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The effect of organizational culture on organizational spirituality

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Abstract

The aim of the current research was to study the effect of organizational culture on organizational spirituality in the Research Institute of Petroleum Industry (RIPI). The statistic population of this study was the line workers in RIPI. The statistic population by applying the Cochran's formula was obtained from 100 individuals. Cronbach's alpha coefficient for Milliman and Denison standard questionnaires to measure organizational spirituality and organizational culture was calculated to be 0.87 and 0.9, respectively, which reflect the high stability of measurement tools. In order to estimate the relationship between the latent variables of the problem, PLS model was employed by structural equation modeling method. The results of the research revealed that the mission and organizational culture adaptability have respectively significant effects on the indicator of meaningful work. It was comprehended that commitment to participation and consistency does not have considerable influence on alignment with values.

Keywords: Organizational Culture, Organizational Spirituality, PLS.

Introduction

Any organization is of a personality called organizational culture (Cameron et al., 2006). Culture in an organization is the same as personality in a human. Fundamental assumptions, faiths, beliefs, norms, and values as the cultural basics of an organization form its existential foundation and help to recognize the distinction point between the good and the bad (Soltani, 2012). The culture in any organization is considered as the principal factor in its formation and has a significant effect on the structure, plan, external and internal environment, technology, human resource, and more importantly, productivity and strategy of the organization. Culture specifies musts and mustn'ts and forms the organization's behavioral framework (Christopian, 2008). Luthans (1989) believed that two factors of sharedness and intensity are the determining factors of a culture's strengths and weaknesses. Sharedness reflects number of individuals who have approved the culture's central values and intensity shows the commitment level of the organization's employees towards these focal values. In a strong culture, there is a higher agreement about the organization's mission, which provides the unity of objectives, sense of community, loyalty, organizational commitment, and the reduction in turnover intention. Moreover, such a strong culture no longer requires numerous rules and official procedures to direct the workers' behavior (Tabarsa and Imani delshad, 2009). Robbins (1997) believe that there are ten elements, which generally introduce the organizational culture, including creativity, risk-taking, guidance of manager, integration of organizational objectives, support of manager, control, identity, bonus system, compromise in conflict, and appropriate relational pattern. He believes that a strong culture can increase job satisfaction, reduce the shifts of workers, create stability in behavior, and improve the performance. It is the key factor in efficiency, effectiveness, and achieving organizational objectives and strategies. On the other hand, a weak culture cannot show its effectiveness in professional behavior of workers due to learning limitations and lack of commitment sense (Sabounchi et al., 2009). Researches have presented that

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organizational culture affects all the aspects of an organization including codification of objectives, strategy, individual behavior, organizational performance, incitement and job satisfaction, creativity and innovativeness, and employees' participation rate, in such a way that successful organizations are generally of strong and effective culture (Moharram zadeh et al., 2009).

The most important factor in organizations' productivity and in general, in the thriving of any society relies in its human resource, which needs to be improved and educated. As a result, organizations pay special attention towards educating employees with the aid of HR and behavioral specialists (Geijsel et al., 2003). The emergence of the concepts, such as morality, reality, belief in god, rectitude, conscience, magnanimity, trust, generosity, kindness, consideration, seeking meaning at work, sense of community with employees, encouraging staffs, sense of peace and humanism, etc., into new researches in the field of management and organization, all demonstrate the emergence of a new paradigm called organizational spirituality. Spirituality in the work environment is to realize and identify a dimension of an individual's working life, which is internal and educable, and is developed by performing meaningful tasks in social life (Ashmos and Duchon, 2000). In a typology with the nature of pluralization, spirituality is classified into four types: Religious, non-religious, meta-religious, mystic, in which the definitions, structures, and methods for spirituality in the organization can be expressed differently (Kord tamini and Kouhi, 2011). From another viewpoint, spirituality consists of four types of communication: transpersonal, intrapersonal, and interpersonal communications, and each is linked with the human's existential dimensions (Heaton et al., 2004). The concept, "organizational spirituality" is the challenge of 21st century in front of the organizations. The term "spirituality", which was previously taboo in the organization, is now gradually becoming an acceptable concept in business. Consequently, the growth trend of the spirituality subject in the business and organization is unavoidable despite all the existing doubts, uncertainties, and criticisms. Its effectiveness in all the academic fields and territories in addition to management and organization is inevitable (Azad marzabadi et al., 2012). Moreover, researchers have indicated that increasing spirituality can provide several benefits and advantages in the work environment including increasing creativity (Freshman, 1999), honesty and trust (Wanger-Marsh and Conley, 1999), the sense of personal evolution (Burack, 1999), organizational commitment (Delbecq, 1999; Milliman et al., 2003), improving professional attitudes of employees towards job satisfaction, job participation, decreasing the turnover intentions (Milliman et al., 2003), and increasing morality, conscience, and incitement (Marques et al., 2005). Considering all the above introductions and the importance of organizational culture and organizational spirituality, this research has tried to study the relationship between organizational culture and organizational spirituality in the Research Institute of Petroleum Industry (RIPI).

