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USING STRUCTURAL EQUATION MODELING IN CLARIFYING THE IMPACT OF INTER-ORGANIZATIONAL RELATIONSHIP STRATEGY ON EMPLOYEES' JOB SATISFACTION IN SMES

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ABSTRACT

Present paper aims at studying the impact of inter-organizational relationship strategy on employees' job satisfaction in SMEs. Its population consists of managers and employees in Kerman SMEs. Sample size is 171 for manager and 310 for employees. Simple sampling method by Kokran formula is used to achieve sample size. Fata collection tool is a standard questionnaire and Cronbach's alpha value is used for its reliability. Library and field studies were used to collect needed information. In terms of aim, this is an applied study while it is a descriptive and correlation survey in terms of gathering needed data. To analyze obtained data in deductive section, Kolmogorov – Smirnov test and confirmatory factor analysis in SPSS and LISREL software packages are used. The findings indicate that inter – organizational relationship strategy impacts on employees' job satisfaction significantly while the impact of symbiotic strategy on job satisfaction is more than pyramid strategy.

KEYWORDS: Inter Organizational Relationship Strategy, Symbiotic Strategic, Pyramid Strategy, Job Satisfaction

1. INTRODUCTION

Communication is one of the most important tools in modern society. In other words, communication is vital for the success of a civilized human. As communication is important for civilized human, it is also vital for organizational operation. Herbert Simon asserts: "without communications, there is no organization and, to the same reason, one can say that the impact of group on individual's behavior would be impossible. So, communication is a tool by which management radical tasks are shaped. Through communication, managers make necessary coordination, conduct personnel, plan and control the affairs. As communication is the most important factor of organizational emergence, it is also the factor of its survival" (Doaei, 1994). When discussion on job satisfaction, it is highly important to remind that people enter the organization with very different needs and compete on their behaviors differently. Some individuals are satisfied by money while other only demand to satisfy their feeling of security. Although considering personal differences is too important, it doesn't mean that it is impossible to predict what satisfies employees. Hence, one important and major question for managers and behavioral researchers is what employees really demand their job (Hooman, 2002). Job satisfaction is an important factor in increasing job efficiency and success. Development happens by interested and efficient human resources who have a profound mental links to their job. Studies indicate

that even with the existence of capital and strong facilities, it is the existence of active and satisfied manpower that can help the organization to achieve its aims. Job satisfaction is something that paves the ground to achieve job important values. Hence, an affecting factor on the success of any organization is its employees' job satisfaction (Mostafai and Rooshan, 2009).

2. PROBLEM DESCRPTION

Communication is a dynamic and vital process in the organization and an organization where employees lack effective communications cannot acquire necessary capabilities to execute their functions and their motivation will be decreased gradually since communication is a proper ground to exchange information, knowledge and experiences (Samaeian, 1998). Effective communication is a key factor for managers' success since information enters the company as an important factor in the light of effective communications and upon its arrival; it needs an efficient communication system to processed and flowed as a blood in the veins of the organization (Moghimi, 1998). Current conditions over organizations are so that one can decisively say that their survival depends on their interrelations. Perhaps, it was possible in the past to imagine organizations who keep their life simply by relying upon their capacity, capability and financial, human and information resources. Overtime an in parallel to organizational changes and transformations, such imagination was loosed and now the necessity of inter-organizational relations is enforced. In this regard, the findings of different studies indicate that 48% of US corporations with highest growth have extremely inter-organizational relationships (Alter and Hage, 1993). Therefore, inter-organizational relationship is considered as an undeniable reality and as an organizational challenge. Right and on-time inter-organizational relationships have numerous advantages such as acquiring new information, human, managerial and financial resources; facilitating in acquiring, keeping and promoting sustainable competitive advantages; acquiring higher market shares; decreasing the costs of providing products and services; and increasing innovation and creativity (Doz & Hamel, 1998). Concerning the key role of inter-organizational relationships, present study has addresses to two inter-organizational relationship strategies: symbiotic strategy (direct activities with non-rivals) and pyramid strategy (direct activities with rivals).

