

# Investigating the Impact of Relationship Marketing on Improvement of Company's Performance according to Brettel et al model (Case Study: Companies in Isfahan Science and Technology Town)

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## Abstract

This paper attempts to study model of Brettel et al which investigates the effective factors on company's performance that is business models specifically cost (or efficiency)-centered and novelty-centered models in the context of relationship marketing regarding the mediator role of variables such as organisational life cycle and relationship-specific investments. In this study has suggested a main hypothesis (investigating the impact of relationship marketing on improvement of company performance) and six subordinate hypotheses (investigating the impact of each of variables such as cost-centered business model design, novelty-centered business model design, cost-centered business model design in late stages of organisational life cycle, novelty-centered business model design in early stages of organisational life cycle, cost-centered business model design in early stages of organisational life cycle regarding relationship-specific investments, novelty-centered business model design in early stages of organisational life cycle regarding relationship-specific investments separately on company's performance). Based on study findings, first, second and forth hypotheses were supported. Results also showed that first subordinate hypothesis (cost-centered business model design has a significant impact on company performance) with path coefficient of 0.60 has the most impact and second subordinate hypothesis (novelty-centered business model design has significant impact on company performance) with the path coefficient of 0.29 has the least impact on company performance.

## **1. Introduction**

The intensity of competition in markets and the understanding the importance of retaining of customers for organizations have made the to move toward creating and keeping long term relationships with customers and according to scholars' point of view, relationship marketing is the most adequate option to meet this issue. Today, companies with superior performance from various industries are moving toward retaining customers and capturing their loyalty. Because, most of markets are in their maturity stage, competition is growing and the cost of capturing customers are increasing so hard, thus, companies should always be watching and monitoring their interactions with customers and by correct recognition and understanding of customers' needs and values, they offer valuable products and services to them to make them loyal by capturing their satisfaction.

## **2. Background**

Business explains how a company is created and value is offered to the customers and then received payments are changed into profit.

Competitiveness or competitive power related to all of system basics of a business includes inputs, processes and outputs. In other words, a business is competitive and has high competitive power when it has competitive inputs, processes and outputs.

Company performance includes customer's performance (satisfied and loyal customer), market performance (sales volume and high market share) and financial performance (profit, margin, capital turnover in comparison to competitors) (Divandari et al, 2008).

Business model design of a company is also an analytical topic which recently has emerged in combination of organisation, strategic management and employer theory. This is defined as a source of competitive profit and driver of company performance and also it shows the importance of employer. According to Amit and Zott (2001) business model describes "content, structure and management of designed transactions for creating value through using business positions.

This fact that business model design focuses on working relationship with external stakeholders such as key customers, partners and suppliers, makes this important question arises: can employers increase performance of their business model through improvement of relationships with key customers?

Also, in order to access to competitive advantage in business and retain it we need to use new marketing methods. Relationship marketing is one of these new marketing strategies which regarding its concentration on identification of customer through relationship with it creates competitive advantage; relationship marketing is identifying, creating, retaining, enhancing and where necessary abandoning customer relationships and other stakeholder in one profit so that all of groups' goals are met. Among stakeholder groups, customer is the most important one and wants creates such relationships which customer repeat his or her purchase and peruses others to do that (Gronross, 1994).

Prior research mostly assumed that relationship marketing attempts cause creating stronger relationship with customer and increase customer performance such as growth of sales, market share, profit etc. In this study, relationship specific investments (i.e. investments in equipment or specific processes) among other dimensions of relationship marketing such as trust, commitment, communications, conflict management and customer satisfaction and employees competency, has been approved as a main factor of performance of interorganizational relationship and performance of seller (Brettel et al, 2012). But does

employer performance in business models increase with relationship marketing attempts (i.e. relationship specific investment) rather than company's key or main customers?

Along with this objective, companies of Science and Research Towns always tried to provide plans and solutions for creating and retaining long term relationships with customers and finally make them loyal. A researchers believe that case study can lead to profound understanding of information, for understanding this situation, this study considered a case study of companies in Isfahan Science and Technology (research) Town.