Literature review

Culture and its concept

Culture can be considered as a set of dominant beliefs, religions, attitudes, traditions, and values in the society. In other words, culture is a concept that obtains its meaning in the levels of society and group, and in the interactions between them, and indicates the method of setting up the relationship and interacting between people in that society (Zdunczyk and Blenkinsopp, 2007).

The concept of culture is the living quality of a group of people, which is transferred from one generation to another. According to Edgar Schein (1997), culture can be analyzed as a phenomenon that has covered our surroundings all the time.

Organizational culture

Organizational culture is one of the most interesting and important subjects in management of organizational behavior. Academics and research centers have put their considerable efforts to define and recognize its impact on workers' behavior. One of the most perfect definitions about organizational culture is related to Huczynski and Buchanan (2001), which consider organizational culture as a relatively uniform set of sustainable values and faiths, custom, traditions and methods that is transferred by members of the organization. This definition is beneficial, because it regards the culture's collective nature and indicates that culture is existed in both levels of beliefs and behaviors (Siefollahi and Davari, 2008). In addition, organizational culture is a framework that defines organizational values, behavior of individuals, and specific intents of that organization. Organizational culture determines a specific identity for the organization (Chuang et al., 2004). Cameron and Quinn also believe that organizational culture is a set of postulated values, core beliefs, collective memory, expectations, and definitions of the success in an organization, and reflects the prevalent ideology that people have in their minds and it indicates the staffs' sense of identity. The organizational culture provides un-written rules and mostly unspoken guidelines to compromise with others in the organization and increases the social system's stability (Cameron et al., 2006). In brief, organizational culture can be known as the common pattern among the organization's people, which consists of three major components:

1. The acceptable norms and values
2. Individual and collective assumptions and understandings with regard to the organization's objectives and missions
3. Consistency of the organization's situation with environmental conditions.

Some of the specifications of the organization's culture may not be indicated tangibly or the organization's members may not have a correct understanding out of them. However, organizational culture depending on the type of the organization is whether visible or invisible, which however effects on the person and the group (Barati marnani et al., 2010).

The organizational culture specifications

Denison, the professor of Organizational Behavior at the University of Michigan, recognizes the culture in his model (Figure 1) consisting of 4 specifications, each includes 3 indices of management activities. This model has been divided into two halves horizontally and vertically to imply the dimensions of internal/external and fixed/flexible concentrations (Denison, 2002).

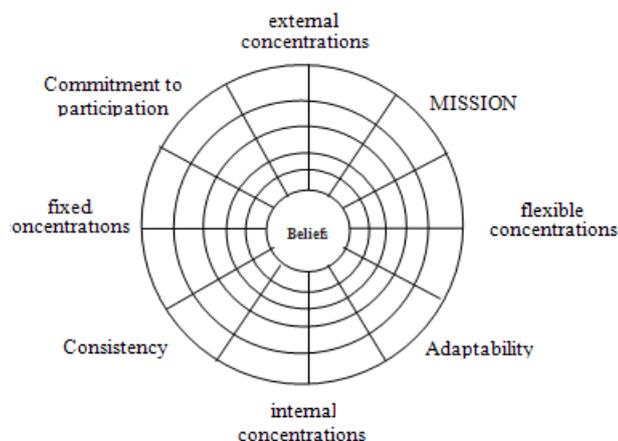


Figure1- Denison's organizational culture model.

Denison considered the cultural specifications in his model, as represented below (Yilmaz, 2008):

- Commitment to participation
- Consistency
- Adaptability
- Mission

In this model, this specification is measured by three indicators:

Commitment to participation (Involvement): The effective organizations empower their individuals, form the organization based on working groups, and develop HR capabilities in all the levels. The organization's members are committed to their works and feel as they are a part of the organization's body. Individuals in all levels feel that they have an important role in decision-making and these decisions are effective on their works and their work is directly linked with the organization's goals. As an executive manager in a Korean company declared that "Substantial involvement would mean the complete mental engagement with work and according to that, a person works with his/her full power and employs whatever is in his/her power".

A. Empowerment: The individuals' authority, initiative, and abilities to manage their works. This would induce a kind of possession and responsibility in the organization.

B. Team orientation: It values the group working towards the common goals in the organization in a way the employees feel responsible in their work environment like their managers. These organizations rely on their groups to carry out the tasks.

C. Capability development: Organizations constantly develop the employees' skills in order to supply the requirements and remain in the competition arena.

