1	1	2	1	2	-0.2	1.4
12	2	2	2	2	1	0.6	1.8
13	2	2	2	0	0	0.2	1.2
14	0	2	2	2	2	0.6	1.6
15	2	2	2	2	0	0.6	1.6
16	2	2	2	2	1	0.6	1.8
17	0	2	2	2	2	0.6	1.6
18	0	2	2	2	2	0.6	1.6
19	1	2	2	2	2	0.6	1.8
20	2	2	2	2	2	1	2
21	1	2	0	2	2	0.2	1.4
22	2	1	2	1	2	0.2	1.6
23	2	2	1	2	2	0.6	1.8
24	2	1	0	2	2	0.2	1.4
25	2	2	2	2	2	1	2
26	2	2	2	2	2	1	2
27	2	1	2	1	2	0.2	1.6
28	2	2	2	2	2	1	2
29	2	2	2	2	2	1	2
30	2	2	2	2	2	1	2

The results are as follows:

Case Processing Summary			
		N	%
Cases	Valid	8	100.0
	Excluded <sup>a</sup>	0	.0
	Total	8	100.0
a. Listwise deletion based on all variables in the procedure			

Reliability Statistics	
Cronbach's Alpha	N of Items
.903	22

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
x1	79.88	107.554	.675	.898
x2	80.00	116.571	-.171	.909
x3	80.38	103.411	.863	.893
x4	80.25	104.214	.529	.899
x5	80.13	104.125	.493	.900
x6	80.13	101.839	.612	.897
x7	80.75	103.643	.473	.901
x8	80.00	105.714	.609	.897
x9	80.88	105.268	.344	.906
x10	80.00	112.571	.133	.907
x11	80.13	108.125	.490	.900
x12	80.38	102.268	.590	.897
x13	80.25	105.357	.589	.898
x14	81.50	101.429	.603	.897
x15	80.63	103.125	.597	.897
x16	81.75	96.214	.845	.889
x17	81.38	99.696	.627	.896
x18	80.00	105.714	.609	.897
x19	79.88	107.554	.675	.898
x20	80.13	108.125	.490	.900
x21	80.63	105.411	.469	.900
x22	80.25	109.357	.486	.900

**Table 2: the results of the questionnaire**

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	Item 22	Average
Expert 1	4	5	4	4	2	4	2	3	4	4	4	4	4	3	2	2	2	4	4	4	4	4	3.5
Expert 2	5	5	4	5	5	5	2	5	2	5	5	4	4	2	4	2	3	5	5	5	2	3	3.954545455
Expert 3	4	4	4	4	4	4	4	4	4	5	4	4	5	2	4	2	2	4	4	4	4	4	3.818181818
Expert 4	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	4.909090909
Expert 5	4	4	3	4	4	2	3	4	2	4	4	2	3	3	4	2	2	4	4	4	3	4	3.318181818
Expert 6	4	4	3	2	4	4	4	4	4	3	4	4	4	2	3	2	4	3	4	4	3	4	3.5
Expert 7	5	4	4	4	5	5	4	5	2	5	3	5	4	2	3	2	2	5	5	3	4	4	3.863636364
Expert 8	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4	3	3	4	4	4	4	4	3.727272727
Expert 9	5	5	5	5	5	5	5	5	5	5	5	3	3	3	5	3	3	5	5	5	5	5	4.545454545
Expert 10	3	3	3	3	3	3	3	3	3	3	3	1	1	1	3	1	1	3	3	3	3	3	2.545454545
Expert 11	4	4	5	5	4	4	5	4	3	4	2	4	5	3	4	3	3	4	4	2	5	5	3.909090909
Expert 12	4	4	3	3	4	4	3	4	1	4	2	4	3	1	2	1	1	4	4	2	3	3	2.909090909
Expert 13	5	4	4	3	5	5	5	5	5	3	5	5	5	3	4	3	5	4	5	5	4	5	4.409090909
Expert 14	3	4	2	1	3	3	3	3	3	1	3	3	3	1	2	1	3	2	3	3	2	3	2.5
Expert 15	5	5	4	5	5	3	4	5	3	5	5	3	4	4	5	3	3	5	5	5	4	5	4.318181818
Expert 16	3	3	2	3	3	1	2	3	1	3	3	1	2	2	3	1	1	3	3	3	2	3	2.318181818
Expert 17	4	5	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4.090909091
Expert 18	4	3	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	3.909090909
Expert 19	5	5	5	5	5	5	5	5	5	4	5	5	4	3	5	3	3	5	5	5	5	5	4.636363636
Expert 20	3	3	3	3	3	3	3	3	3	4	3	3	4	1	3	1	1	3	3	3	3	3	2.818181818
Expert 21	5	4	5	5	3	5	3	4	5	5	5	5	5	4	3	3	3	5	5	5	5	5	4.409090909
Expert 22	3	4	3	3	1	3	1	2	3	3	3	3	3	2	1	1	1	3	3	3	3	3	2.5
Expert 23	4	4	5	4	4	4	2	4	2	4	4	5	5	3	5	2	2	4	4	4	3	4	3.727272727
Expert 24	4	4	3	4	4	4	4	4	2	4	4	3	3	1	3	2	2	4	4	4	1	2	3.181818182
Average	4.125	4.083	3.792	3.833	3.875	3.875	3.5	4	3.292	3.917	3.875	3.625	3.75	2.583	3.542	2.333	2.625	4	4.125	3.875	3.542	3.917	3.640151515

**Table 3: Statistics of the Specialists**

	Man	Woman	Expert	Master expert & higher	Less than 30 years	More than 30 years	5 years or less	More than 5 years
Sex	20	4						
Education			16	8				
Age					12	12		
Relevant work experience							14	10