

The Impact of Co-Production on Customer Loyalty in Banking Services: A Case of Saman Bank

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Abstract

This study investigates the effect of co-production on customer loyalty (attitudinal and behavioral separately) and factors which may boost co-production in an Iranian bank. To investigate co-production in banking services, the proposed model of Auh et al. (2007) was applied. Given the fact that many banks try to get the status of their main customers, co-production was examined due to its potential to create value for customers and make them more loyal, therefore, it encourages them to extend business with those banks. The results of their search have been achieved through 415 bank customers, and structural equation modeling (SEM) method was used to analyze the data. The results indicate that co-production positively influences attitudinal loyalty ($p < 0.01$) while not behavioral loyalty, and the higher degree of communication ($p < 0.05$), client expertise, affective commitment, and interactional justice ($p < 0.01$) increase the level of co-production. Among these factors, affective commitment has the greatest effect on co-production. Finally, the results suggest that bank managers should consider co-production as a means to make customers more loyal in the current competitive market.

Keywords:

Co-production, Customer loyalty, Value creation, Banking services.

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Introduction

“Co-production is becoming the cornerstone of marketing and is rapidly gaining momentum both at professional and academic level. It has been discussed in marketing literature due to its perceived importance as a new tool for increasing customer satisfaction and products’ success in the market” (Pini,2009, p. 61). This concept has been studied in both product and service context, but in services, because consumers are directly involved in the production process, they are even considered as an input for production and co-production would be inevitable. Therefore, manager should plan appropriate programs to make their customers more productive. Also, many people prefer an active role rather than a passive one, because it offers the potential for time and cost savings. If customers have a more active role in the service production and delivery process, they effectively remove some of the labor tasks from the service organization and, there may be benefits for both consumers and service organizations (Lovelock & Young, 1997).

In 2004, Vargo and Lusch extended the service dominant logic (S-D logic) in marketing literature. They argue that in a service-centered dominant logic, “value is defined by and co-created with the consumer rather than embedded in output”. In their subsequent studies,(2008) they considered co-production as a part of firm-customer co-creation of value process in which customers collaborate in creation and delivery of the core service itself by applying their competencies (operant resources) like information, knowledge and skills. It means that S-D logic views customers as both co-producers and co-creators of value. Some other researchers have confirmed the crucial role of co-production in creating value for customers through different benefits. They argue that co-production decreases the costs of creating and getting the service for company and customer respectively, provides customization opportunities, increases the company's productivity (Miles, Chase, and Margulies, 1983; Lovelock & Young, 1997), boosts customer loyalty (Auh, Bell, McLeod, and Shih, 2007),

enhances service innovation (Chen, Tsou, and Ching, 2011) and being a means to gain competitive advantage (Bettencourt, 2002; Prahalad & Ramaswamy, 2004).

In banking industries, customers generally choose several banks and institutes to have their banking affairs done (Garland & Gandal, 2004). So banks should try to maintain customers and encourage them to do most of their bank affairs in their bank. The key to business survival and success is to build and maintain strong customer relationships and the best way to retain customers is to satisfy customers' needs and to cultivate customer trust and loyalty (Lee, Chu, and Chao, 2011). When customers participate in co-production activities, they tend to share their new ideas, suggestions and problems with the firm (Chen, 2011) and it would enhance firm's competitive effectiveness (Bendapudi & Leone, 2003). Regarding the above discussion, applying co-production to fulfill customers' need and make them more loyal seems meaningful.

Theoretical Background

“Fuchs (1965, 1968) had the merit to be the first one that explicitly considered the consumer as a factor of production” (Ramirez, 1999, p.50). Afterwards, other researchers extended consumer role in production and described it with other expressions and definitions, for instance, customer contribution in organization affairs (Lengnick-Hall, 1996), customer participation in service delivery (Kelley et al., 1990; Bitner et al., 1997) and co-production (Bettencourt, 2002). Auh et al. (2007) define co-production as “constructive customer participation in the service creation and delivery process and clarify that it requires meaningful, cooperative contributions to the service process”. Etgar (2008, p.98) consider co-production as “consumers participation in the performance of the various activities performed in one or more production process”. In other words, “it encompasses all kinds of cooperation between consumers and production partners”. Jacob and Rettinger (2011, p.2) based on prior research define customer co-production as “participation of customers in the creation of the core offering itself by contributing operand and operant resources in order to create value”.

In this study, the latter definition is considered as a basis of the research. Because, it seems more comprehensive, considers value creation and customer competencies while emphasizing on the participation in creation of core offering. The definition also complies with the difference between co-creation of value and co-production expressed by Vargo and Lusch (2008). They believe that co-production is distinct from (but nested within) co-creation of value and is a component of value co-creation and captures “participation in the development of the core offering itself”.

The level of customer participation required in a service delivery varies across services. Three levels can be recognized upon the kind of services: low, medium and high participation. Level of client participation in banking context is medium in which customer's inputs come to help the service organization in creating the service (moderates level of participation). Inputs can include information, effort or physical possessions. (Bitner, Faranda, Hubbert, and Zeithaml, 1997). For levels of co-production, two opposite poles have been introduced: face-to-face contact (on-site) and self-service technologies, which in former clients apply most of their competencies and in the earlier, employee and client together create the service (Jacob & Rettinger, 2011). Current research is going to assess co-production in the face to face (on-site) situation.

