International Journal of Asian Social Science
ISSN(e): 2224-4441/ISSN(p): 2226-5139
journal homepage: http://www.aessweb.com/journals/5007

A PROCESS-ORIENTED ORGANIZATION CREATION AND RETENTION MODEL AND ITS RELATION WITH PLANNING SCHOOL FORMATION (CASE STUDY: IRAN KHODRO CO.)

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ABSTRACT

The current study aimed to investigate the contextual factors in formation and maintenance of process-oriented organization and the effect of the identified factors on strategy development of the organization. A questionnaire was designed to measure the research variables in which its validity and reliability was confirmed by factor analysis. The instrument was distributed among 183 managers, officials and the experts of systems, information technology and strategic planning divisions of major corporations in Iran Khodro industrial group. The method was descriptive-correlation and a path analysis was used to test the hypotheses. The results revealed that reengineering of business process has a significant impact on designing business and management of business processes have a strong effect maintenance of process oriented organization and as a result, management of business processes lead to the formation of planning school in process oriented organization.

Keywords: Process oriented organization, Business process management, Business process reengineering, Process oriented organization, Planning school.

Contribution/ Originality

The paper's primary contribution is finding that management thoughts or philosophies can be established through procedures based on the same principles in the faces of the organization. In addition, paper presents a new perspective on the relationship between schools of Strategy and Faces of organization.

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DOI: 10.18488/journal.1/2015.5.10/1.10.599.610
ISSN(e): 2224-4441/ISSN(p): 2226-5139

1. INTRODUCTION

In the 21st century, processes are at the heart of the organizations' competition, because they have concluded that efficiency and quality achievement is possible through processes (Steensen, 2013). Business processes are critical for an organization's activities, because at first glance, organizations are composed of processes and products and services are the result of the function of these organizational entities (Shin and Jemella, 2002). Some researchers believe that business processes reengineering is accompanied with mutational and radical improvements defining business processes reengineering as one of the management tools used to form business processes in organizations until the cost efficiency and services effectiveness are improved (Abdolvand *et al.*, 2008).

The existence of knowledge maps, knowledge structure, process maps and control and monitoring of the processes' key purposes are consistent with formal ontology (Phillips and Moutinho, 2000). Mintzberg believes that organizational view plays an important role to form a strategy. Therefore, he proposes prescriptive schools, especially planning school, in a formal positivistic view to organization (Munive-Hernandez *et al.*, 2004; Skrinjar and Trkman, 2013).

Although in recent literature, strategic thinking is preferred to strategic planning, senior managers use the formal strategic planning procedure for strategy formulation in terms of tangible instruments (Baraldi *et al.*, 2007). The study has examined a new view about the strategy formation emphasizing the strategic planning as a tangible instrument in a process-oriented organization. It emphasizes that what forms a strategy in a process-oriented organization is not only the formal ontology of this organizational aspect (O'Regan and Ghobadian, 2002; Hernaus *et al.*, 2007), but the precision, instrument richness, universality and a certain horizon of planning are also effective in its application.

This article discussed a new framework for creating and maintaining a process-oriented organization and its effects on the way a strategy is formed in an organization. In the present research, the issue is emphasized that factors creating and maintaining an organizational image affect the strategy formation in the organization; it especially examines the relationship between a process-oriented organization and the planning school.

1.1. Process Orientation or Business Process Orientation

Business process orientation is the attempt made by an organization to create business processes as a basis of organizational structure and strategic planning. The Business process orientation concept proposes organizations to promote their performance adopting a strategic view on their processes. Aguilar-saven, McKourmick and Johnson believe that a business process orientation is the way of thinking and working that emphasizes input conversion into valuable outputs more than task or hierarchical effectiveness (Steensen, 2013).

The process-oriented view implies that how much an organization has perceived and documented its business processes. Process jobs also determine the number of staffs who are being organized around business process that leads to the production or service provision.

Process evaluation and measurement also implies to the role of performance evaluation systems and performance measurement of process in an organization. Task integration also emphasizes the business process design using tasks of different units. A process structure implies the extent to which elements, activities and workflow are organized effectively. The employees' innovation also focuses on whether there is a culture empowering the employees in an organization. Customer orientation emphasizes the value creation for customers and the permanent improvement and finally, organizational performance also evaluates business processes effectiveness in terms of the results' quality, production cycle of time, process cost and variability (Love *et al.*, 1998; Steensen, 2013).

