

Designing propensity to entrepreneurship paradigm in Ilam universities (structural equation model approach)

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ABSTRACT: Nowadays, entrepreneurship training is considered as a necessity to grow manpower in many higher education institutes and it is converted to one of the most important and broadest academic activities. Thus, the aim of present paper is to determine the existence or nonexistence of entrepreneurial organizational structure, entrepreneurial organizational culture, and constant interactions with environment, joint perspective, foresight strategy, entrepreneurial behavior and entrepreneurial communications in the universities of Ilam. Research population consists of all employees and faculties of Ilam universities. The sample size is 304 for which stratified random sampling and Kokaran equation are used. Data information tool is a standardized questionnaire to show its reliability, Chronbach's alpha ratio is used. Likewise, library and field study techniques are used to gather information. In terms of aim, present study is an applied research while it is a descriptive and correlative one in terms of acquiring needed data. To analyze data in deductive statistics section, Kolomogrov – Smirnov test, CFA and SEM in SPSS and LISREL software packages are used. The findings indicate that Ilam universities are institutes with entrepreneurship propensity while joint perspective and foresight strategy have the highest impact on propensity to entrepreneurship in these universities.

Keywords: entrepreneurship, entrepreneurial organization, entrepreneurial university.

INTRODUCTION

Contemporary social – economic system changes and transformations rooted in scientific and technological progresses which have changed interests and tastes. Undoubtedly, today organizations are facing with widespread international changes and threats. Hence, assuring their survival needs to find new techniques to curb problems and it is highly depended on innovation, invention and creating new process, products and techniques. To achieve this aim, managers should recourse to role proportionate to changing environmental conditions. Overall, as the most important factor in industrial organizations, managers play four main roles: producing, administration, entrepreneurship and integration roles. Among them, entrepreneurship is considered as driving force of economic development movement. In fact, entrepreneurship is the main factor for creativity and innovation. Most developed countries are transiting from administration to entrepreneurship (Ahmadpour Daryani, 2000). Broad wave of economic and technological activities along with universal changes in techniques and insights during past two decades have led the attention of many organizations to training and employing managers. Hence, entrepreneurship training i entrepreneurship training is considered as a necessity to grow manpower in many higher education institutes and it is converted to one of the most important and broadest academic activities (Carter, 2009).

PROBLEM DESCRIPTION

Entrepreneurship is, *inter alia*, the most efficient way to change managerial style and operation in which the movement from operation (bureaucracy) is converted into entrepreneurial insight, culture and management.

Entrepreneurial managers play a vital role in economic changes and growth while bureaucracy leads into economic depression and organizational fall. This is a global and universal reality (Moghimi, 2005). Today, university students and graduates have found that they will enter changing, dynamic and complicated workplaces. Such factors as globalization, competition and rapid technological growth have changed working opportunities. Today, employers' expectations are changed and they need employees who express entrepreneurial behaviors and propensities. An important issue in entrepreneurial university is how to make universities entrepreneur and how to conduct entrepreneurial initiatives by universities. Entrepreneurial university has such attributes as flexible structure, integrated entrepreneurial culture, and constant relation to environment, joint perspective, foresight leader and attention to manpower as the most important key guidelines to being an entrepreneurial university. Universities should highly pay attention to manpower as a key factor and support innovative entrepreneurs and risk takers (Shah Husseini, 2009). In present paper, propensity to entrepreneurship in Ilam governmental and nongovernmental universities is studied.

The importance and necessity of conducting the research

Entrepreneurship should be seen as a requirement in new century called as information community or globalization age that involves important outcomes such as emerging technologies and rapid changes in human exchanges as well as intensive business competition. In such circumstances, entrepreneurship is seen as a growth and development factors and also as an important constituent in monitoring a favored perspective (Clark, 2004).

