

A Study on the Relationship between Customer Participation, Perceived Control and Customer Equity—Collecting Samples from Financial Industry

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Abstract

The essence of business is value exchange. Customers are the foundation of enterprises; enterprise value comes from customer equity fundamentally. Increasing enterprise value pays attention to excavating customer equity fully and enlarging customer equity continuously. The interaction between consumers and suppliers is promoted by the change of customer role, diversified market needs and development of IT. Customer equity is increasingly influenced by customer participation. This study builds theoretical analyzing framework of customer participation, perceived control and customer equity, and collects samples from financial industry. It verifies the theoretical model and hypotheses based on data analysis through SPSS 19.0 and Amos 21.0. The result shows that customer participation has positive effect on customer equity, and perceived control has partial mediating effect between them.

Keywords

Customer Equity, Customer Participation, Perceived Control

1. Introduction

It is an era of change today; the trend of organization development is to weaken its border and enhance the cooperation between the organization and other enterprises, customers and even competitors. The current competitive environment is increasingly complex, and the development of science and technology is at a tremendous pace. Globalization and big data bring both opportunities and challenges to the development of enterprises. Enterprises need to participate in

the network of business environment, collect network resources and realize value proposition with various stakeholders, especially customers. The potential and importance of partnership are highlighted [1].

MTO manufacturing and customized service are popular today, and the demand for personalization and diversification is increasingly prominent. Enterprises obtain customer resources through customer information research and coding. This process will be limited by technology and privacy protection, resulting in leakage of information. It is difficult for enterprises to predict and meet customer needs. The status of customers in consumption changes from passive to active. Customers begin to participate in the production and delivery of products and services and interact with suppliers, and become part-time employees of the enterprise. If enterprises want to remain invincible in the increasingly complex business environment and fierce market competition, it is necessary to continuously exchange information and resources with customers and adapt themselves to the changing market through interaction [2]. The rapid development of IT has broken the interactive obstacle between enterprises and customers, and improved the ability of customer participation. With the help of social software, instant communication tools and other effective information channels, customers can communicate with enterprises in real time, provided the demand and preferences, as well as feedback and complain to the product. The focus of enterprise competition must be changed from improving internal efficiency to making full use of external human resources. Customer resources and capabilities become the new source of enterprise core competence.

Based on the perspective of customer equity management, this paper studies the impact of customer participation on enterprise value, and emphasizes the contribution of customers (including monetary resources, social resources and knowledge resources) in the process of interaction with enterprises, and validates the mediating effect of perceived control in this process. This study is divided into six chapters, including introduction, literature review and hypotheses, research methods, data analysis, conclusion and management implications as well as limitations and prospects.

2. Literature Review and Hypotheses

2.1. Customer Equity

In the “customer-oriented” market competition, the purpose of the enterprise is to sell a large number of products and services to the same customer and customer share becomes the key performance indicator [3]. As the source of profit and important resources, customers have been promoted to an unprecedented important position in production and operation. Blattberg and Deighton first put forward the concept of “customer equity” in 1996, and they considered customer equity to be the net present value of all customer’s expected contribution toward offsetting the company’s fixed costs over the expected life of these customers. Growing a business can therefore be framed as a matter of getting cus-

tomers and keeping them so as to grow the value of the customer base [3]. Duffy believed that customer equity is the contribution of customer relationships to current and future income [4]. Similarly, customer equity is defined as the sum of tangible value and intangible value of the contribution of customer resources [5]. In addition to the monetary investment, the investment of the intangible resources, such as time, loyalty, reputation and information, is also included in the customer's contribution to the enterprise's resources. Therefore, this study adopts the definition about the sum of tangible value and intangible value of the contribution of customer resources.

The value of enterprise is derived from the value devoted by customers. The contribution of customer equity to enterprises is firstly expressed as monetary value, including basic purchase, incremental purchase and cross purchase, meanwhile, customers make significant contributions to enterprises with their information, knowledge and influence. After comprehensive analysis of existing domestic and foreign research on customer equity, customer equity is divided into three dimensions in this study: customer monetary value, customer social value and customer knowledge value, including monetary and non-monetary values [6] [7] [8].