On the other hand studies indicate that organizations and companies conduct numerous polls on their employees' feeling and attitudes toward their jobs. Job satisfaction is one of the most important variables in organizational behavior study and as the critical variable in organizational theories and researcher. So far, hundreds of studies are conducted on job satisfaction in organizational behavior quarterlies and related disciplines (Porter, 1999). One challenging confront organization and corporations in Iran is job satisfaction and issues related to inter-organizational relationships and leadership style which result in annual huge costs. Therefore, there is no doubt that one should try to increase job satisfaction and, as a result, communication improvement through widespread researches.

According to above points, present study attempts to answer this question: does inter-organizational relationship strategy impact on job satisfaction in Kerman SMEs? Answering this question needs scientific researches.

The necessity and importance of research

Communication is one of the most important tools in modern society and one can say that it is the most important factor of human development and excellence. In other words, communication is vital for the success of a civilized human. As communication is important for civilized human, it is also vital for organizational operation or, in other words, for organizational building and survival. Herbert Simon asserts: "without communications, there is no organization and, to the same reason, one can say that the impact of group on individual's behavior would be impossible. So, communication is a tool by which management radical tasks are shaped. Through communication, managers make necessary coordination, conduct personnel, plan and control the affairs. As communication is the most important factor of organizational emergence, it is also the factor of its survival" (Doaei, 1994).

Communication links all levels of the organization and causes organizational integration and unity. Management is responsible to establish right communications in the organization. Hence, managers should be aware of quality and quantity of communicative process and know how to communicate effectively (Alvani, 2005). Right and on-time inter-organizational relationships have numerous advantages such as acquiring new

information, human, managerial and financial resources; facilitating in acquiring, keeping and promoting sustainable competitive advantages; acquiring higher market shares; decreasing the costs of providing products and services; and increasing innovation and creativity (Doz & Hamel, 1998). Hence, inter-organizational relationships are considered as the most valuable organizational resource in any organization which one should attempt to acquire them and, to this end, a remarkable part of organizational success/failure factors are related to the quality of relations with other organization (Meier, 1995). Job satisfaction studies are important in two aspects: first, a human aspect by which employees merit to be behaved fairly and respectfully; second, a behavioral aspect by which attention to job satisfaction can conduct employees' behavior in a way that impacts on their organizational functions and leads into their positive and/or negative behaviors (Jackson & Corr, 2002).

Inter organizational relationships

Overall, there are two types of inter-organizational relationships explained below:

(1) Symbiotic strategy (direct activities with non-rivals)

Symbiotic strategy is one of the strategies used by organizations and corporation to develop their activities. It pursues two general aims: 1. Direct activities with non-rivals: as clear, the aim is to operate and establish direct relations to organizations that are not considered as rivals. Another aim of this strategy is indirect activity in the organization. It means that to what extent the organization is active in inter-organizational communities (i.e. political, social, cultural and religious ones) (Mikhailitchenko & Lundstrom, 2006).

(2) Pyramid strategy (direct activities with rivals

It is another inter-organizational relationships strategy. It aims at direct activities with rivals and in the scope of trading and industry to achieve organizational targets. It also pursues two general aims: 1. Direct activities with rivals, that is, to what extent, it has a joint consensus with rivals and operates jointly with them in training, research and marketing. 2. Operation in industrial scope, that is, to what extent, it contributes in pricing and it shares its information with rivals (Mikhailitchenko & Lundstrom, 2006).

Job satisfaction

Job satisfaction means an extent of people's positive feelings and attitudes toward their job (Moghimi, 2001). Some of the job satisfaction measures include:

- 1. Job nature: responsibility, interest and growth
- 2. Supervisor: technical and social support
- 3. Colleagues: social respect and compatibility
- 4. Job promotion opportunities: situation for more progress

Payment: sufficient salaries and benefits compared to others (Heydari, 2000).

Research background

Andre Mikhailitchenko and William Lundstrom (2006) conducted a study on inter-organizational relationship strategy and management styles in SMEs and concluded that there is a significant association between management styles and inter-organizational relationship strategy in these companies.

In studying hundreds of managers including supervisors, middle managers and top managers, Gissel (2005) concluded that strong leaders enjoy such traits as intelligence, imitative, self-trust and capability of supervision (Desler, 2007).