Co-production has several benefits for customers including increased control on production process and final service (Schnider & Bowen, 1995), making more opportunities in choosing the components of the final service, feeling proud and confidence and conveying new ideas in order to improve the service quality (Cheung & To, 2011), improving service quality (Kelley et al., 1990, Dabholkar, 1990), fulfilling customer needs (Bitner et al., 1997), increasing satisfaction (Bettencourt et al., 2002), making price reductions (Auh et al., 2007) and decreasing perceptual risks because of the direct control overproduction process (Etgar, 2008). As mentioned above, co-production help customers to have a role in their own satisfaction and the ultimate quality of the services they receive, reduce the probable risks, and have direct control on service creation process. As a result, customer trust and

loyalty will shape. These results are the basis of our understanding of how co-production can affect loyalty.

Co-production can be influenced by some factors like role clarity, motivation and ability. Customers must understand their role in terms of the tasks and behaviors that are required; they must be sufficiently motivated to perform their role responsibilities; and they must have the necessary knowledge, skills, and abilities to perform their role in the manner desired by the service provider (Bettencourt et al., 2002; Lengnick-Hall, 1996; Lovelock & Young, 1979). Study of Auh et al. (2007) employed “*client expertise*” variable to indicate ability or competency, variables of customers’ *affective commitment* to the firm and their perceptions of *interactional justice* to assess customer’s ability to participate in co-production and finally variable of *communication between employee and client* for role clarity. Furthermore, Affective commitment and partner expertise are identified as antecedent factors of co-production in B2B context (Chen et al., 2011). The study of Jacob and Rettinger (2011) accounted other factors like distinctive preferences, age, situational factors, and perceived “importance” of the service. This study employs Auh et al. model (2007) which has been examined in financial and medical context up to now, in a new context: *Banking Services*.

Research Model

This research will test the proposed model of Auh and his colleagues (2007) in banking context. Figure 1 shows the mentioned model which includes four factors as antecedents of co-production based on literature. The model is going to explore the co-production effect on both dimension of attitudinal and behavioral loyalty, and furthermore, to examine the relationship between these two loyalty dimensions.

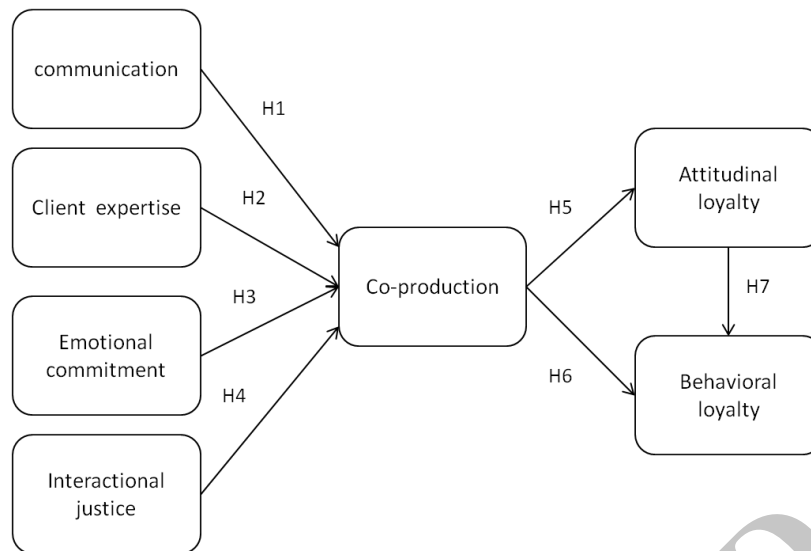


Figure 1. The research model, adapted from Auh et al. (2007)

Communication and co-production

Auh et al. (2007) defined communication as the formal and informal sharing of meaningful and timely information between a client and advisor in an empathetic manner. They found that communication between employee and client boosts role clarity for both sides. The content of communication in the banking context focuses on keeping clients informed of new and appropriate services, explaining banking expressions and concepts in an understandable way, and responding to client requests for information. Moreover, communication flow is crucial for establishment of strong relationships; it builds trust by resolving clients' queries and concerns and managing their expectations (Sharma & Patterson, 1999). Accordingly, we expect communication between the employee and the client in banks increases the incidence of co-production because of their greater willingness to share information. Finally, our first hypothesis is:

H1. There is a positive relationship between communication and co-production.

Client expertise and co-production

Client expertise in the model is a variable that assesses customer's ability to participate in co-production. We apply the definition of Auh et al. (2007, p. 362) for client expertise which represents “a customer's accrued knowledge about how a product should perform and generalized understanding of the average performance of similar brands in a product category. Service provider and customers bring their knowledge and skills and apply their own resources in order to create services and value is co-created by this reciprocal and mutually beneficial relationship” (Vargo, maglio, and Akaka, 2008). As customers' expertise (knowledge and skills) increases, their ability to make effective cooperation with employees improves and facilitates co-production (lengnick-hall, 1996; Etgar, 2008; Auh et al., 2007). Consequently, we hypothesize that:

H2. There is a positive relationship between client expertise and co-production.