In many researches, the relationship between process orientation and the financial and nonfinancial performance of a process-oriented organization is examined and it is found that a high level of process maturity leads to a high level of financial and nonfinancial performance in an organization (Shin and Jemella, 2002). Parker also states that the absence of process orientation in an organization is the main factor of failure for business process management.

1.2. Business Process Reengineering (BPR)

Many researches are conducted about BPR showing that BPR restructures organization for a process-oriented organization (Cherp *et al.*, 2007). Hammer and Champy believed that reengineering is rethinking and redesigning business processes fundamentally and radically to improve key performance measures such as cost, quality, service provision, cost reduction, delivery time, improvement of performance results of organization, flexibility and innovation. The heart of BPR is to achieve high performance standards by creating stable capacities in processes of organization.

In the operational definition of BPR, Crowe and Guimaraes, Motwani et al. and Terziovski et al. classified BPR dimensions into six main factors including egalitarian leadership, collaborative working environment, top management commitment, change of management systems and use of information technology as factors of success and resistance to change as the factor of failure. It refers to software, hardware, information systems and communication technology that produce the required information (Abdolvand *et al.*, 2008). Factors including the fear to lose power at the level of middle managers of organization, fear to lose job at the level of employees, strictness about the project's results and unpleasant feeling at the new workplace as the causes of resistance to BPR (Chiwoon and Lee, 2011).

1.3 Process-Oriented Organization

A process-oriented organization is defined as an organization that in contrary to organizational pyramid is organized around processes, process-based attitude, customers and outputs. A process-oriented organization has clearly found out this point and designs, manages and improves all of its processes for customer satisfaction (Acur and Englyst, 2004).

In the operational definition of the multidimensional construct, i.e. process-oriented organization, an evaluation model was proposed with seven main dimensions including designing and documenting business processes, top management commitment, process ownership,

performance evaluation of processes, process culture, process view and constant improvement approaches.

Gaitandis believes that a process-oriented organization embeds the process view into its structure and this view is based on the principle that the structure looks for processes and finally, the organization is evaluated in terms of using permanent improvement techniques in processes and also professionals and skills of employees for reengineering, project management and management of change (Love *et al.*, 1998; Kohlbacher, 2010).

1.4. Business Process Management (BPM)

Many researches are conducted about BPR balance, so that advocates of permanent improvement approach consider BPR as a destructive and hasty technique and think it is a barrier for the formation of a process-oriented organization (Munive-Hernandez *et al.*, 2004). Association of Business Process Management Professionals (ABPMP) also considers BPM as a management discipline emphasizing organizational processes (Munive-Hernandez *et al.*, 2004).

Using exploratory factor analysis, Trkman (2010) identified five critical factor of success for BPM, including strategic alignment, performance measurement, organizational changes, information systems support and the staff's empowerment and training.

Indulska et al. considers the staff's empowerment and training as a prerequisite to the success of BPM. Reijers and Mansar, Trkman and McKourmick believe that empowered staff can make decisions independently and it may make operations more transparent and reduce the working time (Skrinjar *et al.*, 2008). On the other hand, according to the effect of BPM on the individuals' mindset and their role to formulate and implement organizational strategies, staff is introduced as an intervening variable in the relationship between BPM and the way a strategy is formed in organizations (Tang *et al.*, 2013). Literature of BPM is widely trying to solve problems of BPR as the starting point of the creation of a process-oriented organization, because BPR does not pay attention to the problems after designing a process-oriented organization (Segatto *et al.*, 2013).

1.5. Planning School

Planning school is generally examined in terms of different views. Menon et al. believes that if one wants to study the school of strategy in a continuum in terms of how organizations formulate their strategies, there are the informed, rational designing school at one end and unexpected gradual learning school at the other end (Kohlbacher and Gruenwald, 2011). Regular procedures and quantification in strategic planning protects managers in the harsh world of business (Acur and Englyst, 2004). In the definition of the planning school, Mintzberg et al. note that strategy is formed is a formal process. Process of provision and confirmation of such documents is called planning or decision making and the term "strategy formulation" is used in organizational strategic theories (Baraldi *et al.*, 2007). Many researches are conducted about the relationship between environment and the planning system of organization and most of them introduced the organizational environment as the moderator of the planning system. In early studies, the formal planning system is rejected in support of gradual planning in an unstable environment and it is stated that environment moderates a firm's planning system, so that formal planning is effective in a

stable environment and gradual planning is effective in an unstable environment. In recent studies, there is the evidence that both formal planning and gradual planning are applicable in unstable environments (Crowe *et al.*, 2002; O'Regan and Ghobadian, 2002; Skrinjar and Trkman, 2013).