Therefore, this study seeks the conditions that relationship marketing cause improvement in company's performance. in order to get to this objective, first, we focus on direct impacts of cost-centered and novelty-centered business model designs and then investigates the differences between companies in their early and late stages of organizational life cycle and finally, collateral impacts of relationship specific investments in company's early stages of organizational life cycle. At the end, study will response to this issue that do relationship marketing attempts have impact on improvement of company's performance?

### **3. Methodology**

In this study Brettel's model has been used (Fig. 1) and main and subordinate hypotheses mentioned below have been emphasized as main framework of study.

#### **3.1. Main hypothesis**

Relationship marketing has impact on improvement of company's performance.

#### **3.2. Subordinate hypotheses**

H1: cost-centered business model design has impact on company's performance.

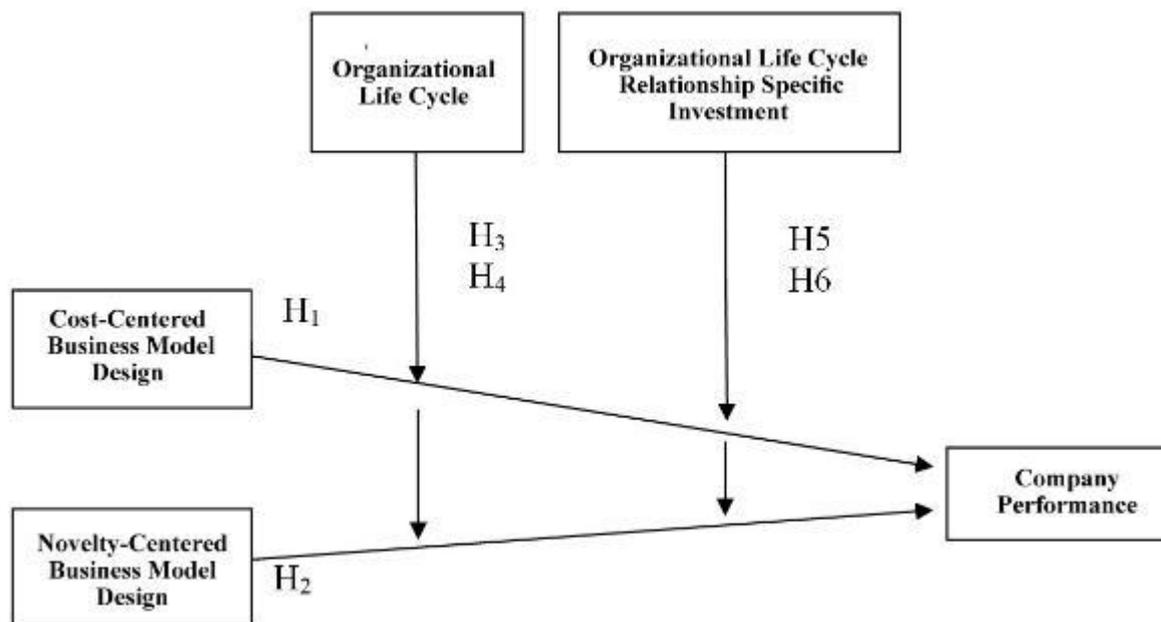
H2: novelty centered business model has impact on company's performance.

H3: impacts of highly cost-centered business model on company's performance are stronger for companies in late stages rather than companies in early stages.

H4: impacts of highly novelty-centered business model on company's performance are stronger for companies in early stages rather than companies in late stages.

H5: in early stages, impacts of cost-centered business model when the degree of relationship specific investment is high, on company's performance are higher.

H5: in early stages, impacts of novelty-centered business model when the degree of relationship specific investment is low, on company's performance are higher.



**Figure 1. Study's conceptual model (source: Brettel et al, 2012)**

Methodology in this study is descriptive and field research type in terms of research method. And from the purpose it is applicable-scientific research and it is correlation type in terms of nature.

Study samples consist of all of marketing, manufacturing, research and development managers of Isfahan Science and Technology Town including 100 male and female and also senior managers of companies in that town. Regarding the limited sample, this study did not need any sampling method. Thus, all of samples were investigated using census method.