In his Ph.D. dissertation on "the relationship between the impact of employees' capability on employees' job satisfaction and performance in workplace, Julen (2004) indicated that employees' empowerment impacts on their job satisfaction and performance. It means that more employees' empowerment would lead into their more job satisfaction and performance.

Louise et al, (2001) assert that in scientific management, job satisfaction and work life quality are considered as external traits while human relations theory believes that focus on such factors as internal or external traits depends on individual's attitude toward job, for instance, salary or income which is an important factor for work life quality and job satisfaction can be considered as an external factor if it is seen as a provider of family

life and recreation facilities while it can be also considered as an internal factor if it shows organizational appraisal of an individual. Finally, authors concluded that job satisfaction associates with work life quality and organizational commitment significantly and positively.

In a research on providing a method to stimulate inter-organizational communications in public entities, Azar et al, (2005) concluded that theoretical paradigms clarify shaping and analyzing communications mostly in private firms. On the other hand, executing such paradigms in public sector is impossible due to its certain attributes. Hence, they introduced a method based on computerized stimulation to analyze inter-organizational communication in public sector.

In their study on the relationship between nursing managers' leadership styles and nurses' job satisfaction, Kolagary and Khoddam (2007) found that most subjects were female (74.3%) whose job position was nurse (86.6%) aged 32.7 years in average with 8.53 years of job background. The satisfaction of most subjects (79.8%) was in low or medium levels. 62.2% of research units believed that their managers are task – oriented while 34.9% believed that they were transformation – oriented. Data analysis showed those employees who believed that their managers were task – oriented enjoyed higher job satisfaction than those ones who believed in transformation – oriented management (88.01 vs. 86.36 in average). It was not a significant difference statistically. Since no relationship was found between supervisors' leadership style and nurses' satisfaction, further studies on recognizing other job satisfaction related factors seems necessary.

In their research titled the relationship between principals' social intelligence and school teachers' job satisfaction, Rezaei and Khalilzadeh concluded that (1) there is positive and significant relationship between principals' social intelligence and teachers' job satisfaction and (2) among three social intelligence components, two variables namely social skills and social information processing are the best predictors of job satisfaction.

In a study titled the relationship between emotional intelligence and job satisfaction, Etebarian and Omidpanah (2008) concluded that emotional intelligence and job satisfaction are correlated. Likewise, there is a relationship between self – regulation and social skills with job satisfaction.

In their research on studying the relationship between work life quality and job satisfaction of faculty members in University of Tehran and Sharif University, Mirkamal and Narnejisani (2007) concluded that (1) instructors in both universities are in relatively undesired level in terms of work life quality and relatively high level in terms of job satisfaction; (2) there is a positive association between work life quality and job satisfaction components; (3) there is no significant difference between the extent of work life quality and job satisfaction of instructors in both universities and there is a trivial different in terms of social integration as an aspect of work life quality. In other words, faculty members at Sharif University had higher social integration than their counterparts in University of Tehran; (4) step-by-step regression results indicate that in terms of importance, law – orientation in organization, growth opportunity, constant security and human capability development as the aspects of work life quality correlate job satisfaction.

Hypotheses

- 1. Inter-organizational strategy impacts on employees' job satisfaction in SMEs significantly.
- 2. Pyramid strategy impacts on employees' job satisfaction in SMEs significantly.
- 3. Symbiotic strategy impacts on employees' job satisfaction in SMEs significantly.

3. RESEARCH CONCEPTUAL MODEL

To build an analytical model, the author can finally act in two ways among which there is no clear difference: it starts from devising the hypotheses and then it addresses to concepts or passes a reverse route (Khaki, 2011). According to above argument, hypotheses, the opinions by instructors and elites on organizational behavior, human resources and organizational relationships and also research theoretical basics, one can draw research conceptual model as below:

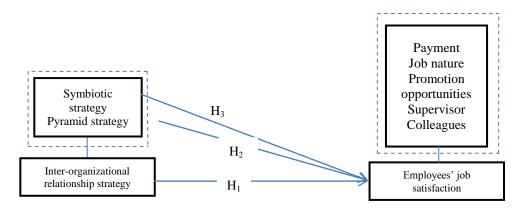


Figure 1. Research conceptual model

4. RESEARCH TYPE AND METHODOLOGY

In terms of aim, this is an applied research while it is a descriptive and correlation survey in terms of gathering needed data. To gather data on managers at Kerman SMEs, library and field studies are used. Following boundaries are determined to study the impact of inter-organizational relationships strategy on employees' job satisfaction in Kerman SMEs:

- (a) Thematic scope: discussions on management and organizational basics in general and interorganizational relationships strategy and employees' job satisfaction in particular.
- (b) Time scope: information and data are for spring 2013.
- (c) Locational scope: managers and employees in Kerman SMEs.

