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An Infopreneurship Model for Iranian Online Information Businesses

Behrooz Bayat
Ph.D. Candidate, in Knowledge and Information Sciences, Faculty of Humanity and social science, Islamic Azad University Science and Research Branch, Tehran, Iran
Behrooz.bayat@gmail.com

Fahime Babalhavaeji
Associate Prof., Department of Knowledge and Information Sciences, Faculty of Humanity and social science, Islamic Azad University Science and Research Branch, Tehran, Iran
Corresponding Author: f.babalhavaeji@gmail.com

Nadjla Hariri
Full Prof., Department of Knowledge and Information Sciences, Faculty of Humanity and social science, Islamic Azad University Science and Research Branch, Tehran, Iran
nadjlahariri@gmail.com

Alireza Isfandyari-Moghaddam
Associate Prof., Department of Knowledge and Information Science, Islamic Azad University, Hamedan Branch, Hamedan, Islamic Republic of Iran ali.isfandyari@gmail.com

Abstract

Infopreneurship is the art of entrepreneurship using information and helps infopreneurs to struggle and stand in an arena called fair (bazaar) and make benefits with once they succeed. Hence, this research was conducted with the aim of providing a model for online Infopreneurship in Iran. The present research is an applied one in terms of its purpose, and carried out through quantitative approach and analytical survey method. The statistical population of this study included1835 directors and experts of websites and online businesses across Iran. Sampling was done randomly in through stratified simply class and 320 people were selected using Krejcie and Morgan table. The data collection instrument was a researcher-made questionnaire. Data were analyzed using one-group T-test, Pearson correlation coefficient, analysis of variance and factor analysis. The findings of this study showed that structural, behavioral, field, strategic, and consequential factors are correlated with the correlation coefficient of 0.74, 0.73, 0.75, 0.68 and 0.18 with the variables of Infopreneurship, and were significant at $p < 0.05$. The high middle or high level online business companies include these factors. Eventually, a model of Infopreneurship was represented in relation to online businesses in Iran. Based on the suggested model, it can be concluded that the more the online information businesses in Iran enjoy the identified factors, the more the amount of infopruneurship and its consequences will be, and that such a model can be used as a comprehensive road map for individuals, organizations and online information businesses interested in infopruneurship in Iran.

Keywords: Infopreneurship, Information Entrepreneurship, Online Businesses, Information, Iran.

Introduction

In the late twentieth century, the world witnessed a huge change in all areas of business in a way that managing governmental department seemed to face serious challenges. Among the government's effective works to confront these challenges was resorting to entrepreneurship (Kazemi and Arjomandinejad, 2010). On the other hand, with the arrival of the third millennium, the information world was also tended to change the procedure and revision in the type and form of the relationship between individuals with others and the preservation of cultural assets of human beings, which has taken great strides in this direction (Analui, Moghimi & Khanifar, 2009). Beside this, entrepreneurship is a process that occurs in a variety of environments and collections, in which changes in the economic system occur through the individuals' innovation who responds to economic opportunities, and that could create individual and social value (Geraeeli Sheikh and volvi, 2014).

Due to factors such as the ever-increasing amount of information, the rapid expansion of the Internet, the production of various information formats, the emergence and transformation of multimedia, and the increasing willingness of researchers to access the electronic format of information, the role and function of information science professionals in today's world has deeply changed (chandler, 2007). As the Internet is currently the most comprehensive and up-to-date source of information, its popularity is still increasing (Alidousti and Khosrojerdi, 2012). Today, information experts have recognized the need for new strategies and skills to transform, survive and compete in the virtual information world. LIS specialists have long been talking about the power of the information revolution in changing their profession, but they have not succeeded in presenting their worthy image up to this time (Ocholla, 1999). These specialists have found opportunities for explaining their value through developing information skills and entering various fields of work, such as knowledge management, but it seems that with entering into the field of entrepreneurship using infopreneurship and its institutionalization in the business sector, they could produce better results. Thus, Infopreneurship word was produced through blending the two words of "entrepreneurship" and "information" (Bayat et al., 2019). This word was invented by H. Weitzen and has been registered with the US Patent and Trademark Office Weitzen defines infopreneur as the person who collects and organizes the information and disseminates it through business information or a value-added service. Now, one has to ask the question of how and by what methods and models they can play their role better and create more value-added.