1.6. Theoretical Framework and Conceptual Model of the Research

Review of theoretical literature and history of research show that many researchers study the effects of business process orientation, BPR, process-oriented organization, BPM and planning school with organizational performance.

According to Dounport, business process orientation is proposed as a thought or philosophy of organization and is the most critical factor of the success of reengineering to shape a process structure in organization (Al-mashari *et al.*, 2000). The relationship between business process orientation and BPR is proposed to form a process-oriented organization here. Hammer thinks the main activity of a process-oriented organization is to deploy BPM and thinks it is to plan, control and use opportunities of process' improvement (Iqbal, 2012).

Some researchers consider BPM as a management approach that directs thought and action in a process-oriented organization to promote process maturity and keep it over time (O'Regan and Ghobadian, 2002). Moreover, knowledge maps, knowledge structure, process maps and controlling and monitoring the key objectives of processes correspond with formal ontology (Rao *et al.*, 2012). The text, content and process model classifies concepts such as BPR, BPM and process orientation in the field of attitudes of process transformations in organization, and since process transformation attitude goes into the functionalist paradigm through mutational continuous improvements related to organizational performance, strategy follows processes in a process-oriented organization (Iqbal, 2012).

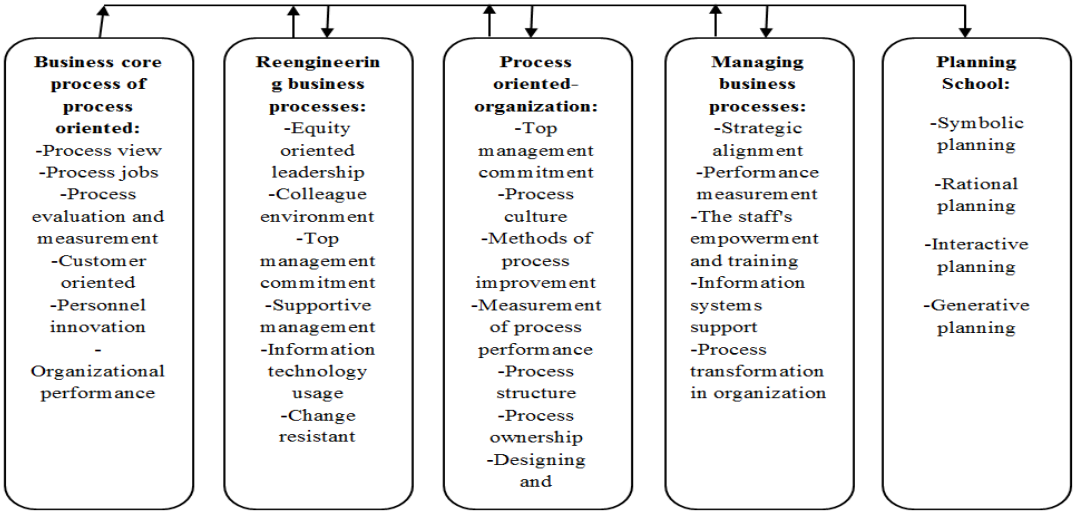

Figure-1. The Conceptual Framework

According to the conceptual model of the research, the primary hypotheses are proposed as follows:

H1. Business process orientation (BPO) is significantly related to business process reengineering (BPR).

H2. Business process orientation (BPO) is significantly related to process- oriented organization (POO).

H3. Business process orientation (BPO) is significantly related to business process management (BPM).

H4. Business process orientation (BPO) is significantly related to planning school (PS).

H5. Business process reengineering (BPR) is significantly related to process-oriented organization (POO).

H6. Business process reengineering (BPR) is significantly related to business process management (BPM).

H7. Business process reengineering (BPR) is significantly related to planning school (PS).

H8. Process-oriented organization (POO) is significantly related to business process management (BPM).

H9. Process-oriented organization (POO) is significantly related to planning school (PS).

H10. Business process management (BPM) is significantly related to planning school (PS).