Affective commitment and co-production

Affective commitment is defined as the customer's attachment to, identification with, and involvement in the organization. It is based on a sense of liking and emotional attachment to the partnership and leads to a sense of belonging or being “part of the family”. Inhuman resources management literature, employees with strong affective commitment feel greater emotional attachment to the organization and have more motivation to be involved in organization activities (Auh et al., 2007). Since customers can act as partial employees in an organization, (Mills & Morris, 1986) therefore, like employees, the customers who feel more affective commitment towards a firm should be more attached to and involved in the organization. Moreover, Chen et al. (2011) proved that affective commitment is an antecedent of co-production in B2B context with the strongest effect compared to other factors. According to these findings, the third hypothesis is:

H3. There is a positive relationship between affective commitment and co-production

Interactional justice and co-production

Interactional justice refers to fairness judgments based on the quality of the interpersonal treatment a customer receives when faced with a service (Bies & Moag 1986). Greenberg (1993) suggested that interactional justice can be divided into two distinct types of justice: *interpersonal justice*, defined as the fairness of interpersonal treatment provided during procedures and distributions of outcomes, and *informational justice*, defined as the fairness of explanations and information, through which customers can get information they need to make their decisions. Interactional justice perceptions have been shown to affect individuals' attitudes and behaviors (Cropanzano & Greenberg, 1997) and emphasis upon meeting the needs of consumers for fairness, leads them to be more cooperative, compliant and conscientious in their performance during the service encounter (Bettencourt, 1997). According to Auh and coworkers' findings, fairness of the perceptions increase the level of co-production to the extent that such co-production helps the advisor or employee to perform his or her job more effectively. Accordingly, we hypothesize that:

H4. There is a positive relationship between Interactional justice and co-production.

Co-production and loyalty

Co-production refers to constructive customer participation in the service creation and delivery process and clarifies that it requires meaningful, cooperative contributions to the service process (Auh et al., 2007, p.361). Consumer loyalty is indicated by an intention to perform a diverse set of behaviors that signals a motivation to maintain a relationship with a firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive word of mouth, and repeat purchasing (Zeithaml et al., 1996).

Value creation process is the core process of any successful business (Richheld et al., 2000) and as Lusch and Vargo (2006) argued, co-production is a component of value co-creation in an organization. Consumer loyalty toward the service provider will be positively influenced by value (Sirdeshmukh, Singh, and Sabol, 2002). Moreover,

customer perceived value affects satisfaction and customer loyalty in banking service (Boonlertvanich, 2011). Accordingly, co-production can affect loyalty through creating value for clients. Values which may be created through co-production include lower prices, opportunities to make choices, and greater discretion about the configuration of the final product. Furthermore, clients likely experience shorter waiting times and enjoy a greater likelihood of customization (Auh et al., 2007).

The other point of value creation refers to the relationship which shapes through firm-customer cooperation. As Auh et al. (2007) found a positive relationship between co-production and loyalty because of mutual understanding and positive emotional response to service end up in loyalty, even failed services recovered by the customer and service provider may offer a fortune for relationship enhancement that actually improves customer loyalty (Dong et al., 2008). As mentioned above, through co-production customers contribute to service quality (Bettencourt, 1997) and much prior researches found positive relationship between service quality and satisfaction. These two, quality and satisfaction, have been investigated repeatedly as antecedents of customer's loyal behaviors like positive word-of-mouth, recommendations, and retention (Parasuraman et al., 1988; Zeithaml et al., 1996; Siddiqi, 2010). On the basis of this argument, loyalty can be influenced by satisfaction which results from co-production.

According to the studies of Kumar and Shah (2006), there are two kinds of loyalty: behavioral loyalty and attitudinal loyalty. Behavioral loyalty ensures that customer loyalty would be converted into actual purchase behaviors. While attitudinal loyalty will not ensure that customers will purchase products or services themselves, they will, through word-of-mouth, help to create a positive image of a business to others. In other words, behavioral loyalty is "a substantial element" and attitudinal loyalty is "a psychological construct" (Cheng, 2011). Many researches (Dick & Basu, 1994; Baldinger & Robinson, 1996) have indicated that attitudinal loyalty has a positive relationship with behavioral loyalty. Accordingly, we propose three following hypotheses:

H5. There is a positive relationship between co-production and attitudinal loyalty.

H6. There is a positive relationship between co-production and behavioral loyalty.

H7. There is a positive relationship between attitudinal loyalty and behavioral loyalty.

Research Methodology

Sample and procedures

Our study was conducted in the context of a private bank (Saman Bank). Regarding the research purpose, this study is an applied research and according to data gathering, it is a descriptive-correlation alone. The statistical population is composed of customers who have bank accounts for at least one year in Saman Bank, because the items which measure behavioral loyalty consider clients' self-report actual behavior in a recent year. Data were collected using individually completed questionnaires and researchers were present at place to answer the probable questions. The study sample consisted of four hundred fifteen bank customers, and completed questionnaires were collected from bank branches. Four hundred fifty questionnaires were distributed and four hundred fifteen ones were fully completed. To increase the accuracy of sampling, Tehran City was divided into four distinct regions, and through stratified random sampling, a number of fifteen branches were chosen, afterwards questionnaires were distributed randomly among customers who have bank accounts for at least one year in Saman Bank.

Sample size was determined with Cochran formula for unlimited statistical population, and also standard deviation of a conducted pre-test among fifty customers was calculated.

Structural equation modeling (SEM) method is used to assess the model (structural model and measurement model) and to test the hypothesis. First, the model consists of several equations among exogenous and endogenous constructs and second, latent variables are measured indirectly through indicators (as manifest/measured variables). The SEM is divided into two parts. The measurement model is the part which relates measured variables to latent variables. The structural model is the part that relates latent variables to one another. Finally, SPSS 19 is used to assess the reliability of the questionnaire.