2.2. Customer Participation and Customer Equity

Customer participation is essentially a concept of behavior, which refers to the interaction with enterprises in behaviors, information and emotion in production or delivery of products and services [9]. Customers actually involve in the creation and delivery of products and service through serving themselves or cooperating with the employees [10]. In this study, customer participation is divided into four dimensions, including preparation, information sharing, cooperative behavior and interpersonal interaction [11] [12]. Preparation means preparation for consumption. Information sharing refers to the customer's input of information resources to the supplier. Cooperative behavior refers to playing the role and fulfilling their duties in the interaction with the supplier. Interpersonal interactions include interactions between customers and suppliers as well as other customers.

Customer participation effectively improves the value of customer's equity. Firstly, Customer participation helps to establish and strengthen long-term cooperation between enterprises and customers to ensure the stability and sustainability of both parties' interests. Customer loyalty is enhanced, and the enterprises obtain sustainable revenue from customer relationship [13]. In addition, active participation helps to fully implement customer control and customer supervision, and eliminate the inefficiencies of value creation in organizations [14]. Secondly, customer participation pays attention to the effective application of customer's capacities. In the popular cooperative crowdsourcing mode, the enterprises release the new product task so that customers can cooperate with each other to complete it [15]. Customers become the core of enterprise innovation. The more the customers participate in, employees can effectively revise and

realize the innovative ideas through continuous interaction [16]. Thirdly, customer participation leads to the combination of the resources of enterprises and consumers so as to achieve goals that cannot be achieved alone [17]. Customer participation promotes the mutual learning process between customers and enterprises, and accelerates the application of valuable information in upgrading products and services. Meanwhile, the investment of time, energy, emotion and other resources increases the customer's transfer cost, resulting in high customer loyalty. Finally, customer participation strengthens the relationship between customers and suppliers. Customer participation increases the strength, depth and breadth of information transfer between customers and suppliers. Customer participation helps to complete feedback and find the remedial plan timely when the service fails [9]. So we put forward hypothesis 1:

H1: Customer participation has positive effect on customer equity.

2.3. Customer Participation and Perceived Control

Dabholkar put forward the concept of perceived control in 1990, defining it as the degree to which a customer feels controlled in a service experience. Perceived control is the emotional cognition of the individual's control level of the environment and his own behavior and it is the perception about customer's impact on the production and results of service [18] [19] [20].

Perceived control is a psychological process of customers, and its essence is the continuous feedback and correction process of information. The depth and breadth of customer participation in the consumption determines the timeliness, accuracy and comprehensiveness of information feedback, thus affecting the customer's perceived control [20] [21]. The degree of customer participation affects customer's perceived control of the service, and the preparation, cooperative behavior and information exchange can enhance the customer's sense of control [22]. The more resources customers put into the consumption, it means that the output of service can be created in person to a higher degree, and customers gain more control in this process of consumption [23]. One of the important motivations for customer participation is about psychological needs, which is to increase the customer's sense of control through the situational or interpersonal interaction. Customer participation helps customers to establish deeper relationships with enterprises and employees, and satisfies the psychological need of relationship in order to increase psychological and behavioral control [9] [24]. So we put forward hypothesis 2:

H2: Customer participation has positive effect on perceived control.

2.4. Perceived Control and Customer Equity

Customer satisfaction and customer loyalty are influenced by perceived control [23]. An empirical study based on online banking shows that the perceived control of behavior implementation influences the efforts and sustainability devoting to behavior implementation. The higher degree of perceived control, the stronger the intention of the customers to continue cooperating with the online

bank, which is conducive to long-term cooperation and sustainable profits [25]. Perceived control promotes the efficiency of customer effort and knowledge sharing, and has positive impact on customer service feedback and advice provided [20] [26]. So we put forward hypothesis 3:

H3: Perceived control has positive effect on customer equity.

2.5. Mediating Effects of Perceived Control

Customer participation refers to the interaction with enterprises in behaviors, information and emotion. The performance is not only related to the realistic condition, but also influenced by customer's psychological cognition and psychological process [27]. Customer participation leads to psychological changes of customers, which significantly influences customer evaluation and behavior intention [28]. Through participating in production and delivery of products and services, customers gain more timely, accurate and comprehensive information, and increase situational or interpersonal interaction. Customers gain a stronger sense of control [21] [24]. Customer participation in the value creation activity originates from the individual self consciousness and their creativity, which is influenced by perceived control. Furthermore, consumers' cognitive control in production and delivery of service influences their behavioral intention and performance [19] [26]. So we put forward hypothesis 4:

H4: Customer equity is positively influenced by customer participation, and this relationship is mediated by perceived control.