Expanding entrepreneurship culture can play a critical role in changing attitudes on self – occupation and entrepreneurship and to prepare it for operating in self – occupation market (Samad Aghayi, 2008). Entrepreneurial is not only successful in responding to diverse environmental needs and expectations but also its executive plans and trends are revised to expand entrepreneurship culture and training entrepreneurs so that one can realize the aims on identifying job opportunities to start businesses through planning and executing such plans (Ahmadpour Daryani, 2000). Evolution and development of entrepreneurial university is seen as the best and most effective way for communications and industry which make academic activities administrative (Mahmoodi and Sadat Moghtadaei, 2007). Expanding entrepreneurial organizational culture is one of the most important factors that can play a vital role in changing people's tendency to self – occupation and entrepreneurship and prepares those people who have such culture for self – occupation labor market (Samad Aghayi, 2008).

Research theoretical basics

Below, each affecting factor on propensity to entrepreneurship in Ilam universities is addressed.

Joint perspective and foresight strategy

It is a fact that opportunities and perspectives of strategies should be based on valid and profit making chances in order to be successful (Ninos, 1998). In entrepreneurial strategy, there are no conditions or previous care or dividing the aims. A person who controls the organization is able to pose its attitudes and ideas on management. Such strategies are called entrepreneurial strategies since they are mostly seen in businesses founded by individuals and controlled extremely by the owners. In such case, the only driving force to model and to conduct the affairs is personal attitudes and the only decision maker is the boss of the organization. Such trait is along with boss's capability in executing his/her personal ideas and aims in the organization through personal control (by commanding subordinates). Usually, entrepreneurial strategies are more seen in start-ups and/or small organizations that can easily find their status in the environment (where it is easy to control personnel). However, one can clearly observe such strategies in larger organizations especially in critical circumstances that all employees tend to execute the commands of a leader who has personal aims and opinions (Ikaf, 2006).

Entrepreneurial structure

Entrepreneurial structure is a set of structural elements such as laws and rules, job descriptions and assigned authorities in decision making with the maximum flexibility and to empower organizational units that allows employees to attempt to improve the mission of their own unit by using individual and organizational initiatives and to consider their occupational and organizational goals (Ghanati, 2007).

Entrepreneurial organizational culture

One of the attributes of entrepreneurial organizations is to have a flexible or entrepreneurship culture. In such culture, norms and beliefs are confirmed that can be identified and interpreted by existing signs in the environment and to render a proper reaction or behavior on this basis.

Such organization should react rapidly against new plans and can restructure and follow new behaviors in doing new jobs (Liesner, 2006). In an entrepreneurial university, entrepreneurship culture is definable and important for instructors and students in different levels (Stevenson, 1985). Culture and organizational behavior of entrepreneurial university instructors include different decisions and, for instance, cooperating with different organizations and industries or to register research findings and/or to establish spin-offs that impact directly on the performance of the university (Clark, 2004).

Constant interaction with environment

Entrepreneurship is the most important factor that plays its critical role in shaping, expanding and prefunding the relationship between industry and university. In industrial progresses countries, industry and university research centers and engineering research centers are shaped by the collaboration of groups of firms in production sector. In such centers, instructors from universities and representatives from firms decide on plans and often execute the projects jointly. Universities in developing countries should create entrepreneurship center, industry relation offices, incubators and scientific associations and should support them intensively. The aim of establishing industry relationship offices in universities is that firms learn what authors do in universities and then to invite the firm to attend in universities as well as academic advisors' contribution in technology transfer and development process. Establishing a technology transfer offices is another plan that identifies technologies and inventions with potentiality of being commercialized and marketed and to assign them to firms under relevant licenses (Keiko, 2006).

Entrepreneurial behavior

According to Zahra and Dess, (2011), entrepreneurship and entrepreneurial behavior mean innovative usage of resources to utilize opportunities. Thus, one of the most comprehensive definitions on entrepreneurial behavior is activities by people (i.e. in an organization) through creating and using innovative composites so that one can identify and pursue opportunities (Mair and Marti, 2006).