Consistency (Stability and integration): Several researches have shown the organizations that are mostly effective, are stable and integrated, and the employees' behavior has originated from core values. Leaders and followers have become experienced to come into agreement (even when they have opposite viewpoints) and organizational activities have properly coordinated and integrated. Organizations with such features have distinctive and powerful cultures and have enough diffusion in their employees' behavior. This feature can be studied with 3 indicators:

A. Core values: The organization's members are the partners in a set of values, which form their identity and expectations.

B. Agreement: The organization's members can come into an agreement in their critical conflicts. This agreement includes the agreement in the lower level as well as other levels.

C. Coordination and integration: Organizational units with different functionalities can work with each other very well to properly reach common goals. Organizational borders would not change by this type of working.

Adaptability: Organizations that are well integrated can difficultly change. Thus, internal integration and external adaptability can be counted as the organization's advantage and benefit. Consistent organization can be guided by their customers, take risks, learn from their pitfalls, and they have the capacity and experience to create the change. They are constantly improving the organization's ability to value their customers. This specification is studied by three indicators:

A. Creating the change: An organization can create the ways to supply the requirements of change, recognize the institute's environment, respond to current stimuluses, and precede future changes.

B. Customer focus: Organizations understand their customers, respond to them, and try to support future needs prior to its happening. In fact, customer focus presents the level in which organizations are directed to satisfy their customers.

C. Organizational learning: It measures the level of peripheral symptoms that organizations receive, translate, and interpret, in addition to the opportunities for encouraging creativity, knowledge style, and capability development.

Mission: It may be stated that the most important specification of organizational culture is mission. The organizations who do not know where they are, or what their current status is, usually lose their ways. Successful organizations have a clear realization of their targets and direction in a way to define strategic targets and draw the organization's vision. Troublesome organizations are those that are obliged to change their missions. When an organization is forced to change its mission, then the changes in strategy, structure, culture, and behavior will become indispensable. In such a situation, a strong leader determines the organization's vision and creates a culture to support that vision.

A. Strategic direction and intent: Clear strategic intents reflect the direction of organizational objectives and each person can participate in that specific area (industry).

B. Goals and objectives: Goals are linked with the mission's strategy and the organization's view horizon and specifies the people's working directions.

C. Vision: The organization has a common vision of the future situation. It reflects its core value, accompanies the attitude and human force with itself, and recognizes the direction at the same time (Yilmaz, 2008).

The concept of organizational spirituality

In 2003, Milliman and his co-workers selected three out of the seven dimensions, which were introduced by Ashmos and Duchon (2000) to measure spirituality in the work environment and applied them in an experimental research. These three dimensions, which are corresponding to three levels of individual, group, and organizational, are meaningful work at individual level, sense of community at group level, and alignment with the organization's values at organizational level. The following figure presents this conceptualization. In the following, these three dimensions will be demonstrated more in depth:

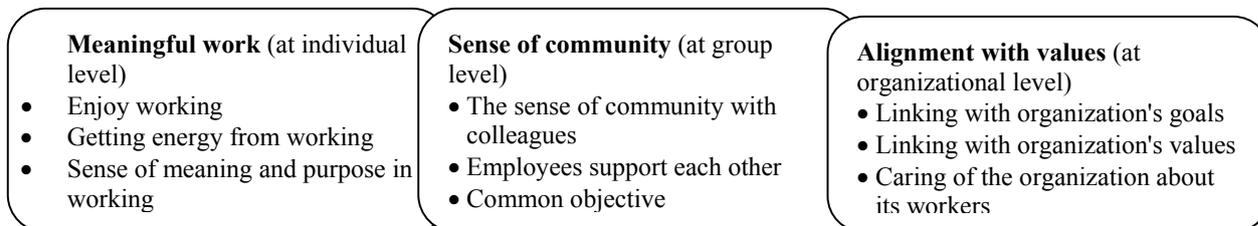


Figure 2 - Conceptualization of spirituality in the work environment in three levels of individual, group, and organizational

Meaningful work: A fundamental aspect of spirituality in work includes a deep sense of meaning and purpose in work. This dimension of spirituality in the work environment specifies that how employees at individual level are interacting in their daily works. Expression of spirituality in work takes this assumption into consideration that each person has an internal motivation, intentions, and interests towards doing the activities that give more meaning to their lives as well as others (Heaton et al., 2004).

Sense of community: Another fundamental dimension of spirituality in the work environment includes a kind of linkage and deep sense of community with others (Malik and Naeem, 2011). This dimension of spirituality in the work environment occurs at group level of human behavior and shows the interactions between workers and colleagues. Community in the

work environment is based on this belief in which people consider themselves linked with others, and there is a relationship between the inner self of each person and others (Milliman et al., 2003). This level of spirituality in the work environment includes mental, emotional, and spiritual communications among the employees in working groups.