Ramugondo (2010) believes that infopreneurs have created new technologies and has used new ways to disseminate data and information. They also form new forms of information and new methods for earning money. When developing commerce on the Internet and online services, coordination with these methods provides the best chance to succeed and make money (Weitzen and Parkhill, 2006). Therefore, one of the areas of economy based on innovation and creativity is information entrepreneurship or Infopreneurship (Gibb, 2005). And this way of thinking will help Infopreneurs to compete in real business environments by making money and wealth in this field that could have expected value added.

Since economic Infopreneurship is innovation-based, this way of thinking helps Infopreneurs to compete in this field and get the desired results (Lahm and Stowe 2011). In Iranian business information market, many individuals can be identified who have entered into this field with their own creativity, and they have accepted the possible risks however by studying internal databases such as Iranian Research Institute for Information Science and

Technology, Magiran, Noormags, Publisher of Iranian Journals and Conference Proceedings (Civilica) and Scientific Information Database (SID), it becomes clear that in entrepreneurship there are not many researches and articles published in the country, and for the majority of people who want to enter this area of economy and business activities, there are not much theoretical foundations and any proper working models.

Therefore, this study aims to provide an Infopreneurship model for online information businesses in Iran in order to answer the following questions: 1. what are the factors affecting online Infopreneurship businesses in Iran? 2. What is the relationship among the factors affecting online Infopreneurship businesses in Iran? 3. How much is the use of online Infopreneurship businesses affected by these factors? 4. What is the proper model for suitable online Infopreneurship businesses in Iran?

Literature Review

By referring to national and international information and citations databases and using Infopreneurship or information entrepreneurship keywords, cases that were in any way related to the subject matter were reviewed by a critical analytical approach.

The results of a research entitled "Designing an Enterprise Entrepreneurship Pattern for Public Libraries of the Islamic Republic of Iran using Structural Equation Modeling (SEM)" indicate that eight factors (incentive and reward system, research and training system, organizational structure, managerial characteristics , Employee characteristics, relationship with citizens, relationship with the government and the economic environment) in three categories (structural factors, behavioral factors and environmental factors) affect the organizational entrepreneurship of Iran public libraries (Saberi, 2014).

In another study, the factors affecting Infopreneurship through databases were discovered in an inductive approach by Salasi (2014). The main question raised in this research was on the factors affecting the process of Infopreneurship through databases. The most important result of his research suggests that the outcome of information businesses is awareness, and the themes of this awareness include sustained development and information ethics that provide happiness of mankind. Following the previous studies, Saberi (2017) identified, analyzed, and explained the effective factors in the entrepreneurship of LIS students. He identified five factors including "developmental skill", "content", "education", "promotion", and "support" as the most effective factors in relation to students' entrepreneurship in LIS.

In connection with the previous study, Bayat et al. (2019), in a qualitative research, identified the factors and components that affect Infopreneurship in Iran with a contextual approach and identify the factors and components that effect on information in Iran. These factors included: structural factors, behavioral factors, strategic factors, contextual factors and consequential factors. In line with researches that has been done in Iran, some foreign researches have also been conducted from other angles. For example, in an article on the effect of entrepreneurial orientations on knowledge management in small and medium enterprises the researchers indicate that there is a positive and significant relationship between knowledge creation and risk-taking. Also, they found a positive and significant relationship between innovation and activation and all the components of knowledge management, and it is possible to predict the variables of risk management, innovation and activation of KM (Bahmani and Khodaee, 2013).

In the followings studies Dewah and Mutula (2016) studied student perceptions of

cognitive education in the archival management group. The results of the research indicate that the curriculum on Infopreneurship in this field was needed. Students believed that theoretical discussions of professors were useful and sufficient, but, along with theoretical teaching in class, it is necessary to visit Infopreneurship businesses as well as conversations with the professors and the owners of these professions. Studies show that graduates are well-prepared after completing their Infopreneurship courses.

A review of literature shows that the studies conducted on Infopreneurship in the Iranian content have mostly focused on librarianship and they have mainly been theoretically oriented. In fact, scarce are the studies which have addressed the practical concerns of infopreneurship in Iran. To fill this gap, the present study was designed with the aim of introducing an infopreneurship model for online information businesses in Iran.

Methodology

The present study was an applied survey research. To this end, a researcher-made questionnaire was developed based on effective factors and the consequences of Infopreneurship, extracted from Bayat et al. (2019). in the design and formulation of the questionnaire, the local Infopreneurship conditions among Iranian online information businesses were noticed.