**3.3. Sampling method and data analysis**

Since study sample is limited, census method was used. The number of companies in Isfahan Science and Technology Town is about 30 companies which the number of their managers (CEO, manufacturing manager, financial manager, sales manager) are estimated 100 person. Therefore, 1000 questionnaire were distributed and among them 95 questionnaires were back with return rate of 93%.

In this study, in order to analyze collected data, descriptive statistics (frequency, measure(s) of central tendency and scatter and mean) was used to describe phenomenon and perceptive statistics (one sample T test, one sample independent T test) was used to understanding relationships between variables and other components of model. SPSS and AMOS also were used in order to statistical analysis.

**4.3. Data analysis**

In order to test study hypotheses hierarchical regression test were used. Before hierarchical regression test, Pearson correlation test was applied in order to discover internal correlation between variables which entered in regression model. Table 4. Demonstrates internal correlation between study variables. To reduce multicollinearity effect between variables which enter in regression model, variables were standardized in the model.

**Table 1. Inter-correlation between variables**

variable	1	2	3	4	5
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<b>1. Company performance</b>	1				
<b>2. Novelty-centered business model</b>	0.795*				
<b>3. Cost-centered business model</b>	0.844*	0.843*			
<b>4. Relationship specific investment</b>	0.146	0.110	0.153		
<b>5. Organizational life cycle</b>	-0.127	-0.166	-0.252*	-0.114	
* Correlation coefficient is significant at $P < 0.05$					

Table 1 shows that there is a correlation between performance (dependent variable) and novelty-centered business model design and cost-centered business model design (independent variables). Also, this table demonstrates that there is a correlation between organizational life cycle and cost-oriented business model design. However, results show that there is no correlation between organizational life cycle and relationship specific investment and company performance.

### 3.4.1. Testing of H1 and H2 hypotheses

**H1:** cost-centered business model design has significant impact on company performance.

**H2:** novelty-centered business model design has significant impact on company performance.

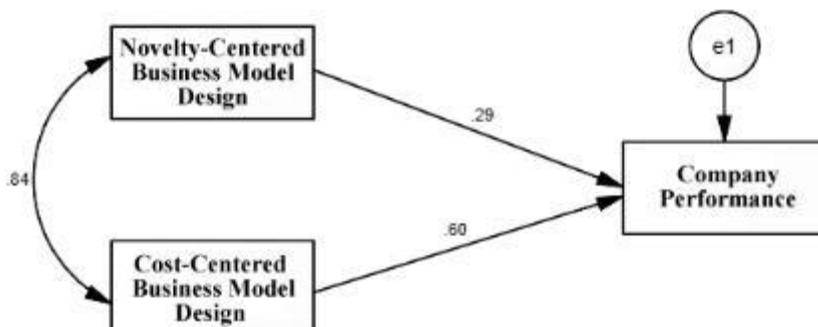
Since in this study the relationship between multiple independent variable and a dependent variable is measured, the multivariate regression method is used. Table 2 shows that independent variables (i.e. novelty-centered business model design and cost-centered business model design) has a significant impact on dependent variable of company performance ( $P\text{-Value} < 0.05$ ).

**Table 2. Testing H1 and H2 using regression test**

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Standard Error	Beta		
Constant	.729	.146		5.000	.000
Novelty-centered business model design	.243	.084	.289	2.884	.005
Cost-centered business model design	.517	.086	.600	5.980	.000

Dependent variable: Company performance

Furthermore, H1 and H2 were tested once more using path analysis and AMOS software. Figure 2 demonstrates the path coefficient of H1 and H2 after test.



**Figure 2. Path coefficient in testing H1 and H2**

The significance of relationships between components of model and also its path coefficients were represented in table 3.

**Table 3. Path coefficients of model**

	Hypothesis	Path coefficient (Standardized)	Standard error	Critical ratio	P-value
Novelty-centered B. M. D.---> Company performance	H1	.243	.083	2.915	.004
Cost-centered B. M. D.---> Company performance	H2	.517	.086	6.046	***
*** P-value is less than 0.001					

Results in table above show that all of paths are significant (p-value <0.05). Table 4 demonstrates the goodness of fit indices of model.