Alignment with values: The third dimension of spirituality of the work environment is the experience of having a strong feeling of alignment between individual values of workers and the organization's mission and values. This dimension of spirituality in the work environment includes the employees' interaction with a larger organizational goal. Alignment with the organization's values means that people believe that managers and employees in the organization have the related values and a kind of strong conscience and the organization attends the employees and their community (Azad marzabadi, 2012).

Research background

Azad marzabadi et al. (2012) carried out a study titled "The relationship of organizational spirituality and psychological empowerment, creativity, spiritual intelligence, job stress, and job satisfaction of university staffs". The research findings showed that there is a positive and significant relationship between organizational spirituality with psychological empowerment, creativity, and job stress. Moreover, according to the results, there is meaningful relationship between the employees' professional background and organizational spirituality and spirituality is amongst the most important effective variables in empowerment and creativity of employees. Policy makers in organizations should make use of it to benefit from the maximum power of staffs to fulfill organizational objectives.

Kord tamini and Kouhi (2011) performed a research titled "Studying the relationship between organizational commitment and burnout and organizational spirituality among the staffs at post offices of Zahedan and Gorgan towns". The research sample included 200 staffs of two post offices (100 employees in Zahedan and 100 employees in Gorgan), which was selected through simple random sampling and were participated in the research. The findings also indicated that organizational spirituality has a positive and significant correlation with all the dimensions and total scores of organizational commitment.

Hosseinpour (2010) accomplished a research titled "Spirituality as a loop between psychological empowerment and emergence entrepreneurial behaviors". The authors indicated that the benefits of the working spirituality can increase creativity, honesty, trust, organizational commitment, improve the professional attitudes of staffs, increase job satisfaction, and professional participation. This paper tried to study the effect of the dimensions of psychological empowerment and the working spirituality on the emergence of entrepreneurial behaviors in Iran Small Industries and Industrial Parks Organization. The results show that there is a positive and significant relationship between three studied variables in this research.

A research was done by Moghali and Maleki tabas (2009) titled "The relationship between organizational culture and organizational creativity in state organizations". The research by considering the importance and essentialities of creativity and innovativeness in organizations has tried to study the relationship between the dominant culture in organizations and organizational creativity in the level of administrative organizations. The obtained findings of this research are as follow. There is a significant relationship between culture and organizational creativity. Moreover, there is a positive correlation between rational culture and organizational creativity. In addition, it was found out that there is a negative correlation between hierarchical culture and organizational creativity. Additionally, there is a positive correlation between collaborative culture and organizational creativity.

A research was done by Tabarsa and Imani delshad (2009) titled "Analysis and determination of the interactions between organizational culture and the staffs' organizational commitment". In this research, it was tried to study the relationship and effect of one of the most effective factors on organizational commitment, i.e. "organizational culture". The results demonstrated that organizational culture has had a positive effect on organizational commitment of the staffs of the community under study. A comparison was made between the eight specifications of organizational culture to determine their effect on organizational commitment. These specifications are as follow: 1. Self-control 2. Organizational guidance 3. Bonus system 4. Professional identity 5. Risk-taking 6. Participation in decision-making 7. Organizational support 8. Formal control.

A research was performed by Amin mozaffari et al. (2008) titled "Studying the relationship between organizational culture and leadership styles at universities. The findings stated that faculty members believe that they are working in an environment consisting of the following properties, between the existing and idealistic organizational culture: Intention towards stability, rules and official policy-makings, coordination and efficiency, target centricity, and emphasis on the consequences. Moreover, by analyzing the data, it was revealed that effectiveness of managerial skills is very high and there is a consistency between the type of organizational culture and leadership style and the skills of management.

A research was performed by Amerifar (2008) titled "The relationship between organizational culture and effectiveness of teachers from the perspective of managers and teachers at high schools in Shiraz city". The findings disclosed that there is a significant relationship between organizational culture and effectiveness.

A research was performed by Ardalan and his co-workers (2008) titled "The relationship between organizational culture and uniqueness of person-organization by using Denison model in state universities in the west of Iran. They showed that all the four dimensions of organizational culture in Denison model are dominant in universities in the west of the country. In addition, in this study, it was presented that the mission dimension has the highest correlation with organizational criteria of uniqueness of person-organization and the dimension of involvement has the lowest correlation with individual criteria of the uniqueness of person-organization.

A research was done by Monavvarian and Bakhtaei (2007) titled "Studying Denison model in Industrial Management Organization". The results demonstrated that Industrial Management Institute is at the level of average and above the average in all the four dimensions of involvement, adaptability, consistency, and mission. Industrial Management Institute achieved the best position in two variables of involvement and adaptability. However, the improvement is necessary in some of the indicators including coordination, integration, objective, and goals. Moreover, in this study, it was figured out that the spectrum of fixed-flexible in Industrial Management Organization tends to be flexible and in the spectrum of external-internal focus, no considerable difference was observed.