The research model of customer participation, perceived control and customer equity in this study is shown in **Figure 1**.

Based on the reliability and validity tests through SPSS 19.0, this study verifies the model and hypotheses about the relationship between customer participation, perceived control and customer equity based on data analysis through Amos 21.0, and verifies the mediation effect of perceived control through Bootstrap test.

3. Research Methods

3.1. Research Samples

This study collecting samples from financial industry. The characteristics of finance, including liquidity, profitability and risk, determine that customer

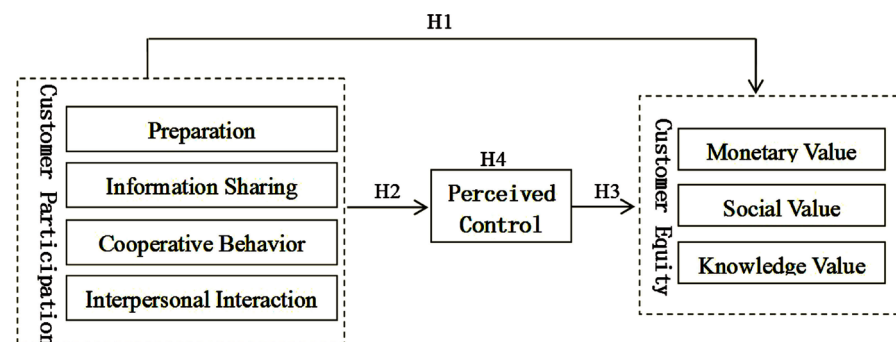


Figure 1. Research model of customer participation, perceived control and customer equity.

participation is a prerequisite for financial consumption. Financial products and services are designed with strong entrusted responsibility. Customer participation is the precondition and important source of effective interaction between customers and enterprises about the liquidity, profitability and risk of financial products and services. The object of the financial consumption transaction is capital, and the customers take greater risks than general service. Customer participation is particularly important and special because of the high information asymmetry of financial products and services. With help of people who work in financial enterprises, this study collects samples from financial industry consumers online and offline. It is mainly provided by individual consumer offline as well as colleagues and friends of authors online. A total of 360 questionnaires were issued and 264 valid questionnaires were collected, and the recovery rate was 73.33%.

3.2. Questionnaire

The final questionnaire consists of four parts, including basic information, scale of customer participation, perceived control and customer equity. The customer participation scale consists of 13 items, which are divided into four dimensions of preparation, information sharing, cooperative behavior and interpersonal interaction [11] [12] [29] [30]. The perceived control scale consists of 4 items [22] [31] [32]. The customer equity scale consists of 9 items, which are divided into three dimensions of customer monetary value, customer social value and customer knowledge value [6] [7] [33] [34].

4. Data Analysis

4.1. Descriptive Analysis

Table 1 shows the characteristics of samples in this study. According to the financial institutions selected by customers in this survey, banks accounted for more than 50%, up to 52.65%, as banking institutions accounts for the vast majority of financial services such as ordinary lending operations, trusts and securities products. In terms of the time for establishing business relationship with financial institutions, the proportion of 1 - 3 years and over 5 years is more than 30%, and the proportion of 1 year and 3 - 5 years are nearly equal.

4.2. Reliability and Validity

In this study, internal reliability is selected to measure the reliability, choosing Cronbach's α as a criterion. Cronbach's α of each scale is greater than 0.7, indicating that the internal consistency level of each scale is high. The KMO value of customer participation scale is 0.843, and it is 0.692 and 0.839 in perceived control scale and customer equity scale ($P < 0.01$). They are all greater than 0.6 and shown in **Table 2**.

4.3. Structural Equation Model

This study verifies the model and hypotheses based on data analysis through

Amos 21.0. **Table 3** shows that all indicators are well. **Figure 2** shows that customer participation has positive effect on customer equity. Customer participation has positive effect on perceived control. Perceived control has positive effect on customer equity. Hypothesis 1, hypothesis 2 and hypothesis 3 are proved, and the significance level is less than 0.05.