2. METHODOLOGY

In this research, it was tried to examine the effects of any constructs including BPO, BPR, BPM on the formation and maintenance of a process-oriented organization and their effects on the planning school. The research is an applied study; it is a correlation research in terms of data collection, and was based on operational data collection.

2.1. Statistical Sample and Population

The population includes all managers, chief executive officers (CEOs), operators and experts of units of systems and methods, IT and strategic planning of the main firms in Iran Khodro Industrial Group that was totally 323. Using Kerjsi and Morgan table, the sample size was obtained 175. Due to the high number of the questions of the questionnaire and for greater assurance, 230 questionnaires were distributed among the members of the population using simple random sampling and finally, data analysis was performed on 183 completed questionnaires. Furthermore, descriptive statistics of data including demographic characteristics of the sample was examined using SPSS Software. The demographic characteristics of the respondents are summarized in Table 1.

Table-1. The Respondents' Frequency Distribution

Gender	Frequency	Age	Frequency	Years of service	Frequency	Organizational position	Frequency	Education	frequency
Male	108	20-30	51	< 5	33	Expert	92	Bachelor's degree	113
		30-40	60	5-10	41	Officer	38	Master's degree	53
		40-50	33	10-15	38	Head of office	24		
Female	62	50-60	21	15-20	31	Manager of unit	21	PhD	6
		>60	8	20-25	15				
				25>	13				
Not known	13	Not known	10	Not known	12	Not known	8	Not known	11
Total	183	Total	183	Total	183	Total	183	Total	183

2.2. Measurement Instrument

Standard questionnaires are used for data collection in the present research. The questionnaire by Tang *et al.* (2013) was used to measure BPO dimensions including process view, process occupations, evaluation and measurement of processes, task integration, customer orientation, the employees' innovation and organizational performance. The questionnaire by Crowe *et al.* (2002) was used to measure the key factors of BPR success that include egalitarian leadership, collaborative working environment, top management commitment, use of information technology and resistance to change. In some studies the questionnaire was used to measure the key factors of BPM success that include strategic alignment, performance measurement, process transformation in organization, management information systems support and the staff's empowerment and training.

In addition, the opinions of 25 experts about the dimensions of any questionnaire were asked to reevaluate their validity and they were included into the final questionnaire. Cronbach's alpha and SPSS Software were used to determine the reliability of the final questionnaire and the results are given in Table 2.

Table-2. Reliability of the Measurement Instrument with Cronbach's Alpha

The primary constructs or variables of the research	Cronbach's alpha for any construct
Business process orientation or process orientation	0.771
Business process reengineering	0.787
Process-oriented organization	0.822
Business process management	0.779
Planning school	0.813

3. STATISTICAL ANALYSIS AND RESULTS

The Structural Equation Modeling (SEM) was used for data analysis in this research that includes two measurement and structural models. The results of this section were obtained using LISREL Software version 8.5. In this section, the confirmatory factor analysis was used to examine the main variables of the research and the correlation between the main variables (constructs) and the path analysis was used to test the hypotheses and the model fitting.

3.1. Examination of the Components of the Research Using the Confirmatory Factor Analysis

The main components are examined based on factor loadings and t-test using the confirmatory factor analysis, including business process orientation, BPR, process-oriented organization, BPM and planning school, and the results are given in table 3. As it is observed, t_0-values of all components are more than 1.96 at the level of error 0.05. As a result (Table 3) all components of the research are supported.

Table-3. Main Components in Terms of Factor Loadings and t_0 -values

Constructs	Components	Factor loading	t-value
Business process orientation or	process view	0.73	38.59
	process occupations	0.73	38.52
			Continue

process orientation	evaluation and measurement of processes	0.73	38.66
	task integration	0.57	28.00
	customer orientation	0.57	28.00
	the employees' innovation	0.73	38.35
	organizational performance	0.74	38.85
BPR	egalitarian leadership	0.64	32.13
	collaborative working environment	0.69	35.86
	top management commitment	0.73	38.38
	supportive management	0.66	33.71
	use of information technology	0.70	34.49
	resistance to change	0.58	28.52
Process-oriented organization	top management commitment	0.67	34.75
	process culture	0.69	36.24
	techniques of process' improvement	0.70	36.65
	performance evaluation of processes	0.72	37.85
	process structure	0.71	37.34
	process ownership	0.72	38.13
	designing and documenting business processes	0.65	33.20
BPM	strategic alignment	0.67	33.88
	performance measurement	0.73	38.18
	process transformation in organization	0.69	35.74
	management information systems support	0.66	34.85
	the staff's empowerment and training	0.52	25.10
Planning School	symbolic planning	0.94	52.51
	rational planning	0.43	22.54
	interactive planning	0.32	14.53
	generative planning	0.77	40.02

3.2. Test of Hypotheses Using Path Analysis

In present research, path analysis test was used to examine the relationships between the constructs and the path graph is shown in figures 2 and 3.