Measures

For the measures used in this study, we changed existing scales to adapt with the banking services sector. The constructs employ five-point Likert scale, with anchors ranging from strongly disagree (1) to strongly agree (5). We provide the complete wording of each scale item, along with their measurement properties, in Table 1.

For most constructs, we used scales of the Auh et al.'s study (2007) and for some other scales used other researches. We also made some modifications to scales in order to make them fit into banking context, and people's feelings in Iran. For *co-production*, we employed all three scale purification of Auh et al.'s (2007) plus one extra scale of Chen's (2011) in which clients share their suggestions and problems with employees in order to help organization to find new ideas, solve their problems, or provide better service.

For *communication*, defined as the sharing of meaningful and timely information between a client and an advisor in an empathetic manner, we used a four-item scale adapted from Auh et al.'s (2007) research, that measures the extent to which advisors exchange information related to the core service..

A two-item scale used to measure *client expertise* which reflects the extent of customer's prior knowledge of the product and ability to assess product performance (Auh et al., 2007).

Interactional justice was defined as fairness judgments based on the quality of the interpersonal treatment received by a customer during a service encounter (Bies & Moag, 1986). We used a four-item scale adapted from Auh et al.'s (2007) questionnaire to measure interactional justice.

For *Attitudinal loyalty* or customer intention to stay with, and preferred it to others and positive word of mouth, we used a four-item scale which included two scales of Auh et al.'s study; one scale (recommendation) of Garland and Gendal's (2004) and Zeithaml et al.'s (1996); and the forth, preference for a firm over its competitors of Zeithaml et al.'s (1996).

To capture behavioral loyalty, we applied different scales from that of Auh et al.'s (2007) research. We used two- item and self-report scale based on the past actual behaviors, whereas they measure it based on the amount of brokerage that the client paid to the firm in the year following the performance of the questionnaire. First scale is, *share of wallet*, measured as the proportion of personal retail banking business devoted to the main bank and the second is, *propensity to increase the banking business at a preferred bank*, adapted from Garland and Gendal's (2004).

Table1. Testing the measurement model

	Standardized loading	t-Values
Communication		
My advisor keeps me very well informed about new services and opportunities relating to my banking needs.	0.77	17.77
My advisor explains financial concepts and recommendations in a meaningful way.	0.8	20.89
My advisor always explains to me the pros and cons of the services that he/she recommends to me.	0.78	18.21
My advisor always offers me as much information as I need.	0.74	16.97
Client expertise		
I possess good knowledge of financial planning services and products .98a –	0.96	13.66
I am quite experienced in this area.	0.79	12.24
Affective commitment		
I feel like part of a family at [Bank Name].	0.74	17.31
[Bank Name] has a great deal of personal meaning for me.	0.93	24.20
I feel emotionally attached to [Bank Name].	0.92	23.49
Interactional justice		
The length of time taken to resolve any concerns I have, is adequate.	0.51	10.53
My advisor is flexible when dealing with any concerns I have.	0.85	20.61
My advisor takes seriously any concerns I have.	0.89	22.40
My advisor puts the appropriate amount of effort into resolving any concerns I have.	0.82	19.36
Co-production		
I try to work cooperatively with bank employee.	0.69	---
I do things to make bank employee's tasks easier (prepare my queries and forms before going to the gate ...).	0.61	8.24
I answer to other clients' questions and guide them.	0.46	10.66
I share my suggestions and problems with bank employees in order to get better service.	0.63	10.84
Attitudinal loyalty		
I would prefer [Bank Name] to other banks.	0.89	---
I suggest using [Bank Name]'s services to others.	0.87	24.52
I have a high chance to remain in this relationship.	0.76	17.99
The likelihood of trying other [Bank Name]'s services is very high.	0.73	16.24
Behavioral loyalty		
In a recent year, I have done most proportion of my banking affairs in [Bank Name].	0.90	---
In a recent year, I used some kinds of services of [Bank Name] for the first time.	0.33	5.04

Results

Questionnaire Reliability

In order to assess the reliability of the questionnaire, the extracted data from pre-test stage was used to compute Cronbach's alpha in two ways: Cronbach's alpha computing for each construct regarding to its indicators and, Cronbach's alpha for the whole questionnaire. SPSS 11 showed acceptable Cronbach's alpha for both ways. As for whole questionnaire, Cronbach's alpha was ($\alpha=0.897$) and for each constructs as well.

Descriptive Statistics

We measured relationship length as the length of time (in years) that a customer has had a bank account in Saman Bank. Most respondents had relationship length of 3 to 6 years. Gender and age group of Respondents were categorized into five categories: 18-25, 26-35, 36-50, 51-70, and more than 71 years. Results showed that (72%) of respondents were men and (28%) were women, and the most frequency of age group was between 26-35 years. Finally, the most frequency of education grades was bachelor and associate degrees.

Measurement model

According to confirmatory factor analysis (CFA) in structural equation modeling using Lisrel 8.5, each construct can be strongly measured through its items. All items have high factor loadings and very acceptable t-values ($t>2$). As t-value between 2 and 3 indicates a meaningful relationship between latent variables and their indicators with more than (%95) confidences and t-value which is equal or more than three shows meaningful relationship between them with (% 99) confidences; consequently, the convergent validity of the scales is supported. In Table 1, items' factor loadings, and t-values were presented.