Table 1. Descriptive analysis.

Item	Characteristic	Number	Proportion
Gender	Male	124	46.97%
	Female	140	53.03%
Age	Under 25	105	39.77%
	26 - 35	101	38.26%
	36 - 45	32	12.12%
	46 - 55	19	7.20%
	Over 55	7	2.65%
Education	Junior high school or below	10	3.79%
	High school/Technical school	23	8.71%
	College or university	178	67.42%
	Master or above	53	20.08%
Average Monthly Income	Less than 5000	71	26.89%
	5000 - 8000 (8000)	81	30.68%
	8000 - 12,000 (12,000)	52	19.70%
	12,000 - 15,000 (15,000)	30	11.36%
	More than 15,000	30	11.36%
Employment	General staff	180	68.18%
	First-line manager	33	12.50%
	Middle and senior manager	27	10.23%
	Self-employed worker	20	7.58%
	Retiree	4	1.52%
Financial Institution	Bank	139	52.65%
	Securities company	22	8.33%
	Insurance company	30	11.36%
	Internet financial institution	58	21.97%
	Else	15	5.68%
Time for Establishing Business Relationship	Less than 1 year	41	15.53%
	1 - 3 years(3 years)	103	39.02%
	3 - 5 years(5 years)	33	12.50%
	More than 5 years	87	32.95%

Table 2. Reliability and validity.

Variable	Item	Component	Cumulative %	Cronbach's α
CP			67.264	0.841
	PP1	0.778		
	PP2	0.759		
PP	PP3	0.838	21.283	0.843
	PP4	0.831		
	IS1	0.766		
IS	IS2	0.805	16.571	0.768
	IS3	0.829		
	CB1	0.600		
	CB2	0.739		
CB	CB3	0.758	18.981	0.768
	CB4	0.791		
	II1	0.647		
II	II2	0.882	10.429	0.604
	PC1	0.747		
	PC2	0.643		
PC	PC3	0.816	56.486	0.741
	PC4	0.788		
CE			70.272	0.849
	MV1	0.873		
MV	MV2	0.708	22.550	0.713
	MV3	0.569		
SV	SV1	0.741		
	SV2	0.743	22.902	0.773
	SV3	0.751		
KV	KV1	0.804		
	KV2	0.829	24.820	0.779
	KV3	0.760		

Table 3. Structural equation model index.

Index	χ^2/df	RMSEA	GFI	NNFI	CFI	PGFI	PNFI
Criterion	≤ 3	≤ 0.08	> 0.9	> 0.9	> 0.9	> 0.5	> 0.5
Results	1.678	0.051	0.881	0.920	0.931	0.702	0.730

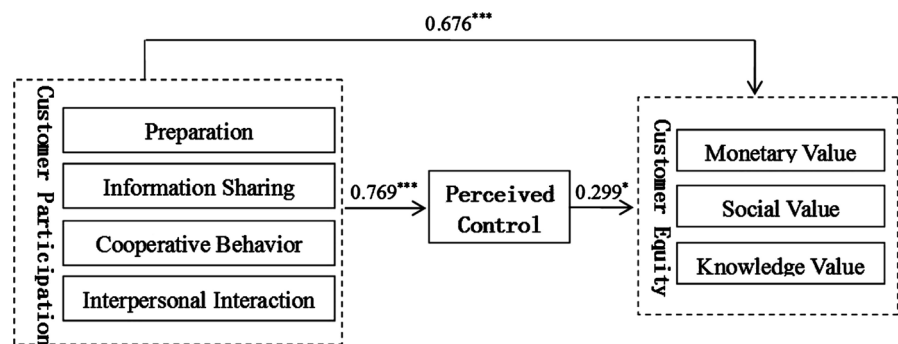


Figure 2. Path coefficients of customer participation, perceived control and customer equity.

Table 4. Mediation effect.