(d)

In present study, the population consists of managers (171) and employees (1586) in Kerman SMEs.

Determining sample size is highly important in the extendibility of test results to a population. There are several techniques to determine sample size that the most precise ones are mathematical methods. Since the population consists of two parts and limited, 171 questionnaires were distributed among managers in Kerman SMEs. In the meantime, to achieve sample size of employees, Kokran formulation as below:

$$n = \frac{Nz^2pq}{(N-1)d^2 + z^2pq}$$

Where:

N = population size

n = sample size

Z = standard normal variable value which 1.96 in 95% confidence level

P = the value of property in studied population which can be considered as 0.5 if it is not available

q = the percentage of people who lack the studied property in the population (q = P - 1)

d =the value of allowed error (0.05).

Therefore, by inserting the population in above formation, we have:

$$n = \frac{1586 \times 1.96^2 \times 0.5 \times 0.5}{1585 \times 0.05^2 + 1.96^2 \cdot 0.5 \times 0.5} = 310$$

Noteworthy, Morgan's table is used to achieve sample size (310). After achieving sample size, pair method is used to harmonize both samples. As seen in table 1, this sample is determined with certain values for each population (Sarmad, et al, 1998).

Row Type of activity **Frequency** Manager's **Employees** Employees' sample size sample size 102 1 Power and electronics 11 11 20 2 46 9 services 5 5 3 Chemicals 46 46 427 83 4 93 Cellulose 10 10 18 5 Foods 29 29 269 53 9 Textile 5 5 6 46 7 Metals 37 37 343 67 8 Nonmetal Minerals 28 28 260 51 171 Total 171 1586 310

Table 1. the quantity of SMEs in Kerman in terms of their activities and sample size

Data collection and measurement tool

In present paper, a 33 – item standard questionnaire is used to measure the relationship between inter – organizational relationships strategy and employees' job satisfaction based on Likert five – point scale (fully disagree; disagree; neither agree nor disagree; agree; fully agree).

Table 2. The source of research questionnaire items

Variable	Items	Cronbach's alpha ratio	Author	
inter – organizational relationships strategy	1 – 12	0.86	Mikhailitchenko & William (2006)	
Brand loyalty	13 – 33	0.95	Shahin, Zahir and Kitapci (2011)	

Cronbach's alpha is used to compute the reliability (0.905) of questions for each variable and for total questionnaire.

5. RESULTS FROM DEDUCTIVE STATISTICS

Testing normal distribution of factors

Kolmogorov – Smirnov test is used to study normal data. H_0 reads that data enjoy a normal distribution. Statistically, we have:

 $H_0: \beta_i = 0$ $H_1: \beta_i \neq 0$

In present test, H_0 is refused if significance level is lesser than 0.05 while H_1 is supported if significance level is greater than 0.05. The findings on testing normalization of factors are depicted in table 3

Table 3. The findings on testing normalization of factors

	Inter – organizational relationships strategy	Employees' job satisfaction
Quantity	171	310
K S test	1.48	2.53
Significance level	0.024	0.000

The findings from testing research hypotheses

Here, we test research hypotheses by a proper analysis. To test the hypotheses, structural equation model with LISREL software is used. As seen in figure 1, research conceptual model with significance ratios is used to test major research hypotheses. If T-Value is greater than 1.96 or less than -1.96, then H_0 is refused and H_1 is supported. As mentioned, Kologoromov – Smirnov test is used to study the normal distribution of factors.

The most important indicators are Goodness of Fit Index (GFI) Adjusted Goodness of Fit Index (AGFI) and Root Mean Square Residuals (RMSR).

The optimized moods for such tests include:

- (1) Lower x2 test is better since it shows the difference between data and the model.
- (2) AGFI and GFI should be greater than 90%.
- (3) Lower RMSR is better since it is a test on a hallmark for the average difference between observed data and model's data (Nategh, 2006).