Bhagwan (2013) in a research titled "Spirituality in social work in South Africa: Investigation of scholars" declared that from historical perspective, spirituality shares a fragile situation with social work. In South Africa, very low amount of experimental work has been performed to study spirituality at work. The statistic society of the research was 66 people including 16 university professors of the University of South Africa. The findings showed that there are positive viewpoints on spirituality in the universities of South Africa.

Sudiby and Hiskia (2013) carried out a research titled "The effect of spirituality in the work environment, organizational and cultural factors on employees' performacne through organizational commitment". The aim of the paper was to investigate the effect of spirituality in the work

environment, organizational and cultural factors on the employees' performance through organizational commitment. The statistic sample of the research was 220 employees of Jakarta companies, which were selected by random sampling method. Structural equation method was employed as the analyzing tool by using the software. The findings of the research showed that organizational spirituality has a positive effect on the organization's performance and cultural factors are of negative effect on the performance of employees through organizational commitment.

Malik and Naeem (2011) carried out a research titled "The role of spirituality in job satisfaction and organizational commitment among faculty members of higher education institutes in Pakistan". This study has presented the initial insights with regard to the dynamic-relational role of spirituality in job satisfaction and organizational commitment among the teachers of higher education institutes in the developing country of Pakistan. By using step-by-step regression method, authors analyzed the data and ultimately, concluded that there is a positive relationship between spirituality and organizational commitment. The people who have higher spirituality and commitment, are of higher job satisfaction.

Gillespie et al. (2008) measured the relationship between organizational culture and customer satisfaction in construction industry and automobile dealers. They used Denison model to recognize organizational culture. The findings showed that the highest score in the construction industry has been obtained in the dimensions of involvement and mission and the lowest score has been achieved in the dimension of adaptability. Moreover, with regard to car dealers, the highest and lowest scores have been gained in the dimensions of consistency and adaptability, respectively.

Yilmaz and Ergun (2008) studied the effect of different dimensions of Denison organizational culture model of the performance of organizations. In this study, it was revealed that in adaptability and consistency dimensions received the highest and lowest scores, respectively. Moreover, it was realized that the mission dimension is of the highest effect on increasing the performance of production companies. Furthermore, the company's ability in producing new products is significantly under the effect of the dimensions of adaptability and consistency.

A research was done by Zheng (2007) titled "Studying the relationship between organizational culture and effectiveness". The results demonstrated that considering the relationship between the environment's requests, the culture, added to the organization's strategy, four types of organizational culture (consistency, mission, collaborative, and sustainable culture) can be formed. He has specified that there is significant relationship between organizational culture and effectiveness.

Claude and Zamor (2003) accomplished a study titled "Spirituality in the work place and organizational performance". He concluded that the spiritual work environment has a direct effect on the success of the organization, which can increase the empowerment and subsequently decrease the shifts of employees, reduce fatigue and absenteeism.

Research methodology

The current study, considering its main purpose, is an applied research and from the data collection perspective, is a descriptive (non-experimental) research. It is accounted as a branch of field studies. In addition, from the viewpoint of the relationship between research variables, it is of the casual type. The research method was survey. The most important specification and advantage of this method is the generalization capability for the results.

Statistics society and sample

All the line workers of the Research Institute of Petroleum Industry (450 persons) were considered as the statistic society. Sampling was performed using the random classification method

among the line workers of the research institute. Considering the constraints of the society, the sample's volume was estimated by Cochran's formula 100 individuals.

Tools of data collection

In order to collect the information, field and library methods were used. Field method includes two following questionnaires:

Table 1 - Latent and observed variables in questionnaires

No	Latent variables	Observed variables
1	Commitment to participation (involvement)	The empowerment status in the company: It means that people have the authority, creativity, and ability to manage their works. This can create a sense of possession and responsibility in the organization. The status of team orientation in the company: It means that in the organization, the group work is valued in the direction of common goals in such a way that employees feel that they are accountable at their work place like their managers. The status of capability development: The organization constantly develop the employees' skills in order to fulfil their requirements and remain in the competition arena.
2	Consistency	The status of core values: The organization's members share a group of values that form their identity and expectations. The agreement status: The organization's members are able to agree on a critical difference. This agreement includes both agreement in the lower level and the ability to create agreement in other levels. The status of coordination and integration: Organizational units with different functionalities can work very well with each other to reach common goals. Organizational borders will not be affected by such work.
3	Adaptability	The status of change creation: The organization can create the ways to support the needs for change and can identify the company's environment, respond to current stimulus, and precede future changes. The status of customer focus: The organization understands customers, respond to them, and provide their future needs in advance. In fact, customer focus reflects the degree in which organizations are directed towards customer satisfaction. The status of organizational learning: It measures the opportunities that are created to encourage creativity, knowledge style, and development of employees' abilities.
4	Mission	The status of strategic intention and direction: Strategic intentions show the direction of organizational objectives. The vision status: The organization is of a common vision of the future situation. The status of goals and objectives: The objectives are linked with the strategy of mission and the organization's view horizon and specify the direction of people's activities.
5	Meaningful work	In this organization, one feels that s/he along with the colleagues is a member of a family. Employees support each other. Employees take care of each other. Employees value each other. Fulfilment of the organization's mission is valuable.
6	Sense of community	Employees try to fulfill the organization's objective. The organization attends the financial situation of employees. Employees value the organization's values. My goals are in line with the organization's objectives.
7	Alignment with values	One enjoys from working. One has the freedom of speech. Working stimulates employees. Employees are always motivated to go to work. One realizes the meaning and concept behind his/her work in the organization.

Organizational spirituality questionnaire: In order to measure organizational spirituality, Milliman et al. questionnaire was used including 14 questions and 3 components. The scoring method in this questionnaire was designed based on 5-point Likert scale (completely disagreed for 1 and completely agreed for 5). This questionnaire has been utilized frequently in various studies and the alpha coefficient was obtained 0.87.

Organizational culture questionnaire: In order to measure organizational culture, Denison standard questionnaire was used including 12 questions and 4 components. The scoring method in this questionnaire was designed based on 5-point Likert scale (completely disagreed for 1 and completely agreed for 5) and for assessment of its stability level, the Cronbach's alpha was employed. The obtained coefficient was 0.90, which reflects the high stability coefficient of the research tools.

Calculation of the effect of organizational culture on organizational spirituality in the Research Institute of Petroleum Industry by using PLS method

In this section, the organizational culture effect on organizational spirituality was studied in the Research Institute of Petroleum Industry (RIPI). In this regard, two questionnaires were supplied considering the realities of this research institute and were distributed and collected among the line workers of this research institute: After extraction of the answers, the questionnaire's questions were normalized as shown below.

Assuming that y_i is the variable related to i th question of the questionnaire, it was converted to a normal variable using the following formula:

$$X_i = \frac{100}{9} \times (Y_i - 1)$$

Where the minimum value of X_i is equal to zero and its maximum value is equal to 100. In addition, if a question was not answered from the available data, it would be replaced by the average of X_i . In this part, at first, some of the statistic indicators of the samples were briefly studied: In the below table, the average and standard deviation of latent variables of the problem has been provided:

Table 2 - The mean and the standard deviation of latent variables of the problem

	Alignment with values	Sense of community	Meaningful work	Mission	Adaptability	Consistency	Commitment to participation
Valid	100	100	100	100	100	100	100
Mean	53.8500	61.0500	64.3327	57.9885	54.8288	56.1423	52.2481
Std. Deviation	15.43449	12.97245	14.46124	14.79174	16.87601	11.58925	15.6172
Minimum	18.50	25.40	37.00	26.70	16.70	36.10	13.00
Maximum	88.90	84.10	100.00	82.20	83.30	77.80	100.00

Relationship between observed variables and the related latent variable

$$X_{jh} = \alpha_{jh0} + \alpha_{jh} \cdot \mu_{jh} + \varepsilon_{jh}$$

Every latent variable μ_{jh} is describable indirectly by a set of observed variables of X_{jh} and each observed variable is related to its latent variable by a simple regression. The following equation represents the relationship between an observed variable and its latent variable: Where μ_j has the average of m_j and the standard deviation is equal to one.

Relationship between latent variables of the model:

The overall shape of research model equations is $\mu_j = \beta_{j0} + \beta_{ji} \cdot \mu_j + \varepsilon_j$.

Considering the above relation, structural equations for the presented model can be written as follow:

$$\text{Meaningful Work} = \beta_{10} + \beta_{11} \cdot \text{Commitment to participation} + \beta_{12} \cdot \text{Consistency} + \beta_{13} \cdot \text{Adaptability} + \beta_{13} \cdot \text{Mission} + \varepsilon_{10}$$

$$\text{Sense of community} = \beta_{10} + \beta_{11} \cdot \text{Commitment to participation} + \beta_{12} \cdot \text{Consistency} + \beta_{13} \cdot \text{Adaptability} + \beta_{13} \cdot \text{Mission} + \varepsilon_{10}$$

$$\text{Alignment with values} = \beta_{10} + \beta_{11} \cdot \text{Commitment to participation} + \beta_{12} \cdot \text{Consistency} + \beta_{13} \cdot \text{Adaptability} + \beta_{13} \cdot \text{Mission} + \varepsilon_{10}$$