The research population included all managers and experts of online information businesses. Based on the latest statistics from Iran Statistics Center, Iran Company Registration Organization and in comparison with the output of information businesses e-trust websites, the headquarter for organizing websites and the Internet Business Association, it was found that 1835 people are active in the mentioned field in all provinces of the country. However, by referring to the listed systems and the relevant Internet sites, a complete list of companies and sites that are involved in making money from information, products, or information services was provided. The sampling method of the present study was proportional stratified random sampling, since its purpose is to generalize the sample findings to the general population and an available updated employees' list.

Selecting this sampling method guarantees the presence of proportional to the important subgroups of the organization and, in comparison with simple random sampling, increases the accuracy of research findings by reducing the sampling error. Considering the above items and taking into account the total number of population using Krejcie and Morgan table, the sample size of 320 managers and experts of online information businesses was selected. The attitudes of managers and employees of online information businesses companies were measured on the basis of the Likert scale and it is based on the importance of five items. The materials presented in each section were classified based on the concept of the question and each class was considered as a dimension. The dimensions of each subsection were also determined. Data were analyzed using one-group t-test, Pearson correlation coefficient, analysis of variance and factor analysis.

The research tool was first validated by a survey of the subject's experts and then through a pilot study and a confirmatory factor analysis. Afterwards, necessary edits were performed and unclear and unrelated items were excluded. Therefore, the validity of the research tool was ensured. To determine the reliability, Cronbach's alpha coefficient was calculated the value of Cronbach's alpha coefficient for the data collection, the average Cronbach's value obtained for all the constructs of concern came out to be 0.84 which is indicative of high

internal consistency of the items.

Research Findings

The factors affecting Infopreneurship among Iranian online information businesses

The present study was carried out on a sample of 1835 directors and experts of websites and online businesses across Iran, using a research made designed questionnaire. As mentioned, the Factor Analysis method is used to find out the underlying variables of a phenomenon or tabulation of a set of data. First of all, in conducting the factor analysis, it must be ensured that the existing data can be used for the analysis to be used. So, first, the suitability of the data for factor analysis was considered. There are several ways to do this, including calculating KMO value. If KMO value is less than 0.50, then the data are not suitable for factor analysis, and if the value is between 0.5 and 0.69, then we can be more faithful to the factor analysis, but if its value is greater than 0.7, correlations between the data will be suitable for factor analysis. Bartlett test was also used to ensure that sampling was sufficient. The results are shown in Table 1.

Table1
KMO Test and Bartlett

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.840
Bartlett's Test of Sphericity	Approx. Chi-Square	10431.951
	Df	1540
	Sig.	.000

Considering the KMO value (bigger than 0.7) and the significant number of Bartlett's test sig<0.05 it can be concluded that the data was fully suitable for performing factor analysis. After satisfactory research data for factor analysis was performed, the significance coefficient, t value and factor load size were calculated for all questions. Questions with a standard coefficient of less than 0.05 and a value of t-test less than 1.96 were deleted. The rest of the questions had standard coefficients greater than 0.05 and also the value of t-test was greater than 1.96. Therefore, convergence validity was appropriate. Therefore, after analyzing all the questions of their research, the factors influencing the Infopreneurship of the online information businesses in Iran were identified as follows: Structural factors: technological, management, economic and cultural infrastructures; professional human resources and organizational structure. Behavioral factors: acceptance spirit, having skills creativity, innovation, Motivating factors & information needs. Background factors: large decision making, the possibility of converting knowledge, social. Cultural factors: economic factors, growth of graduation. Strategic factors: Continuing education, researchers and the development, optimization services, customer satisfaction, branding, networking. Agents' outcome factors: social and cultural excellence, wealth and employment creation, improving the free flow of information, electronic content production.

The relationship among the factors affecting Infopreneurship in online information businesses in Iran.

The correlation coefficient was used to determine the relationship between the factors affecting Infopreneurship in online information businesses in Iran. The correlation coefficient

shows the strength of the relationship as well as the type of relationship.