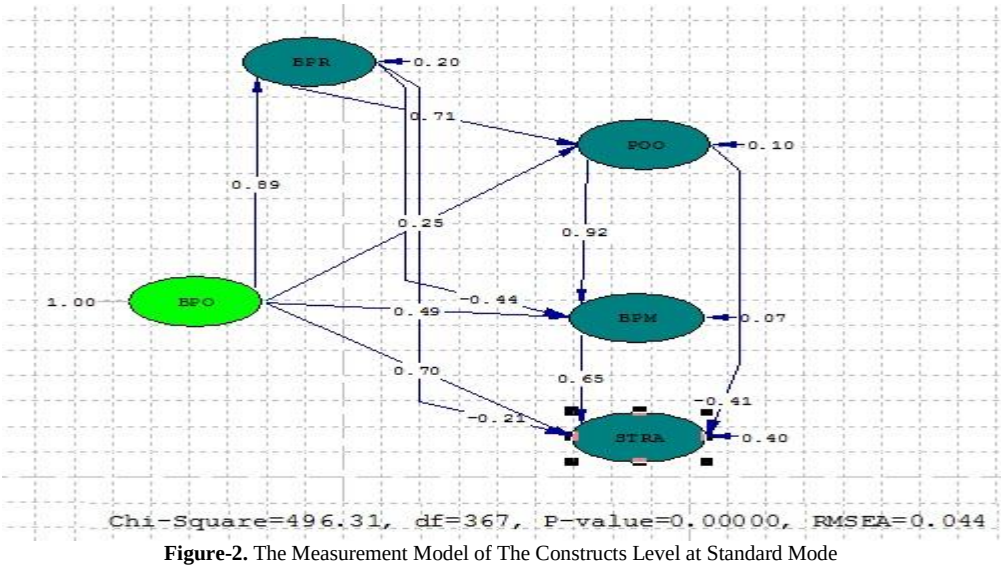

Figure-2. The Measurement Model of The Constructs Level at Standard Mode

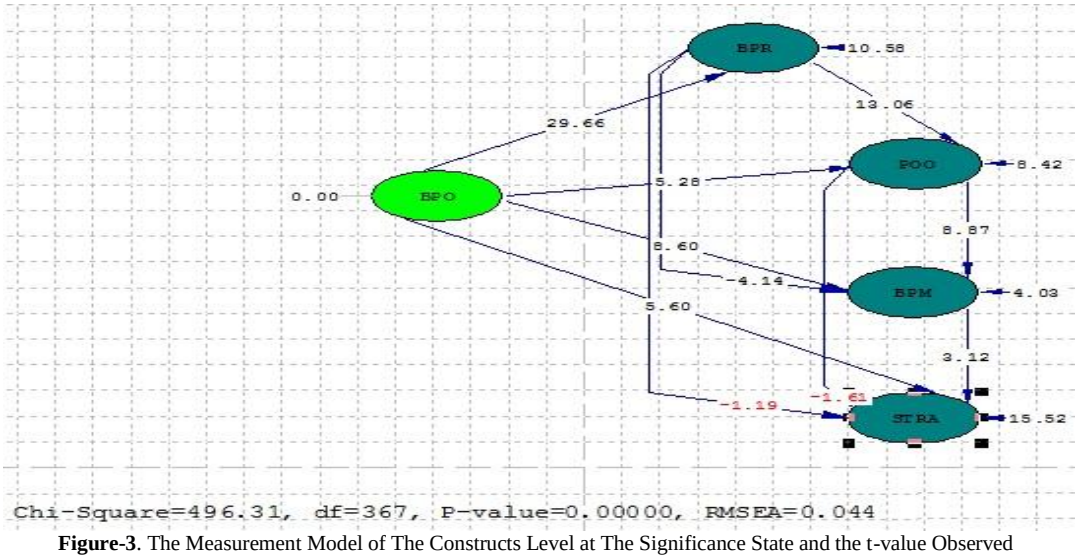

Figure-3. The Measurement Model of The Constructs Level at The Significance State and the t-value Observed

The results and summarization of the hypotheses' test are presented in table 4 in terms of the path coefficients of the constructs as the measurement model at the standard mode and the observed t_0- or t-values as the structural model at the significance state.