**Table 4. Goodness of fit indices**

Type of goodness indices	index	Main model
	NPAR	6
	DF	0
	P (more than 0.05)	---
Absolut	CMIN	0
	AGFI (more than 0.9)	---
	GFI (more than 0.9)	1
Comparative	TLI (more than 0.9)	---
	NFI (more than 0.9)	1
	CFI (more than 0.9)	1
Parsimonious	PNFI (more than 0.5)	0
	PCFI (more than 0.5)	0
	RMSEA (more than 0.08)	0.08
	CMIN/DF (less than 5)	---

Report indices in the table 4 suggest that the model is a saturated model (because Degree of freedom (DF) =0) and a saturated model is an adequate model by itself. Therefore we can say that this model has proper goodness of fit.

### 3.4.2. Testing of H3 and H4 hypotheses

**H3:** impacts of highly cost-centered model design on company performance for companies in their late stages are stronger than for companies in their early stages.

**H4:** impacts of highly novelty-business model design on company performance for companies in their early stages are stronger than for companies in their late stages.

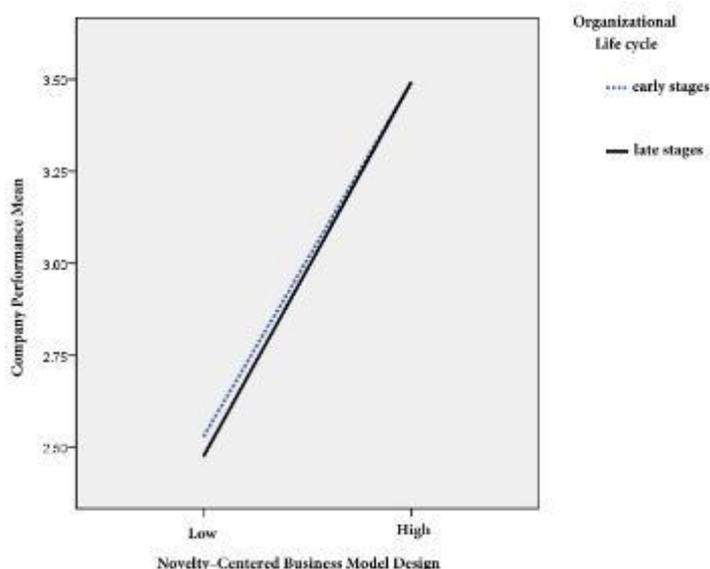
In order to test third and fourth hypotheses we used hierarchical multivariate regression analysis. In this stage of testing hypotheses in order to investigate mediating role of organizational life cycle, this variable and its multiples with independent variables (cost-centered business model design and novelty-centered business model design) entered in to the regression model. Table 5 shows the results of testing the H3 and H4.

**Table 5. Testing H3 and H4 using hierarchical multivariate regression test**

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Standard Error	Beta		
Constant	0.978	0.536		1.842	0.690
Novelty-centered business model design	0.286	0.073	0.305	3.534	0.010
Cost-centered business model design	0.592	0.075	0.603	5.432	0.000
Organizational life cycle	0.140	0.210	0.145	0.669	0.505
Cost-centered business model design× organizational life cycle	0.053	0.076	0.053	0.696	0.487
Novelty-centered business model	0.150	0.072	0.158	2.077	0.039

design × organizational life cycle					
Dependent variable: Company performance; source: SPSS outputs					

Results from table 5 show that the double sided combination of novelty-centered business model design × organizational life cycle is significant and has a positive impact on dependent variable (company performance) (p-value<0.05). Therefore, we can say that H4 is supported. Also. In order to more investigation of this hypothesis regression slope of its variable were investigated which are illustrated in figure 3. To plan this diagram, organizational life cycle was split into two sections, i.e. early stages and late stages using variable means and also novelty-centered business model was split into two sections, i.e. high and low in similar way.



**Figure 3. Demonstration of double sided combination (novelty-centered business model design × organizational life cycle)**

Figure 3 shows that there is a positive and strong relationship between novelty-centered business model design and company performance in its late stages. Also, results of table 5 show that double sided combination cost-centered business model × organizational life cycle is not significant (p-value<0.05). Thus, it can be concluded that H3 is rejected.