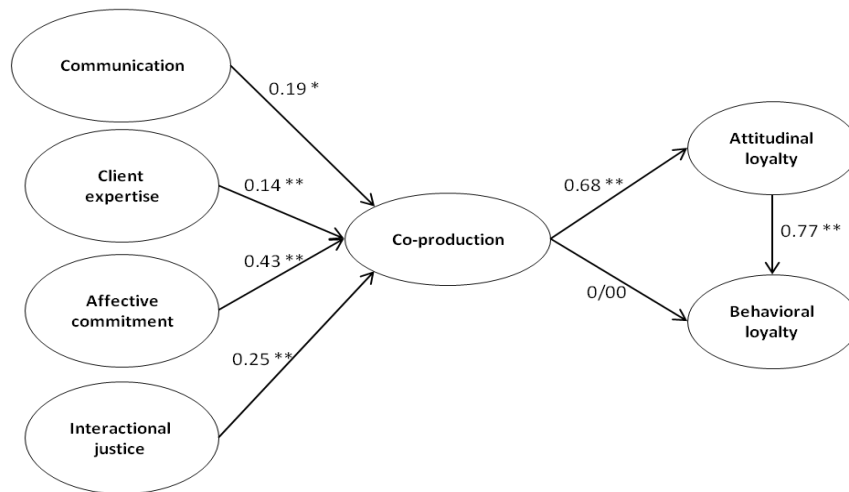


Figure 2. Results of structural model. Note: (* $p < 0.05$, ** $p < 0.01$)

Structural model and model fitness

The first model does not fit the data well, including Lisrel's suggestion into the model, the model exhibits an acceptable fit ($RMSEA = 0.00$, $CFI = 0.92$, $IFI = 0.92$, $GFI = 0.92$, $AGFI = 0.86$, $RFI = 0.91$, Goodness of fit index = 0.9) (Table 2). These results indicated that the path model fits the data well and that the path coefficients are applicable to test the research hypothesis (Table 3).

Table 2. Fitting Indexes

amount	Acceptable area	index
2.91	$X^2/df \leq 3$	X^2/df^1
0.00	$RMSEA < 0.09$	$RMSEA^2$
0.9	$GFI > 0.9$	GFI^3
0.86	$AGFI > 0.85$	$AGFI$
0.92	$CFI > 0.90$	CFI^4
0.92	$IFI > 0.90$	IFI^5
0.9	$NNFI > 0.90$	$NNFI^6$
0.91	$RFI > 0.90$	RFI^7

1. Chi square divided to degree of freedom
2. Root mean square error of approximation
3. Goodness of fit index
4. Comparative fit index
5. Incremental fit index
6. Non-Normed Fit Index
7. Relative Fit Index

Hypothesis testing

According to the fitting indexes, the model can be used to test the hypothesis (Figure 2). The hypothesis testing shows that co-production was significantly influenced by communication ($\gamma=0.19$, $R^2=0.66$; $t=2.54$; $p<0.05$), client expertise ($\gamma=0.14$; $t=3.09$, $p<0.05$), affective commitment ($\gamma=0.43$; $R^2=0.66$, $t=6.71$; $p<0.01$), and interactional justice ($\gamma=0.25$; $R^2=0.66$, $t=2.96$; $p<0.01$). Thereby, H3, H4, H5 and H6 are supported respectively. Consistent with previous studies, co-production has a significant impact on attitudinal loyalty ($\gamma=0.68$; $R^2=0.59$, $t=10.98$; $p<0.01$). Thus, H1 is supported. But the study does not show any relationship between co-production and behavioral loyalty, whereas the research of Auh et al. found a positive but non-significance relationship between these constructs. So, H6 is not supported ($\gamma=0$, $R^2=0.25$, $t=-0.03$, $p>0.05$). Lastly, a positive and very strong relationship was shown between attitudinal and behavioral loyalty ($\gamma=0.77$; $R^2=0.59$, $t=11.6$; $p<0.01$). It should be mentioned that R^2 is squared correlation coefficient, which is the proportion of variance in the endogenous variable that is "explained" by variance in the exogenous variables (Maruyama, 1998).

Table 3. Results of hypothesis

Path/hypothesis Path	Path loading	t-value	Results
Communication → co-production	0.19	2.54*	supported
Client expertise → co- production	0.14	3.09**	supported
Affective commitment → co-production	0.43	6.71**	supported
Interactional justice → co-production	0.25	2.96**	supported
Co-production → Attitudinal loyalty	0.68	10.98**	supported
Co-production → Behavioral loyalty	0.00	-0.03*	Not supported
Attitudinal loyalty → Behavioral loyalty	0.77	11.6**	Supported

Note: * $p<0.05$, ** $p<0.01$

Discussion

The current study had two aims, first, to determine the effect of co-production on loyalty (attitudinal and behavioral) and second, to examine antecedents of co-production. Data were collected from a sample of Iranian bank customers to validate the research model that suggests co-production has positive and significant relationship with loyalty and four factors; employee-client communication (indicates role clarity), client expertise (ability), affective commitment and interactional justice (motivation) that were introduced as antecedents of co-production.