Entrepreneurial communications

Due to rapid changes in international environment and transition from an industrial to information society and confronting of national economies with global economy as well as the emergences of phenomena such as globalization of the economy and IT, radical discussions are raised on various guidelines to accelerate growth process and sustainable development and economic welfare. A new discussion is the role of entrepreneurs in such process. Entrepreneurship was a new concept particularly in economy, management, sociology and psychology and other related areas have a short age. Entrepreneurial communication is an important and basic issue in entrepreneurship which means to establish effective and efficient communications in with other organizations in entrepreneurship field (Khani Jozei and Alikhani, 2011).

Research background

Serkangunes, (2012) believes that designing entrepreneurship is to produce and commercialize as well as to build entrepreneurial skills in training the designing of products. By changing the role of designer, present paper addresses to the fact that training preliminary entrepreneurial skills is as important as designing skills for designing students to survive in the labor market. Present paper introduces techniques to students in order to promote their entrepreneurial capacity through special courses and methods during their educations.

Seifitab et al, (2012) studied the entrepreneurial aims of vocational students who were educating in different fields. Identical studies were revised and distributed questionnaires were based on self – return concept. The main aim of the research was to interpret students' opinions in future about the entrepreneurship based on self – return concept. This research is conducted on students in commercial management, computer programing, public administration and skin and hair health fields and interest findings are yielded.

In another research by Mohammad Reza Zali, (2010) on evaluating students' entrepreneurial traits in Mazandaran University, the most important finding was that one can reinforce students' spirituality, creativity, motivation, risk-taking and independence through entrepreneurship learning particularly their behavioral training since thy enjoy higher will and determination. Obviously, the aim of entrepreneurial training should be to transfer knowledge and to breed skills. Finally, these trainings should generate entrepreneurial attitudes. According to the findings, 21% of Mazandaran University students have the minimum admirable entrepreneurial behavior score.

Research hypotheses

1. Ilam universities enjoy entrepreneurial structure.
2. Ilam universities have a foresight strategy and a joint perspective.

3. Ilam universities have entrepreneurial organizational culture.
4. Ilam universities have constant interactions with the environment.
5. Ilam universities have entrepreneurial behavior.
6. Ilam universities have entrepreneurial communications.

Research conceptual model

To draw analytical model, the author can act in two different ways albeit there is no obvious difference between them: devising the hypotheses initially and then addressing to concepts or vice versa (Khaki, 2011). Therefore, concerning above arguments, defined hypotheses, and the opinions of elites on organizational behavior, HR and organizational communication, the conceptual model of the research is designed and drawn as below:

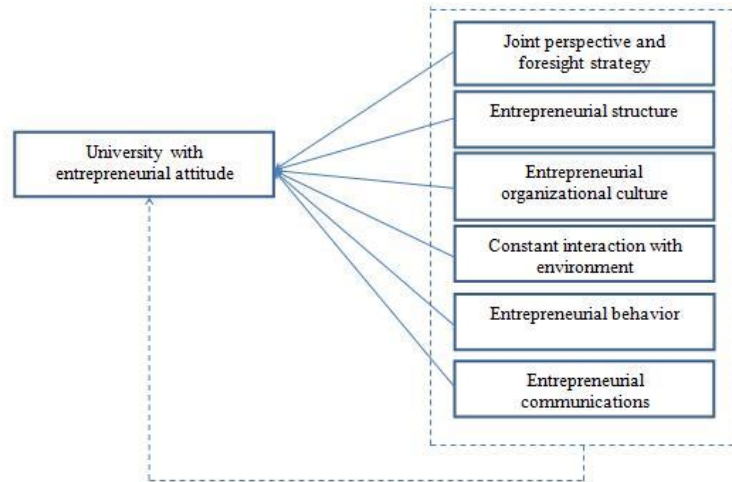


Figure 1. research conceptual model

MATERIALS AND METHODS

Methodology

In terms of aim, this is an applied study while it is a survey – type descriptive study in terms of data collection technique. Library and field studies among employees and faculty members of Ilam universities were used to gather information. To design propensity to entrepreneurship model in Ilam universities, below bounds are determined:

- (a) Thematic scope: discussions on entrepreneurship management in general and inter-joint perspective and foresight strategy, entrepreneurial organizational culture, constant interaction with environment, entrepreneurial behavior and entrepreneurial communications in particular.
- (b) Time scope: information and data are for winter 2012.
- (c) Locational scope: employees and faculty members in Ilam universities.