Relationship	Coefficient	s.d.	t	P	
Customer Participation → Customer Equity	0.594	0.042	14.051	0.000	
Customer Participation → Perceived Control	0.694	0.073	9.565	0.000	
Perceived Control → Customer Equity	0.483	0.041	11.745	0.000	
Effect	s.d.	t	LL95% CI	UL95% CI	
Direct Effect					
Customer Participation as an independent variable	0.5361	0.0553	9.6936	0.4272	0.6450
Effect	s.d.	LL95% CI	UL95% CI		
Indirect Effect					
Customer Participation as an independent variable	0.2116	0.0369	0.1471	0.2909	

4.4. Mediation Effect

Mediation effect is proved through Bootstrap test and **Table 4** shows the final results. At the 95%CI level, the indirect effect interval is (0.1471, 0.2909) and it does not contain zero, indicating that a significant mediation effect is proved, and the value of mediation effect is 0.2116. In the test of direct effect, customer equity is significantly influenced by customer participation without the effect of perceived control. The direct effect interval is (0.4272, 0.6450) and it does not contain zero. Customer equity is positively influenced by customer participation, and this relationship is partly mediated by perceived control. Hypothesis 4 is proved.

5. Conclusion and Management Implications

5.1. Conclusion

1) Customer participation has positive effect on customer equity.

Based on theoretical research and empirical test, this study verifies the positive effect of customer participation on customer equity. Enterprise value essentially originates from the customer equity and the development of enterprise value

depends on the customer equity enhancement, therefore customer information and resources are very important to them, especially in the increasingly complex market environment and fierce market competition. Customer participation is essentially a concept of behavior, which refers to the interaction with enterprises in behaviors, information and emotion. Customer participation emphasizes on preparation, information sharing, cooperative behavior and interpersonal interaction, which can provide important support and resources for improving the value of customer equity, such as managing customer relationship, integrating customer capacities and transforming customer resources.

2) Customer equity is positively influenced by customer participation, and this relationship is partly mediated by perceived control.

Customer equity can be influenced by customer participation in two ways, including direct and indirect ways. Customer participation of behavior and resources in production and consumption can directly enhance the value of customer equity. For example, according to the interaction between customers and suppliers, customer relationship management can be well conducted, and the stable and loyal customer relationship will be established to enhance customer monetary value. On the other hand, customer participation has effect on customer equity through perceived control. Customer participation provides timely information and strong psychological motivation for the generation and development of perceived control, and perceived control has effect on customer equity by influencing the intention and behavior performance of customers.

5.2. Management Implications

1) Enterprises should pay attention to the importance of customer participation and encourage customers to participate in interaction actively, which has positive effect on customer equity.

The rapid development of IT has broken the barriers of interaction between enterprises and customers, and improves the ability of customers to interact with enterprises. Weakening organizational boundaries and cooperating closely with customers help enterprises to predict and meet customer needs. On the one hand, through strengthening the concept of win-win, enterprises should guide customers to take advantage of their own experience and knowledge to actively participate in information exchange, joint design and joint production. Enterprises can effectively improve products and services with the help of customer resource. On the other hand, enterprises should communicate with their customers regularly and strengthen the relationship between customers and enterprises, so as to increase customer loyalty and customer satisfaction. In the process of customer participation, enterprises need to mobilize their resources into the timely response to customer participation and strengthen the coordination and communication between two sides, in order to maximize the positive effect of customer participation on customer equity.

2) Enterprises should strengthen the cultivation and promotion of customers'

perceived control, so as to provide effective support for improving customer equity.

In the interaction between customers and enterprises, the customer's perceived control is mainly due to the timeliness, accuracy and comprehensiveness of information, as well as the trusted relationship between them. Increasing interactivity in the process of providing products and services promotes enterprises to convey more accurate and effective information to customers, which helps customers to learn more about product and service and make a transaction decision as soon as possible. At the same time, a good response mechanism should be established to assist customers to solve problems in their consumption, which effectively improves their sense of control. Enterprises ought to establish deep emotional connection with customers, and meet the psychological needs of interaction, so as to increase customers' sense of control about psychology and behavior. Through perceived control, customer participation ultimately has positive effect on customer equity.

3) The value of customer equity varies from person to person, and customer segmentation is beneficial to maximize the value of the whole customer equity.

With the rapid change of market and increasingly fierce competition, enterprises become increasingly dependent on customer resources and capacities. Customer resources has become the important source of sustainable competitive advantage for enterprises. The value of customer equity is influenced by customer characteristics to some extent, such as income and employment status. Enterprises need to make clear customer segmentation and provide targeted products and services in each market to enhance customer share.

6. Limitations and Prospects

1) Limitations in sample size and distribution.