The results showed that positive and significant relationship between co-production and attitudinal loyalty but not with behavioral loyalty. However, attitudinal loyalty is positively and significantly related to behavioral loyalty, which suggests that attitudinal loyalty mediates the effect of co-production on behavioral loyalty, according to Baldinger and Robinson (1996) research. Attitudinal loyalty can predict behavioral loyalty and buyers, who are behaviorally loyal to a particular brand, will assess that brand attitudinally much more favorable than brands they either never buy or buy less often. In other words, attitudinal loyalty may not directly bring profit, but will indirectly create a positive result (Shih, 2011). This finding also imply that the effects of applying co-production process on behavioral loyalty in a bank may take more time to influence on behaviors (Auh et al., 2007) and would be measurable in following years.

The positive impacts of four antecedents on co-production were proved in the current study and this finding is quietly consistent with the results faucet al.'s study, and also is similar to prior research that confirmed the roles of customer's ability, clarity and willingness to take participation in co-production activities.

We used communication construct as a mean for clarifying clients' role. Its positive impact on co-production showed that sharing information with clients, explaining financial and banking concepts for them and making clients aware of opportunities and new services can lead customers to better understanding of their roles in co-production process, and

make them trust in bank. In this way, they will have more constructive cooperation with service provider.

Another noticeable point in findings is the greatest impact of affective commitment on co-production comparing to other three factors. It is consistent with Chen's (2011) findings. He argues that affective commitment is defined as "partners' emotional attachment for one another, and consequently it is the psychological bond (that is identification, involvement, and obligation) that binds the relationship. It fosters trust and loyalty as each develops an obligation to care for the welfare of the other and to reciprocate, while having a sense of friendship commitment in their relationship. Thus, the cooperation between (among) the partners becomes more determined in their co-production endeavors as each commits to success of the other" (Chen, 2011, p. 11).

The finding also showed that after affective commitment, interactional justice has the greatest impact on co- production which suggests that the *emotional dimensions* of relationships with service provider are more of interest to customers in order to participate in co-production.

The positive relationship between client expertise and co-production indicates that whatever customers have knowledge about and also experience in bank services field, they are more likely to participate in co-production activities with employees in order to improve the quality of service which they finally receive. This would increase satisfaction with the bank and finally, lead them to be more loyal. This result again confirms Auh et al.'s (2007) and Chen's (2011) findings.

Managerial Implication

The present study provides insights into encouraging clients to effective co-production practices in order to make customers loyal. "In banking industry, loyalty initiates a series of second order economic effects which cascades through a business as follows:

1. Revenues and market share grow as the best customers build repeat sales and referrals even a five percentage point shift in customer loyalty consistently resulted in (25–100%) profit swings,

2. Costs reduce as the expense of acquiring and serving new customers and replacing old ones declines.

3. Employee retention increases and in turn creates a loop that reinforces customer retention through familiarity and better service to the customers” (Reichheld et al.,2000, p.135). Regarding to these advantages, marketing managers of banks should do their utmost to plan the loyalty programs, and finding new and applicable tools is of interest. Upon findings of the current study, co-production can be used as one of the appropriate tools to make clients attitudinally loyal, because attitude formation precedes behavioral intentions and actual behavior (Dick & Basu, 1996; Baldinger & Rubinson, 1996).

High attitudinal loyalty and low behavioral loyalty indicate latent loyalty in which despite of positive attitude towards firms, clients do not show repurchase and supportive behaviors (Dick & Basu, 1996) and the profitability of that firm will decrease. It suggests that the retailer should address the situational constraints and end up investing time and resources to cultivate relationship with the wrong (or non-profitable) customer(s). To manage both loyalty and profitability simultaneously, the retailer should use measures such as the customer lifetime value to identify loyal customers which show customers profitability in the future (Garland & Gandal, 2004).

Co-production needs motivated and expert clients who are able to make meaningful and cooperative contributions to the service process (Auh et al., 2007). Our findings confirm the mentioned characteristics as well. Accordingly, bank marketing managers should find the ways in which they can persuade their clients to make useful contribution into the service creation and process. As the affective commitment and after that interactional justice have the greatest impact on co-production in banking services, focusing on emotional relationship with clients seems to be meaningful. Due to this point, on-site service encounters bring employees close to the customer, both physically and psychologically. Employees appear to listen to, and sympathize with customers. There is an important lesson here for managers in service firms; Front-line employees can be valuable sources of information about customer preferences, when decisions are being made about

what kind of new services to offer and how to deliver them (Bowen & Jones, 1986). It indicates the importance of trained front-line employee who knows how to treat clients to persuade them to take more participation in service creation and delivery.

As co-production is a component of value co-creation, applying co-production in customer relationship management should be considered in order to benefit both clients and the firm (Wu & Wang, 2009). Banks can be aware of clients' current and forthcoming needs so as to plan new services and create value for clients. It can lead to gain competitive advantage for the bank and pioneer image among banks.

Finally, banking services as financial services have high complexity and variety, and generally are similar in different banks. Moreover, many services have been electronically done by customer themselves (for instance internet banking, mobile banking, ATMs), there are still some services that can be performed in banks environment and through encounters between clients and employees. So, gaining competitive advantages and making differentiation for banks are crucial. We think that motivating co-production activities can be a useful mean to achieve this goal.

Limitations and Future Research

The study focused mainly on co-production in a private bank. It would be useful if a comparative study performed to find the similarities or differences between different kinds of bank depending on the country. In addition, testing the model validity in other context is suggested. A few researches have studied the antecedents of co-production empirically (Auh et al., 2007; Chen, 2011). So, there seems to be a need of more studies in different contexts. Our study focused on co-production on-site occasion but the self-service and electronic-based(ATM, internet bank, mobile bank, etc.) ones, as the maximum level of customer co-production did not include. So in future research, the tested model of Auh et al. can be applied in mentioned level of co-production, and respective antecedents can be explored.