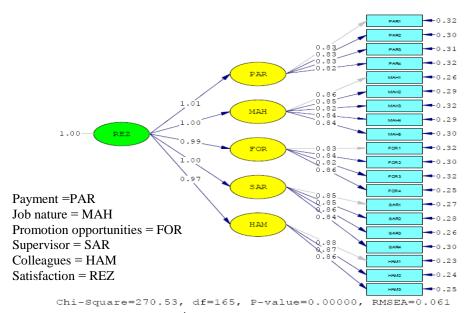


Figure 2. 2nd order CFA for job satisfaction variable

As observed, all item factor loads are greater than 0.5 which shows that job satisfaction variable enjoys well construct validity.

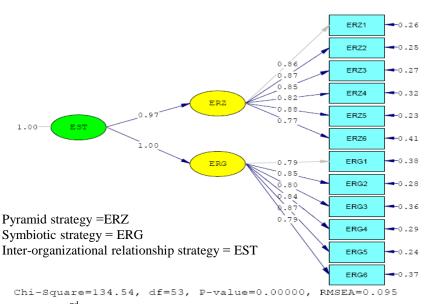
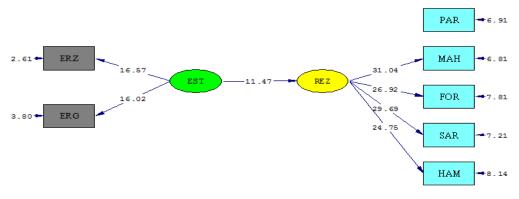


Figure 3. 2nd order CFA for inter-organizations relationships strategy variable

Concerning inter – organizational relationships strategy, as seen in the model, all factor loads for this item are greater than 0.5 which indicates that this variable enjoys well construct validity.

Structural equation modeling is used to test research hypotheses as below:



Chi-Square=16.16, df=13, P-value=0.0079, RMSEA=0.038

Figure 4. variables' CFA in significance level status

Table 4. GFI indicators of the right and left sides of model

Row	Indicator	Aspect	Ideal level		
1	$^{\chi 2}/_{df}$	1.24	3<	Acceptable	
2	RMSEA	0.038	0.1 <	Well	
3	PMR	0.0097	~ 0	Acceptable	
4	NFI	0.99	0.90 >	Very well	
5	NNFI	0.99	~ 1	Very well	
6	CFI	0.99	0.90 >	Very well	
7	RFI	0.98	0.90 >	Very well	
8	IFI	0.99	0.90 >	Very well	
9	GFI	0.94	0.90 >	Very well	
10	AGFI	0.98	0.90 >	Very well	

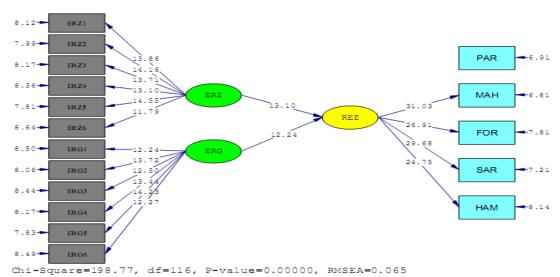


Figure 5. variables' CFA in significance level status

Indicator **Ideal level** Row Aspect $\chi^2/_{df}$ 1.71 3< 1 Acceptable 2 **RMSEA** 0.065 0.1 <Well 3 **PMR** 0.086 Acceptable ~ 0 4 NFI 0.96 0.90 >Very well **NNFI** 0.99 ~ 1 Very well 0.90 >Very well 6 **CFI** 0.98 7 **RFI** 0.98 0.90 >Very well 8 IFI 0.94 0.90 >Very well 9 **GFI** 0.94 0.90 >Very well 0.90 >Very well 10 **AGFI** 0.96

Table 5. GFI indicators of the right and left sides of model

The results of testing the 1st hypothesis

Inter-organizational strategy impacts on employees' job satisfaction in SMEs significantly.