**3.4.3. Testing of H5 and H6 hypotheses**

**H5:** In early stages, the impacts of cost-centered business model design on company performance are stronger when the degree of relationship specific investment is high.

**H6:** In early stages, the impacts of novelty-centered business model design on company performance are stronger when the degree of relationship specific investment is low.

In order to test H5 and H6 and also moderating role of organizational life cycle and relationship specific investment, relationship specific investment and three sided combinations (cost-centered business model design×organizational life cycle× relationship specific investment and novelty-centered business model design×organizational life cycle× relationship specific investment) were entered into regression model simultaneously. Results of testing of H5 and H6 are as follow:

**Table 6. Testing H5 and H6 using hierarchical multivariate regression test**

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Standard Error	Beta		
Constant	1.373	1.559		0.881	0.381
Novelty-centered business model design	0.184	0.098	0.195	2.045	0.021
Cost-centered business model design	0.412	0.076	0.433	4.760	0.005
Organizational life cycle	-0.076	0.719	-0.079	-0.106	0.916
Cost-centered business model design × organizational life cycle	0.435	0.380	2.733	1.145	0.255
Novelty-centered business model design × organizational life cycle	0.161	0.071	0.170	2.456	0.028
Relationship specific investment	0.328	0.645	0.384	0.508	0.613
Cost-centered business model design × Relationship specific investment	0.040	0.210	0.266	0.188	0.851
Novelty-centered business model design × Relationship specific investment	-0.232	0.205	-1.188	-1.131	0.261
Relationship specific investment × organizational life cycle	-0.105	0.262	-0.614	-0.399	0.691
Cost-centered business model design × Relationship specific investment × organizational life cycle	-0.056	0.094	-1.636	-0.601	0.549
Novelty-centered business model design × Relationship specific investment × organizational life cycle	0.037	0.066	1.081	0.566	0.573

Dependent variable: Company performance; source: SPSS outputs
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Results from table 6 show that any of three sided combinations (cost-centered business model design×organizational life cycle× relationship specific investment) and (novelty-centered business model design×organizational life cycle× relationship specific investment) is not significant ( $p\text{-value}>0.05$ ). Therefore, we can conclude that both H5 and H6 are rejected. Table below shows an overall view of test carried out so far (hierarchical regression test).

**Table 7. Results of hierarchical regression analysis, dependent variable: Company performance**

Variables	First model	Second model	Third model
<b>Main impacts</b>			
Cost-centered business model design	0.600	0.603	0.433
Novelty-centered business model design	0.289	0.305	0.195
Relationship specific investment			0.384
Organizational life cycle		0.145	-0.790
<b>Double sided combinations</b>			
Cost-centered business model design × Relationship specific investment			0.266
Cost-centered business model design × organizational life cycle		0.530	2.733
Novelty-centered business model design × Relationship specific investment			0.170
Novelty-centered business model design × organizational life cycle		0.158	-1.188
Relationship specific investment× organizational life cycle			-0.614
<b>Three sided combinations</b>			
Cost-centered business model design × Relationship specific investment× organizational life cycle			-1.636
Novelty-centered business model design × Relationship specific investment× organizational life cycle			1.081
R square	0.737	0.758	0.766
Adjusted R square	0.731	0.744	0.737
F	126.126	54.548	26.832
* significant at level 0.05			

#### 4. Conclusion

In this study effective factors on business performance that is business models especially cost-centered business model and novelty-centered business model in the context of relationship marketing regarding the moderating role of variable such as organizational life cycle and relationship specific investment were investigated and taking mentioned business models from companies in Isfahan Science and Technology regarding organizational life cycle and the extent of relationship specific investment to customers and related hypotheses were test.

Since study samples i.e. managers and deputy managers of companies in Isfahan Science and Technology were limited, census method was used. Among samples, 93 participants responded to the study questions. Required method of data collecting was questionnaire which its reliability and validity was supported. Research questionnaire consists of 5 questions addressing samples demographic characteristics and 33 supportive questions in order to test study hypotheses and relationships between variables.