Statistical population and sample

In present study, the population consists of employees and faculty members (1449) of Ilam universities in 2013.

Sampling method and sample size

Since the population is limited Kokaran formulation is used, explained and computed below.

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

Where:

N = population size

n = sample size

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

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

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

d = the value of allowed error (0.05).

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

$$n = \frac{1449 \times 1.96^2 \times 0.5 \times 0.5}{1448 \times 0.05^2 + 1.96^2 \times 0.5 \times 0.5} = 304$$

As seen in table 1, this sample is determined with certain values for each population (Sarmad, Bazargan and Hejazi et al., 1998).

Table 1. population and sample size of Ilam city universities

Row	University	Population	Sample size
1	Ilam University	380	80
2	Ilam Medical University	450	94
3	Ilam Azad Islamic University	245	51
4	Ilam Azad Islamic University, Science and Research Branch	125	27
5	Bakhtar University	50	10
6	Applied and Scientific University	45	9
7	Payam Noor University	154	33
Total		1449	304

Data collection and measurement tool

In present study, a standard questionnaire that measures propensity to entrepreneurship in Ilam governmental and nongovernmental universities based on Likert five – scale range (very high, high, to some extent, low and very low) is prepared by the author. The questionnaire enjoys 52 items used to measure each variable of the research.

Table 2. categorizing questionnaire items

Variable	Aspect	Items
Entrepreneurial propensity	Entrepreneurial structure	1-10
	Joint perspective and foresight strategy	11-18
	Entrepreneurial organizational culture	19-27
	Constant interaction with environment	28-35
	Entrepreneurial behavior	36-43
	Entrepreneurial communications	44-52

RESULTS AND DISCUSSION

Results for research hypotheses

Here, we analyze research hypotheses properly. Structural equation model (SEM) and LISREL software package are used to test research hypotheses. As seen in figure 1, research conceptual model and significance ratios are used to test research hypotheses. In such circumstances, if T-Value is greater than 1.96 or smaller than -1.96, null hypothesis would be refused and H₁ would be supported. Before that, Kolgoromov – Smirnov test was used to normalize data. The most important indicators are Goodness of Fit Index (GFI) Adjusted Goodness of Fit Index (AGFI) and Root Mean Square Residuals (RMSR). The optimized moods for such tests include:

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Table 3. good to fit for values in left side of the model

Row	Result	Desired level	Aspect	Index
1	Acceptable	>3	½	χ ² /df
2	Good fit	>0.1	2.8	RMSEA
3	Acceptable	Close to 0	0.077	PMR
4	Very well	<0.90	0.093	NFI
5	Very well	Close to 1	0.97	NNFI
6	Very well	<0.90	0.97	CFI
7	Very well	<0.90	0.95	RFI
8	Very well	<0.90	0.97	IFI
9	Very well	<0.90	0.96	GFI
10	Very well	<0.90	0.92	AGFI