Table-4. Primary Hypotheses in Terms of Path Coefficients and t_0 - values

Test of the primary hypotheses (the constructs level)	Path coefficient	t_0-value	Result of test
Relation between BOP and BPR	0.89	29.66	Supported
Relation between BOP and POO	0.25	5.28	Supported
Relation between BOP and BPM	0.49	8.60	Supported
Relation between BOP and PS	0.70	5.60	Supported
Relation between BPR and POO	0.71	13.06	Supported
Relation between BPR and BPM	-0.44	-4.14	Supported
Relation between BPR and PS	-0.21	-1.19	Rejected
Relation between POO and BPM	0.92	8.87	Supported
Relation between POO and PS	-0.41	-1.61	Rejected
Relation between BPM and PS	0.65	3.12	Supported

3.3. Model Fitting

The model fitting indicators include the ratio of chi-square to degree of freedom, root mean square error of approximation, goodness of fit index, and the adjusted goodness of fit index. The fit index values are as table 5 according to LISREL Software:

Table-5. The Model's Fit Indices of the Constructs' Level

Fit index	Standard value	Statistic value	Result
χ^2 / df	<3	1.35	Fitted
RMSEA	<0.05	0.044	Fitted
GFI	Between 0 and 1	0.91	Fitted
AGFI	Between 0 and 1	0.95	Fitted

According to the above fit indices and their results, it can be concluded that the model of the constructs' level is fitted.

4. DISCUSSION

Findings of the research showed that three main phases must be taken into an account to design and maintain a process-oriented organization:

4.1. Description of Process-Orientation Values as Business Process Orientation

It seems that the most important factor to design a process-oriented organization is to extend process-oriented thoughts and values in the organization. Process orientation is the first step to design a process-oriented organization and business process reengineering and business process management can be treated as an instrument or procedure for using this managerial philosophy or thought in organization. The most important component of business process orientation is organizational performance that attracts the attention of organization. Hence, it seems that before designing a process-oriented organization, the attainment value must be extended in it.

4.2. Design of a Process-Oriented Organization

The model shows that the business process reengineering must be used for designing a process-oriented organization. On the other hand the use of information technology, collaborative working environment, egalitarian leadership, supportive management and resistance to change show that it is not possible to ignore organizational conditions, organizational facts and the inseparability of thought, and practice. As a result, social aspects must be taken into account while designing organizations and processes.

4.3. Protection of a Process-Oriented Organization

In this research, business process management is proposed as a procedure that makes it possible to protect a process-oriented organization over time by offering instruments for evaluating businesses processes' performance, improving them continually and aligning them with the firm's strategies.

Although a process-oriented organization quickly answers the environmental changes, the present research shows that using management procedure based on business makes it possible to form the planning strategy school in organization. Moreover, unlike the dominant view in strategic management, the planning school can play an important role to apply the strategic thought in a dynamic environment and this school is not applicable only in constant environmental conditions.

5. CONCLUSIONS

The results show that business process orientation directly and indirectly affects a process-oriented organization and its indirect effect on a process-oriented organization is more through business process reengineering. The present research shows a weak correlation between business process orientation and a process-oriented organization.

Some researchers have distinguished process-oriented organization and business process orientation (Chi-Kuang and Cheng-Ho, 2008) and some other researchers have not differentiated the two concepts (Kohlbacher, 2010). The results of current research support the relationship between a process-oriented organization and business process management. Therefore, according to the results of past researches, business process management is an important factor for maintaining a process-oriented organization (Segatto *et al.*, 2013).

The present research shows the inverse relationship between business process reengineering and business process management. In addition, the relationship between business process management and planning school is supported.

The findings of this study showed that when a process-oriented organization forms through business process reengineering, it has no significant relationship with the prescribed strategic planning school and when the organization tries to be process-oriented using business process management, the way of strategy formation moves toward the planning school that is in fact a return to a formal organization.

6. ACKNOWLEDGEMENT

The authors appreciate the support and help they received from Tehran Payame Nour University.

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