In the descriptive statistics section, data analysis carried out using frequency, mean and standard deviation. In the prescriptive statistics section, in order to investigate research hypotheses, hierarchical multivariate regression analysis and also path analysis applying SPSS and AMOS soft wares were used. Findings showed that a number of hypotheses were supported and some hypotheses were rejected.

According to the findings of testing H1 we can say that the objective of companies applying cost-centered business model design is increasing effectiveness of transactions between participants in business and also reducing cost of these transactions. Thus, the objective of activities of companies with cost-centered business model design is reducing transaction costs through applying these models. On the other hand, cost-centered business model design creates value for company through reducing complexity, uncertainty, information asymmetry among participants in business, reducing cost of coordination, transactional risks and consequently creating sustainable relationship for transaction parties. Accordingly, creating value and reducing costs can cause growth of company performance in terms of financial aspects and also non-financial aspects.

Companies taken novelty-centered business model design connect new partners or existing partners of transaction in an innovative way. Novelty-centered business model design enables companies to create first hand advantages because organizational innovation is a difficult job which imitating that is difficult and time consuming which lead to creating sustainable competitive advantage itself. Most of companies placed in Isfahan Science and Technology Town are companies that seem to be active in innovative contexts and typically their business model is kind of novelty-centered. Accordingly, results of this research show that taking novelty-centered business model design can affect company performance.

Each stage of organizational life cycle reflects patterns and intense of different contextual dimensions such as age, size and etc. and structural dimensions such as structural forms. Since, business model is a structural form of how a company interact with its customers, we can assume that company business model throughout stages of organizational life cycle is different. Companies in their early stages organizational life cycle have smaller size, lower age, above average growth rate and uncertain environmental contexts whereas companies in their late stages are vice versa. Entrepreneurial companies such as some companies placed in Isfahan Science and Technology Town are in early stages of their organizational life cycle. The more companies enter in higher stages of their organizational life cycle, the more important become the efficiency for them and increasingly they focus on it (Brettel, 2012). As mentioned before, companies investigated in this research mostly are in early stages of their organizational life cycle because they are innovative and entrepreneurial and results achieved from testing hypotheses emphasize this point.

Usually, novelty- centered business models focus on innovative ways of transaction and the more these companies become mature, the more they might become inflexible for doing these kind of transactions. In this study, we assumed that novelty-centered business models have better performance in early stages of their organizational life cycle. As mentioned before, since companies investigated in this research are mostly in early stages of their

organizational life cycle and have novelty-centered business model it can be said that results are completely consistent with study's samples.

According to the theory of economy of transaction cost (Williamson, 1975), transaction partners can enhance their benefits of relationships through investing on allocated resources. According to the findings from Brettel's (2012) work, companies having cost-centered business model design because of their cost oriented approach in order to reach to lower costs and also their intention to create more value focus on relationship specific investment or RSI (i.e. investment in equipment or expert processes) in early stages of their organizational life cycle. But, according to the results of this study this issue is not right. The reason behind is this point that adequate relationship specific investment cannot be determine for companies in Isfahan Science and Technology Town. That is, although we can identify companies which have more relationship specific investment but, we cannot say that weather this investment is adequate for early stages of organizational life cycle.

The underlying objective of companies having novelty-centered business model is accurately satisfying customers' needs. Thus, a company need to have ability to transform positive and value added of its novelty-centered business model transparently and consequently deliver them (Brettel, 2012). If customers positively evaluate innovation and accept it, there is a good chance for success of this innovation. Therefore, relationship specific investment is an important factor for business models with which ensure that customers recognize added benefits. Companies having novelty models communicate with new or current partners through new methods. Thus, avoid too much investment because too much relationship specific investment affects their opportunism negatively because it generates restrictions. Brettel (2012) in his work on different companies reached this result that in early stages, impacts of novelty-centered business model design on company performance when degree of relationship specific investment is low are stronger because it helps novelty company's opportunism in order to capture new opportunities to create sustainable relationship. But, results from testing of H5 suggest that relationship specific investment does not play a moderating role in this study.

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