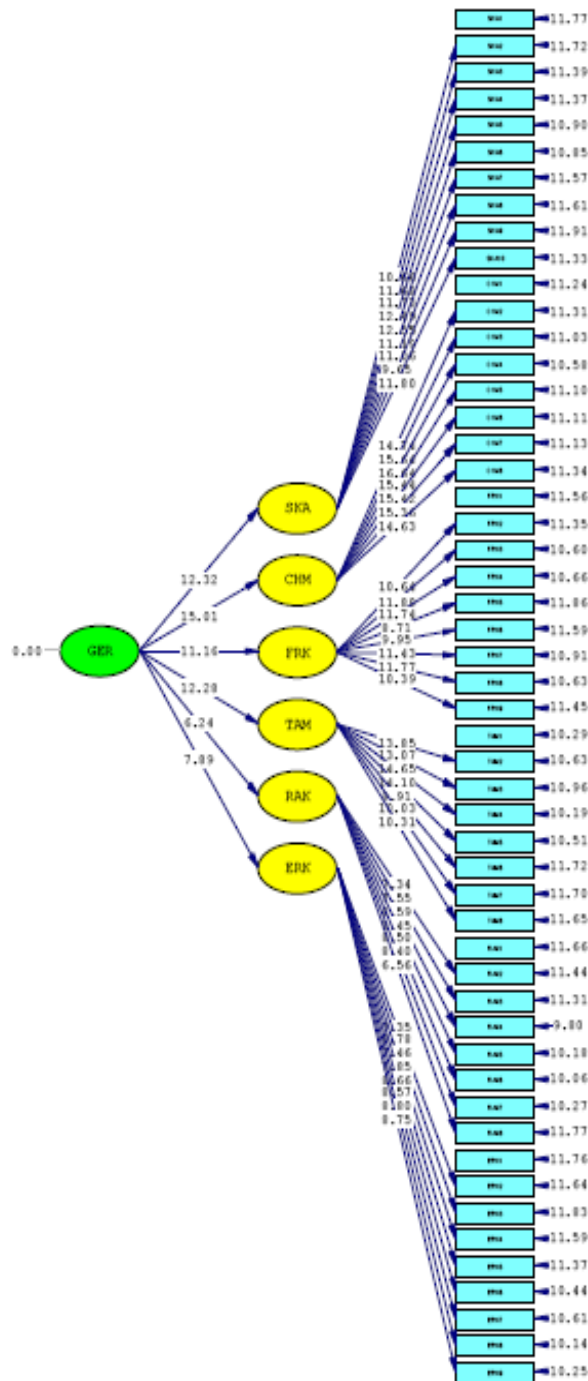


Figure 1. 2nd rank confirmatory factor analysis for values in significance ratios in the left side

Testing the 1st hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the first main hypothesis. Likewise, figure 1 indicates the significance ratios as well as achieved parameters of structural model on entrepreneurial structure and tendency to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance ratio between entrepreneurial structure and tendency to entrepreneurship is 12.32. Therefore, the structural model indicates Ilam universities enjoy entrepreneurial structure.

Table 4. the results from analyzing SEM for the first hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	Entrepreneurial structure	12.32	0.97

Testing the 2nd hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the second main hypothesis. Likewise, figure 1 indicates the significance ratios as well as achieved parameters of structural model on joint perspective and foresight strategy and propensity to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance ratio between joint perspective and foresight strategy and propensity to entrepreneurship is 15.01. Therefore, the structural model indicates llam universities enjoy joint perspective and foresight strategy.

Table 5. the results from analyzing SEM for the second hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	joint perspective and foresight strategy	15.01	0.94

Testing the 3rd hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the third main hypothesis. Likewise, figure 4-19 indicates the significance ratios as well as achieved parameters of structural model on entrepreneurial organizational culture and propensity to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance ratio between entrepreneurial organizational culture and propensity to entrepreneurship is 11.16. Therefore, the structural model indicates llam universities enjoy entrepreneurial organizational culture.

Table 6. the results from analyzing SEM for the third hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	Entrepreneurial organizational culture	11.16	0.86

Testing the 4th hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the fourth main hypothesis. Likewise, figure 4-19 indicates the significance ratios as well as achieved parameters of structural model on constant interaction with environment and propensity to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance ratio between constant interaction with environment and propensity to entrepreneurship is 12.28. Therefore, the structural model indicates llam universities enjoy constant interaction with environment.