In this part, it has been aimed to solve PLS model to estimate the relationship between latent variables of the problem by considering the above relations. For this purpose, in this project, VPLS software has been employed to estimate the relationship between latent variables of the problem. The software output of the model is provided in Appendix 1. In addition, according to the obtained results from the final model, the effect of organizational culture on organizational spirituality and the relationship between its latent variables in the Research Institute of Petroleum Industry are as shown below:

The final model and interpretation of the results:

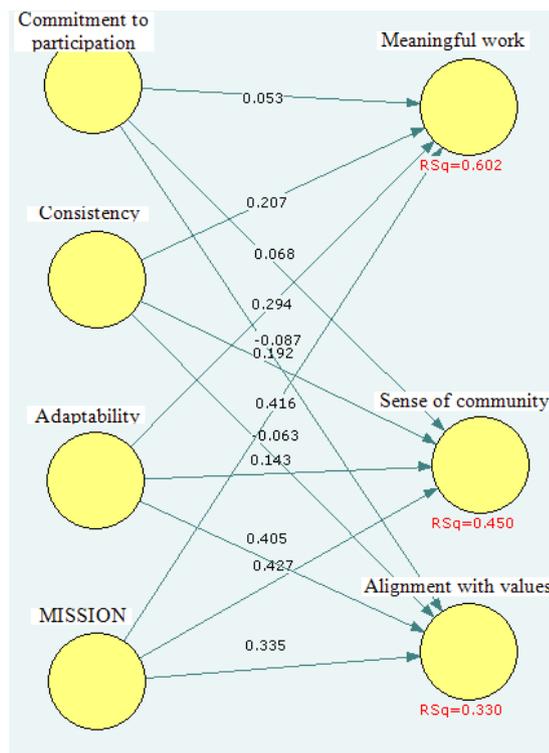


Figure 3 - The casual model of the effect of organizational culture dimensions on organizational spirituality in the Research Institute of Petroleum Industry

Verification of the structural model

According to Chin (1998) R^2 , which is estimated only for endogenous variables and presents the variance value of latent endogenous variables, is regarded as, considerable for the values higher than 0.67, as average for the values between 0.33 and 0.67, and as weak for the values lower than 0.19. In addition, if in a specific model in which a combination of endogenous variables is only with

one or two latent endogenous variables, in this case, the “mean R^2 ” is acceptable. In this project, R^2 values vary between 0.33 and 0.60, and considering this fact that the model of latent variables is endogenous, hence, R^2 value is acceptable.

Verification of the measured model (in this section, three categories should be studied)

One-dimensionality of indicators

In order to measure the one-dimensionality of indicators, Cronbach’s alpha coefficient was used in this project. Cronbach’s alpha coefficient is a criterion to measure internal consistency. If this coefficient is larger than 0.70, the model will be highly stable and if α is lower than 0.60, it shows the low reliability of the model (Henseler et al., 2009). As presented in the following table, in this project, Cronbach’s α coefficient for each variable of the model and its average was higher than 0.7, which confirms the reliability (stability) of the model.

Table 3 - The average of Cronbach’s alpha coefficient

Latent Var	Cronbach's α
Commitment to participation	0.779
Consistency	0.824
Adaptability	0.732
MISSION	0.831
Meaningful work	0.768
Sense of community	0.776
Alignment with values	0.81
AVERAGE	0.78857

Checking whether the indicators have been explained by their latent variables well.

In this project, two criteria of explanatory ability of indicators by their latent variables have been estimated:

- i. Composite reliability: This criterion is used to measure the stability of the model and is called composite reliability. If the value of this criterion is lower than 0.6, it means that the model is unreliable (Henseler et al., 2009). In the estimated model of this project, the average of this criterion is significantly higher than 0.6, which reflects the reasonable reliability of the model.

Table 4 - Average composite reliability of the model

Latent Var	Composite Reliability
Commitment to participation	0.894672
Consistency	0.732505
Adaptability	0.974338
MISSION	0.794068
Meaningful work	0.775685
Sense of community	0.751968
Alignment with values	0.843269
AVERAGE	0.82

- ii. AVE: In order to calculate the convergent validity, Fornell and Larcker proposed to apply AVE criterion. In AVE, at least 50 percent of the indicators have acceptable convergent validity. It means that a latent variable can explain more than the half of indicators’ variance (observed variables) in average (Henseler et al., 2009). Considering this fact that in this project, the mean AVE of the model is more than 0.5, thus, the convergent validity of this model is confirmed.