Table2

Pearson correlation coefficient results to examine the relationship between the factors of Infopreneurship in online information businesses in Iran

Variable		Structural	Behavioral	Contextual	Strategic	Consequential
Behavioral	R	0.57				
	Sig	0.000				
Contextual	R	0.56	0.51			
	Sig	0.000	0.000			
Strategic	R	0.35	0.33	0/54		
	Sig	0.00	0.000	0/000		
Consequential	R	-0.12	-0.22	-.0 23	0/014	
	Sig	0.037	0.000	0.000	0/80	
Infopreneurship	R	0.74	0.73	0.75	0/68	0.18
	Sig	0/00	0/00	0.00	0.00	0.001

Table 2 shows the results of Pearson correlation coefficient to examine the relationship between structural, behavioral, Contextual, strategic, and consequential Infopreneurship. Based on the results of this test, the correlation coefficients between these factors and the variables of Infopreneurship were0.74, 0.73, 0.75, 0.68 and 0.18 respectively, which were significant at the level of $p < 0.05$. In other words, the greater the benefit of structural, behavioral, context, strategic, and consequential factors, the amount of Infopreneurship is also increased, and as much as the benefit of these factors lessen, the amount of Infopreneurship is less.

Determining the extent to which online information businesses has benefited from Infopreneurship and its factors.

To investigate the extent to which online information businesses have benefited from Infopreneurship and structural, behavioral, Contextual, strategic and consequential factors, a single group t test was used.

Table3

The results of single group T test are to determine the extent to which online information businesses has benefited from Infopreneurship and its factors.

Factors	Mean	Standard Deviation	T-Test Value	df	Sig	Meanings Differences
Structural	3.55	0.42	23.06	319	0.000	0.55
Behavioral	3.33	0.61	9.79	319	0.000	0.33
Contextual	3.58	0.50	20.64	319	0.000	0.58
Strategic	3.66	0.40	29.71	319	0.000	0.66
Consequential	3.43	0.57	13.49	319	0.000	0.43
Infopreneurship	3.51	0.30	30.17	319	0.000	0.51

Table 3 presents the results of a one sample t test to determine the extent to which the online information business has benefited from Infopreneurship and structural, behavioral, contextual, strategic and consequential factors. Based on the data of this table, it can be said that the amount of t statistic observed in the inferential variable and its factors is positive and significant ($p < 0.05$). The rate of infopreneurship use by online information businesses and its related factors is at the higher level of medium or high.

Final Infopreneurship model for online information businesses in Iran

Considering the factors determining Infopreneurship in the online information businesses in Iran, the discovery of the relationship between these factors with respect to the results of the factor analysis was done and based on the outputs of the SPSS and PLS software, the final pattern of the research was designed and presented in Figure 1.

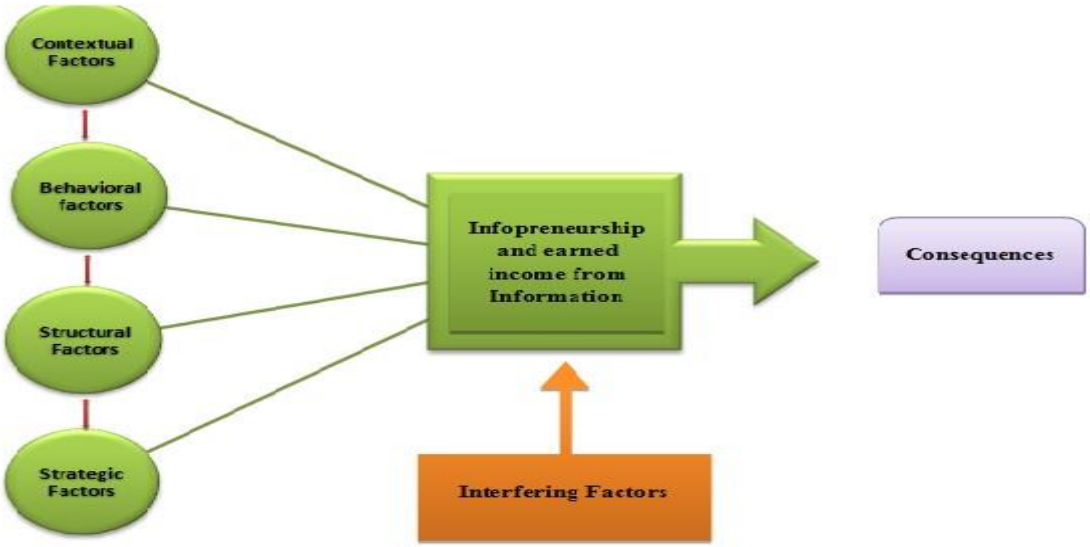

*Figure1.*The final pattern of Infopreneurship in online information businesses in Iran

As indicated in Figure 1, in the general survey model, questions that were removed from the indicators were eventually included as interventional factors (ETS). Also, in order to study the fitting of the final research modeling three stages have been used which include, measurement model fitting, structural model fitting, and overall fitting of the model.