Table 7. the results from analyzing SEM for the fourth hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	Constant interaction with environment	12.28	0.78

Testing the 5th hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the fifth main hypothesis. Likewise, figure 4-19 indicates the significance ratios as well as achieved parameters of structural model on entrepreneurial behavior and propensity to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance ratio between entrepreneurial behavior and propensity to entrepreneurship is 6.24. Therefore, the structural model indicates llam universities enjoy entrepreneurial behavior.

Table 8. the results from analyzing SEM for the fourth hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	entrepreneurial behavior	6.24	0.48

Testing the 6th hypothesis

In testing the relevant hypothesis by using SEMs, software output show that fitted structural model is proper for testing the sixth main hypothesis. Likewise, figure 4-19 indicates the significance ratios as well as achieved parameters of structural model on entrepreneurial communications and propensity to entrepreneurship. Achieved ratios are significant when their significance test is greater than 1.96 or smaller than -1.96. As seen, significance

ratio between entrepreneurial communications and propensity to entrepreneurship is 7.89. Therefore, the structural model indicates Ilam universities enjoy entrepreneurial communications.

Table 8. the results from analyzing SEM for the fourth hypothesis

Test result	Dependent variable	Independent variable	T-Value	Standard ratio
H ₀ is refused	Propensity to entrepreneurship	entrepreneurial communications	7.89	0.70

CONCLUSION

Evidences indicate that there is a transformation toward entrepreneurship and entrepreneurial propensity in universities. Today rapid global changes have faced higher education with new conditions and challenges. To confront such conditions and challenges, it is inevitable to develop entrepreneurial capabilities of university graduates. It is more than three decades that entrepreneurship is dominated. Undoubtedly, the main axis of economic, political, social and cultural development in any society is higher education particularly universities and higher education centers. Transformations within recent two decades in different fields throughout the world have confronted higher education especially in third world and developing countries with new transformations, the most important ones are job training, problem – oriented research growth and responsiveness to the society. Therefore, in addition to research and training missions, higher education and academic system is obliged to another mission namely increasingly contribution in innovation and technological development process. To this end, new networks affiliated to universities are growing and universities are playing their vital roles as entrepreneurial centers in innovation and technological development through their capacities in knowledge generation and dissimulation as well as their job creation.

Therefore, it is understood that propensity to entrepreneurship is seen in both governmental and nongovernmental universities and it indicates that relevant authorities and official have taken necessary steps and they have been able to execute it in Ilam universities through right planning and by considering the vital role of entrepreneurship for our country.

1. To enhance entrepreneurial structure, Ilam universities’ managers are recommended:
 - University personnel should be permitted to act flexibility in performing their job related tasks.
 - Informal meeting should be organized between managers and staff.
2. To enhance a joint perspective and foresight strategy, Ilam universities’ managers are recommended:
 - Commitment to perspective of the university should be created in managers and personnel.
 - Managers should communicate the aspects of perspective to other staff.
3. To enhance entrepreneurship culture, Ilam universities’ managers are recommended:
 - Risk- taking should be created in faculty members and students.
 - Senior managers should welcome people with new thoughts and ideas.
4. To enhance constant interaction with environment, Ilam universities’ managers are recommended:
 - The most recent technologies should be used in training and researches.
 - Universities should communicate other universities and training/research centers in both national and international levels
5. To enhance entrepreneurial behavior, Ilam universities’ managers are recommended
 - They should acquire new skills
 - They should persuade each other to express their ideas and opinions to improve academic services
6. To enhance entrepreneurial communication, Ilam universities’ managers are recommended
 - The content of communications should be focused rather than communicative regulations that should be simply respected
 - Employees should be shared in information

Research limitations:

- 1) Lack of cooperation by some managers to distribute questionnaires;
- 2) Limited access to foreign databases, websites, papers and dissertations;
- 3) Lack of time and cooperation by employees to allot a part of their working time to fill the questionnaire;
- 4) Finding consumers who answer the questionnaire honestly and authentically.

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