 $H_0: \beta_i = 0$ $H_1: \beta_i \neq 0$

In testing relevant hypothesis by using structural equation model, software deliverable initially indicates that fit structural model is proper for testing the 1st hypothesis. Likewise, figure 3 depicts the significance of ratios and achieved parameters by structural model on inter – organizational strategy and employees' job satisfaction. Achieved ratios are significant when the amount of their significant test is greater than 1.96 and less than 1.96. As seen, significance ratio between inter – organizational strategy and employees' job satisfaction is 11.47. Therefore, structural model shows that inter – organizational strategy and employees' job satisfaction influence over SMEs in Kerman as shown in table 6.

Table 6. the results SEM analysis on 1st hypothesis

Standard ratio	T-Value	Independent variable	Dependent variable	Test result
0.68	11.47	Inter – organizational	Employees' job	H ₀ refused
		relationship strategy	satisfaction	

The results of testing the 1st hypothesis

Pyramid strategy impacts on employees' job satisfaction in SMEs significantly.

 $H_0: \beta_i = 0$ $H_1: \beta_i \neq 0$

In testing relevant hypothesis by using structural equation model, software deliverable initially indicates that fit structural model is proper for testing the 2nd hypothesis. Likewise, figure 4 depicts the significance of ratios and achieved parameters by structural model on pyramid strategy and employees' job satisfaction. Achieved ratios are significant when the amount of their significant test is greater than 1.96 and less than -1.96. As seen, significance ratio between pyramid strategy and employees' job satisfaction is 12.24. Therefore, structural model shows that pyramid strategy and employees' job satisfaction influence over SMEs in Kerman as shown in table 7.

Table 7. the results SEM analysis on 2nd hypothesis

Standard ratio	T-Value	Independent variable	Dependent variable	Test result
0.72	12.24	Pyramid strategy	Employees' job	H ₀ refused
			satisfaction	

The results of testing the 3rd hypothesis

Symbiotic strategy impacts on employees' job satisfaction in SMEs significantly.

 $H_0: \beta_i = 0$ $H_1: \beta_i \neq 0$

In testing relevant hypothesis by using structural equation model, software deliverable initially indicates that fit structural model is proper for testing the 3rd hypothesis. Likewise, figure 4 depicts the significance of ratios and achieved parameters by structural model on symbiotic strategy and employees' job satisfaction. Achieved ratios are significant when the amount of their significant test is greater than 1.96 and less than -1.96. As seen, significance ratio between symbiotic strategy and employees' job satisfaction is 13.10. Therefore, structural model shows that symbiotic strategy and employees' job satisfaction influence over SMEs in Kerman as shown in table 8.

Table 8. the results SEM analysis on 2nd hypothesis

Standard ratio	T-Value	Independent variable	Dependent variable	Test result
0.78	13.10	Symbiotic strategy	Employees' job	H ₀ refused
			satisfaction	

7. CONCLUSION AND RECOMMENDATION

In practice, inter – organizational relationship is appeared in different shapes called as the shapes of inter – organizational relationship. As organizations shape inter – organizational relationship to conduct their main operations, they're both human and nonhuman investments are high and they can convert into a new identity with joint partnership. In present paper, we studied the impact of inter – organizational relationship strategy on employees' job satisfaction in Kerman SMEs. Findings indicate that inter – organizational relationship strategy impacts on employees' job satisfaction positively while the impact by symbiotic strategy on job satisfaction is higher than pyramid strategy.

To this end, the managers of such enterprises are recommended:

- (1) Since present paper supports the correlation between inter organizational relationship strategy and job satisfaction, Kerman SMEs' managers are recommended to use a proper inter organizational relationship strategy that improves employees' job satisfaction since increase in employees' job satisfaction can improve productivity, returns and profitability.
- (2) Since there is a significant association between symbiotic/pyramid strategies and employees' job satisfaction in Kerman SMEs, their managers are recommended to use this strategy when they believe that symbiotic or pyramid strategies would improve employees' job satisfaction because that it would improve more employees' job satisfaction and job return.

Research limitations

- 1. Lack of cooperation by some managers to distribute questionnaires;
- 2. Limited access to foreign databases, websites, papers and dissertations;
- 3. Unfamiliarity with academic studies in public level
- 4. Lack of time and cooperation by some managers to allot a part of their working time to fill the questionnaire;
- 5. Finding managers who answer the questionnaire honestly and authentically.

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