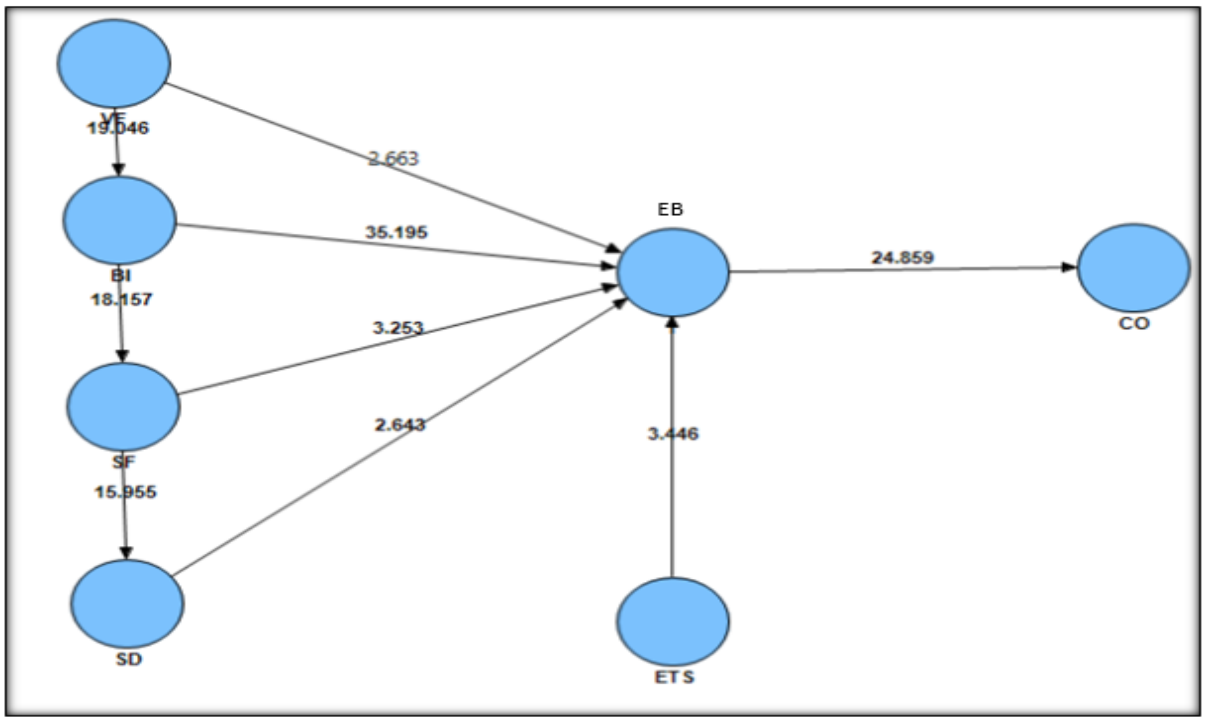

Figure2. Structural research model with significant coefficients

In order to investigate the reliability of the research measurement model, factor coefficients of factor load, Cronbach's alpha coefficients and composite reliability were investigated. The criterion for the factor load coefficients were1.96. As shown in Figure 2, all the factor load coefficients of questions were greater than 1.96, which indicated that this criterion would be appropriate.

In accordance with the data analysis algorithm in PLS, after calculating the factor load loads of the questions, it is time to calculate and report the coefficients of Cronbach's alpha and the composite reliability, the results of which are given in Table 4. Considering that the appropriate value for Cronbach's alpha and the composite reliability is 0.7, and based on the results of Table 4, these criteria have adopted a good value for the variables; the appropriateness of the reliability status of the research can be verified.