Because of the limited capital and resources, the samples unevenly distribute in age, education, employment situation and choice of financial institution type, which affects the universality of this study results. Future research can expand the scope of survey, which leads to uniform distribution. Furthermore, future research can also focus on specific types of financial sub-industry, attach importance to commonness and study personality, so the research conclusion will be more targeted.

2) Cross-sectional data is insufficient to explain causality of different times.

The data collected in this study can only reflect the relationship between variables at one time. However, the effect of customer participation on customer equity, the effect of customer participation on perceived control and the effect of perceived control on customer equity are not synchronised in reality. Future research can collect cross-time samples, so that the results will be more accurate.

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Appendix. A Survey about Customer Participation and Customer Equity

Section One: Customer Information

- 1) Gender
 - A. Male
 - B. Female
- 2) Age
 - A. Under 25
 - B. 26 - 35
 - C. 36 - 45
 - D. 46 - 55
 - E. Over 55
- 3) Education
 - A. Junior high school or below
 - B. High school/Technical school
 - C. College or university
 - D. Master or above
- 4) Average Monthly Income
 - A. Less than 5000
 - B. 5000 - 8000 (8000)
 - C. 8000 - 12,000 (12,000)
 - D. 12,000 - 15,000 (15,000)
 - E. More than 15,000
- 5) Employment
 - A. General staff
 - B. First-line manager
 - C. Middle and senior manager
 - D. Self-employed worker
 - E. Retiree

Section Two: Questionnaire

Note: Please answer the following questions according to a financial institution you are familiar with. And choose the degree of your agreement or disagreement with the statement according to the actual situation.

- 1) Basic Information
 - i) Type of organization you choose
 - A. Bank
 - B. Securities company
 - C. Insurance company
 - D. Internet financial institution
 - E. Else (microlender/trust institution/leasing agency/else)
 - ii) Time for Establishing Business Relationship
 - A. Less than 1 year
 - B. 1 - 3 years (3 years)
 - C. 3 - 5 years (5 years)
 - D. More than 5 years
- 2) Customer Participation

Please select the appropriate option according to the following description

about customer participation.

NO.	Customer Participation	Strongly disagree	Disagree	Neutrality	Agree	Strongly Agree
1	Before consumption, I will search for the profits and risk information of related financial products and services.					
2	I will look for information from non-commercial sources (such as weibo, news, etc) to know about the overall situation of the financial institution.					
3	I will know about the past performance of the financial institution.					
4	I will search information for data security.					
5	I will actively cooperate with the employees.					
6	I will commend the employees for their excellent service.					
7	I will operate following the requirements and instructions to complete the transaction.					
8	I will search for advice when I meet problems.					
9	The service staff will always explain to me about the risks and benefits of the financial products and services that he/she recommends.					
10	The institution always provide as much information as I need.					
11	I believe that the successful accomplishment of financial business is not only the work of financial institutions, but also the cooperation of customers.					
12	I will share information and experience with other customers.					
13	The employees can inform me of my financial equity status in time.					

3) Perceived Control

Please select the appropriate option according to the following description about perceived control.

NO.	Perceived Control	Strongly disagree	Disagree	Neutrality	Agree	Strongly Agree
1	I feel sufficiently self-directed in purchasing the products or services of the financial institution.					
2	Buying the products and services of this financial institution made me feel that everything is in my hands.					
3	I think I can influence the way I'm served in this financial institution.					
4	I think I can influence the quality of service.					

4) Customer Equity

Please select the appropriate option according to the following description about customer equity.

NO.	Customer Equity	Strongly disagree	Disagree	Neutrality	Agree	Strongly Agree
1	I am willing to continuously purchase products and services in this financial institution.					
2	I would compliment the people around me on the specialization and personalization of products and services in this financial institution.					
3	I am willing to purchase other products and services provided by this financial institution.					
4	I am willing to continue to purchase products or services of this financial institution regardless of the increasing price.					
5	I would recommend the financial institution to my relatives and friends.					
6	In the face of negative comments related to this financial institution, I will help to explain or clarify and give feedback to the institutions.					
7	I would like to make recommendations to this financial institution for improving products and services					
8	I will communicate with this financial institution about the problems and solutions of products and services.					
9	I am willing to participate in the design of new products and services.					