In his model, Etgar (2008) considered the factors which affect customers' willingness to engage in co-production. These factors included macro-environmental conditions, consumer linked, product linked and situational linked conditions. However, the focus of Auh's model that we applied specially was on customer linked factor, and up to now other factors have not been empirically investigated. So, more antecedents of co-production would be recognized influential in future researches.

Lastly, we measured behavioral loyalty through actual behavior during a recent year, due to time limitation and inconvenience of clients information, while other researchers have considered actual behavior in the following year of research performance (for instance, Auh et al., 2007) or customer lifetime value (CLV) (Kumar, Shah and Venkatesan, 2006)., Finally, subsequent researches are suggested to measure behavioral loyalty using those measures

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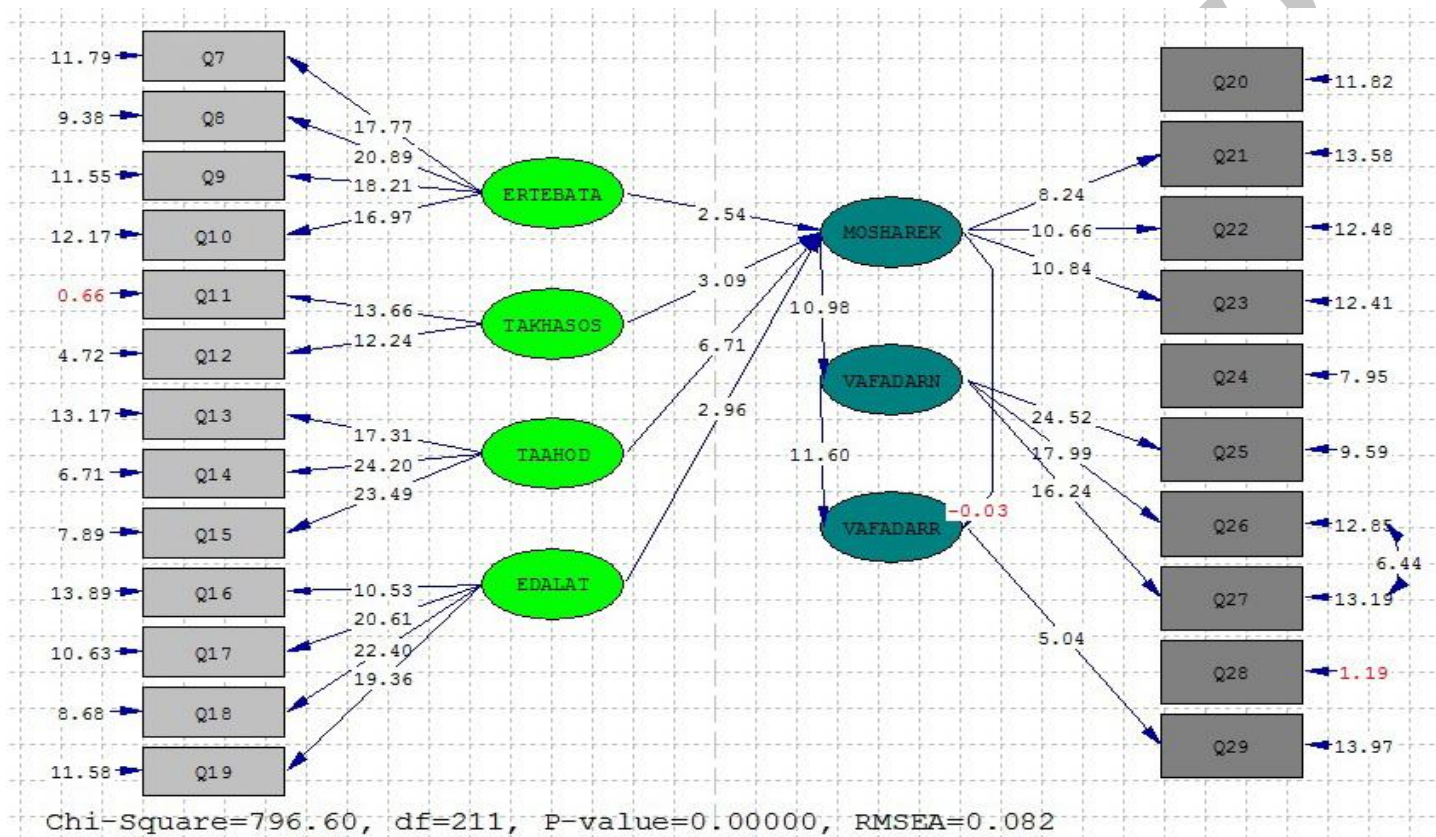
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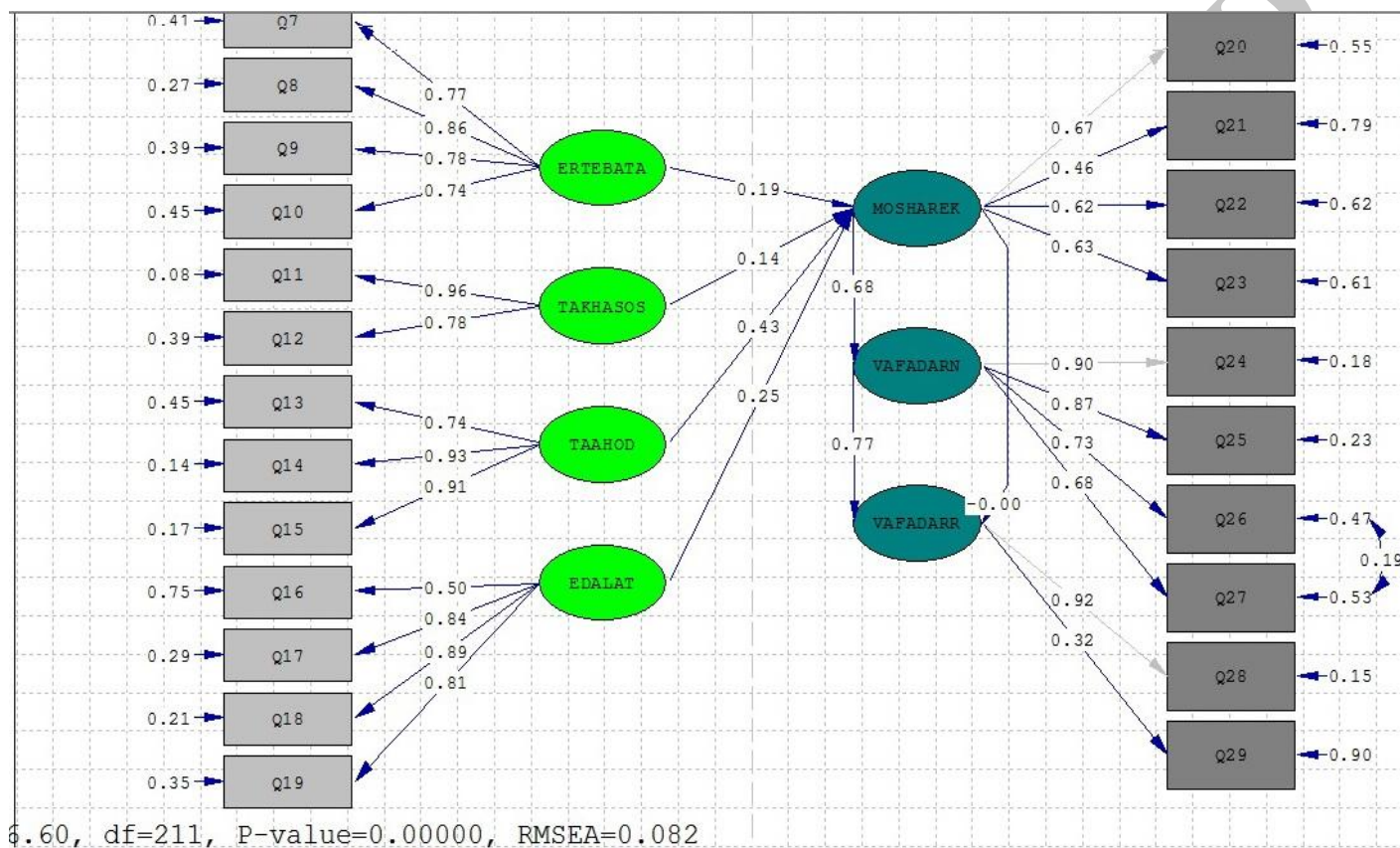
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Appendix 1.T-Values of the model