Table4

Cronbach's alpha coefficients and Composite Reliability Factor for Research Latent variants

Latent Variants	Symbols	Cronbach's alpha coefficients (Alpha>0.7)	"Composite Reliability Factor" (CR>0.7)
Structural factors	SF	0.86	0.74
Contextual factors	VF	0.98	0.99
Strategic factors	SD	0.88	0.81
Behavioral Factors	BI	0.96	0.97
interfering factors	ETS	0.85	0.87
Consequential Factors	CO	0.84	0.81
Infopreneurship and Earned Income	EB	0.85	0.97

The second criterion is the analysis of the process of measuring models, convergent validity, which examines the correlation of each structure with its own indexes.

Table 5
Convergent Validity Results of Research Variables

Latent Variants	Average extraction variance (AVE>0.5)
Structural factors	0.69
Contextual factors	0.97
Strategic factors	0.66
Behavioral Factors	0.72
interfering factors	0.64
Consequential Factors	0.62
Infopreneurship and Making Money	0.92

Considering that the appropriate value for AVE (Average Variance Extracted) is greater than 0.5 and based on the results of Table 5, this value is more than 0.5 in the case of variables; hence the appropriateness of the convergent validity of the research is confirmed.

Structural modeling of the Z-value coefficients (values of t-values) were based on the research findings and Figure 2, given that the coefficients t for all variables was more than 1.96 were confirmed at 95% confidence level.

The second criterion for evaluating the structural processing model in a research is the R^2 coefficients associated with the latent variables of the model. R^2 is a criterion that indicates the effect of an exogenous variable on an endogenous variable, and three values of 0.19, 0.33 and 0.67 are considered as criteria for weak, moderate and strong R^2 values. Based on Tables 6 and 7, the value of R^2 for the endogenous structure of the research has been calculated. Based on the three values of the criterion, the appropriateness of structural model processing can be verified.

Table 6
R2 benchmark results for structures

Latent variable	R^2
Structural factors	0.77
Contextual factors	0.88
Strategic factors	0.69
Behavioral Factors	0.72
interfering factors	0.30
Consequential Factors	0.89
Infopreneurship and earned income	0.89

To investigate the general model processing, the GOF (Goodness of Fit) criterion is used, with three values of 0.01, 0.25 and 0.36 as weak, moderate and strong values for GOF. This criterion is calculated by the following formula:

$$GOF = \sqrt{communalities \times R^2}$$

And the average of the shared values of the hidden variables of the research is obtained.

Table 7
Communality and R^2 variables of research

Variants	Communality	R^2
Structural factors	0.84	0.77
Contextual factors	0.62	0.88
Strategic factors	0.92	0.69
Behavioral Factors	0.81	0.72
interfering factors	0.90	0.30
Consequential Factors	0.92	0.89

Table 8
General model processing results

GOF	R^2	$Communality$
0.545	0.442	0.672

According to the amount obtained for GOF (Table 8) at a rate of 0.545, the fit is well suited to the general model.

Discussion and Conclusion

The rapid development of modern technologies has affected all aspects of human life, as well as entrepreneurship, and in particular information entrepreneurship or Infopreneurship. This has led to the emergence of a new generation of businesses with the title of knowledgebase businesses and startups in the world. In our country, it is several years now that knowledge base businesses, start-ups and freelancers that make up information and information products have flourished. The present research was conducted by entering into online information businesses in Iran in order to identify the factors and components affecting these businesses and to present of a model in this field. Based on the research findings, structural, behavioral, contextual and strategic factors, along with Infopreneurship outcomes were identified as the factors affecting Infopreneurship in online information businesses in Iran. Identifying these factors confirmed the findings of Bayat et al. (2019). It was also confirmed that among the determined factors, contextual factors had the highest correlation and consequential ones had the least correlation with Infopreneurship. Negative outcomes in addition to influencing the pivotal Infopreneurship phenomenon are in interrelationship with infertility, and they also affect the structural, behavioral, contextual and strategic factors. Besides, the number of online information businesses' benefit from structural, behavioral, contextual, strategic and consequential factors is at the higher level of medium or high. The highest level of utilization was attributed to the contextual factors and the least benefit was derived from behavioral factors. These findings were in contradiction with the findings of Nami (2010) and Saberi et al. (2014). Through these, it can be concluded that since most of the businesses surveyed in the present study are privately owned and, on the other hand, libraries are run by the public sector, so, the effective factors on information Entrepreneurship or Infopreneurship are in accordance with the private sector rather than the public sector.