Table 5 - The average convergent validity of the model

Latent Var	AVE
Commitment to participation	0.840
Consistency	0.764
Adaptability	0.570
MISSION	0.886
Meaningful work	0.580
Sense of community	0.840
Alignment with values	0.890
AVERAGE	0.767

iii. Evaluation of the differentiation of one variable from others In order to calculate the divergent validity of the model, there are two criteria of Fornell-Larcker and Cross Loading, which the Cross Loading criterion has been used in this project.

Table 6 - The correlation coefficient between observed and latent variables

	Commitment to participation	Consistency	Adaptability	MISSION	Meaningful work	Sense of community	Alignment with values
COMM1	0.7621	0.2376	0.2839	0.2832	0.2366	0.5396	0.4637
COMM1	0.7444	0.6237	0.3423	0.1878	0.2938	0.2374	0.4534
COMM1	0.7937	0.2311	0.3421	0.2341	0.3756	0.6213	0.6434
CONS 1	0.5005	0.8363	0.4638	0.2353	0.3764	0.5436	0.3565
CONS 2	0.3487	0.8570	0.5909	0.4763	0.4763	0.2653	0.2763
CONS 3	0.4763	0.8739	0.3653	0.2363	0.3623	0.5266	0.4736
Adap1	0.2763	0.2354	0.6533	0.3423	0.2341	0.1222	0.3422
Adap2	0.2365	0.4673	0.7627	0.2344	0.1233	0.0283	0.1221
Adap3	0.2345	0.4733	0.7633	0.5633	0.3211	0.0933	0.0983
MISS1	0.0764	0.2500	0.2653	0.7622	0.2763	0.7633	0.1762
MISS2	0.2365	0.1762	0.2763	0.6555	0.1887	0.1762	0.1876
MISS3	0.2345	0.2376	0.0998	0.5187	0.2653	0.1922	0.1616
Meaningful 1	0.2653	0.2763	0.1982	0.0983	0.7635	0.2763	0.1652
Meaningful 2	0.2543	0.4383	0.3652	0.0938	0.7633	0.1762	0.4863
Meaningful 3	0.4653	0.3562	0.3872	0.1762	0.8766	0.0928	0.3762
Meaningful 4	0.2987	0.2363	0.1872	0.0937	0.7092	0.3653	0.3198
Sense1	0.1726	0.3762	0.1872	0.1872	0.2873	0.8737	0.2765
Sense 2	0.2762	0.3286	0.2120	0.3982	0.3872	0.6827	0.1276
Sense 3	0.1862	0.3298	0.2873	0.3192	0.2763	0.7633	0.2397
Sense 4	0.3762	0.1098	0.2983	0.1872	0.2763	0.5676	0.1212
Sense5	0.1862	0.3873	0.3872	0.1289	0.42983	0.8722	0.1762
Alignment 1	0.1287	0.2837	0.1273	0.2267	0.2388	0.2387	0.8764
Alignment 2	0.2333	0.1623	0.1298	0.1278	0.0928	0.1872	0.7647
Alignment 3	0.2386	0.2836	0.1298	0.2397	0.1872	0.1988	0.6535
Alignment 4	0.2397	0.2837	0.3408	0.2398	0.2873	0.1655	0.7632
Alignment 5	0.2383	0.1092	0.1298	0.1987	0.2873	0.2387	0.7654

Based on criterion, it is expected that correlation coefficient of an indicator (observed variable) with its latent variable is larger than its correlation coefficient of that indicator with other latent variables (Henseler et al., 2009). This case in the current project is totally apparent considering the following table and therefore, the divergent validity of the model is confirmed.

Discussion and conclusion

The variables of mission and adaptability of organizational culture have considerable effect on the indicator of meaningful work in the Research Institute of Petroleum Industry. However, meaningful work in the research institute had the highest impact from the mission by the coefficient of 0.416. The adaptability variable had low impact with the coefficient of 0.207 and commitment to participation did not have significant influence on meaningful work.

The sense of community is accounted as a very important factor in the Research Institute of Petroleum Industry and is affected by the mission by the coefficient of 0.427. In addition, consistency and compatibility variables with the coefficients of 0.192 and 0.143 respectively had low impact in the indicator of sense of community in the Research Institute of Petroleum Industry. Commitment to participation was not of considerable influence on the sense of community.

Alignment with the research institute's values was affected by adaptability and mission; however, the share of "adaptability" variable with the coefficient of 0.405 was more significant. Nevertheless, commitment to participation and consistency did not have a considerable impact on alignment with values.

Overall, organizational spirituality is accounted as a highly important factor in the Research Institute of Petroleum Industry, which is affected by mission and adaptability. However, the share of "mission" variable with the average coefficient of 0.451 is much significant. Moreover, adaptability is of the average effect by the coefficient of 0.321 on organizational spirituality and consistency with the average coefficient of 0.133 is of a weak effect and commitment to participation does not have a considerable impact in organizational spirituality in the Research Institute of Petroleum Industry.

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