Appendix 2. The final structural model of research



بررسی اثر مشارکت مشتری در تولید بر وفاداری مشتریان

در خدمات بانکی: مطالعه موردی بانک سامان

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چکیده

تحقیق حاضر اثر مشارکت مشتری در تولید را بر وفاداری مشتریان (وفاداری نگرشی و وفاداری رفتاری) و عوامل تقویت کننده مشارکت مشتری در تولید را در یک بانک ایرانی بررسی می نماید. برای بررسی مشارکت مشتری در زمینه خدمات بانکی از مدل اوه و همکاران ۲۰۰۷ استفاده شده است. مشارکت در تولید با خلق ارزش برای مشتریان و وفادارتر ساختن آنان موجب افزایش دادوستد تجاری مشتری با یک بانک می شود. لذا اغلب بانکها برای تبدیل شدن به بانک اصلی مشتریان خود، مشارکت در تولید را مورد توجه قرار داده اند. نتایج تحقیق مبتنی بر پرسش نامه های جمع آوری شده از ۴۱۵ تن از مشتریان بانکی می باشد و روش مدل سازی معادلات ساختاری (SEM) برای تجزیه و تحلیل داده ها استفاده شده است. یافته های تحقیق نشان می دهد که مشارکت مشتری در تولید بر وفاداری نگرشی مشتریان اثر مثبت دارد ($P < 0.01$) اما بر وفاداری رفتاری اثر معناداری ندارد. همچنین ارتباطات کارمند-مشتری ($P < 0.05$)، مهارت مشتری ($P < 0.01$)، تعهد احساسی ($P < 0.01$) و عدالت تعاملی ($P < 0.01$) نیز مشارکت مشتریان در تولید را افزایش می دهند. در میان عوامل مذکور، تعهد احساسی بیشترین اثر را بر مشارکت در تولید دارد. نتایج تحقیق به بانکها پیشنهاد می کند که از مشارکت در تولید به عنوان ابزاری برای وفادار نمودن مشتریان در بازار رقابتی کنونی استفاده نمایند.

واژگان کلیدی

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