The presented model in this research describes the mechanisms through which the

information development process is formed in the information business of the country and identifies the opportunities created by the development of information in Iran. Infopreneurs should have special features, abilities and capabilities. They should be firm, pragmatic and flexible in this way. If there are necessary infrastructures to create Infopreneurship and efforts of the Infopreneurs to create information businesses, one can see the formation of Infopreneurship in the country. Infopreneurship is not merely the provision of services in a database, but it is the exploitation and conversion of information and information products into wealth and money. We add value to it by classifying information, and then we will give it to the knowledge seekers. Then this can be one of the most obvious examples of Infopreneurship. This is done by Infopreneurs or knowledge workers, and they are those who are well connected with the basic tools of the computer world, and the most important feature of these individuals is self-learning and also having the knowledge of information literacy to do their job. This means that they have a high level of information literacy, and when they do not know what they can, they would uncover those unknowing materials. Therefore, the presentation and application of new ideas in the absorption and combining of information can be very fruitful. In fact, one of the most important aspects of Infopreneurship is creativity and innovation and their application in this field.

As indicated in the research findings, in this model, all factors affecting Infopreneurship in Iran, including human, scientific, economic, technical, and contextual are considered. The present pattern represents each of the causative conditions in the Infopreneurship context of the country, and also provides strategies for this. In this study, the effects of different components on each other were analyzed and all the factors considered in this model were prioritized. Therefore, the proposed model can be used as a practical guide for all individuals, organizations and private institutes interested in Infopreneurship in the country. Of coerce, an important limitation of the study was the lack of a comprehensive account of all inforenuership businesses in Iran. Therefore, some such businesses might have been missing from the analyses requiring the finding to be generalized more cautiously.

Considering the importance of Infopreneurship in online information businesses, it is vital to look for solutions to direct more attention to this subject area. Therefore, several suggestions based on research findings are presented.

Based on research findings and from the structural dimension, it is suggested that in governmental organizations an appropriate frame be provided for Infopreneurship and then managers be trained to consider information as the most important tool for the development of organizations and in relation to the field of information absorption, instead of using commanding method, use the alignment pattern.

Another important structure in the development of information is the commercialization of information, so that individuals perceive information as a source of income and wealth generation. In order to achieve this goal, legal information providers should be protected and their material and intellectual property should be recognized upon the produced information.

Another infrastructure is the development of information technology in terms of hardware and software. For this purpose, high-speed online access and new information-processing software are essential. Also servers can transfer information to the consumer in the least possible time.

The most important way to develop information is to create an economic process for it, so that people who enter this area can choose information as a job and as a way of earning

money.

Taking Infopreneurship contextual effects, as in developed countries, the use of timely, correct, credible, adequate and up-to-date information is recommended as the most important factor in decision making. In our country and at the level of managers, the process of understanding information and attracting Infopreneurs for the development of organizations will be suggested in the form of instructions and implementing regulations, along with the training of educational workshops on culture of Infopreneurship.

An important point in the strategic direction is to adopt a strategy for enhancing Infopreneurship in universities. Since today universities and science centers are mostly consumers of Western information resources, university centers need to generate knowledge and Lay on Infopreneurship and provide it to different sectors of industry and society.

Regarding that job creation is one of the consequences of Infopreneurship, government officials are advised to look at Infopreneurship as a source of exciting jobs and businesses, and with the full support of experts in this field, the conditions for the entry of knowledge Students of universities Infopreneurship.

References

Alidousti, C., & Khosrojerdi, M. (2012). *Fundamental of Infopreneurship: Entrepreneurship with information and in information services*. Tehran, Iran: Science and Technology Research Center, Chapar. [in Persian]

Analoui, F., Moghimi, S. M., & Khanifar, H. (2009). Public sector managers and entrepreneurship in Islamic Republic of Iran, *Journal of Management Development, 28*(6), 522-532. [in Persian]

Bahmani, A., & Khodaee, I. (2013). Effect of entrepreneurial tendencies of Managers on knowledge management in small and medium enterprises. *Journal of Organizational Behavior Studies, 4* (15), 201-224. [in Persian]

Bayat, B., Babalhavaeji, F., Hariri, N., & Isfandyari-Moghaddam, A. (2019). A grounded theory approach to identifying the influencing Factors and indicators of infopreneurship in Iran. *Library and Information Science Research Journal, 9*(1) in print. [in Persian]

Chandler, S. (2007). *From entrepreneur to infopreneur: Make money with Books, eBooks and information products*. New Jersey: John Wiley & Sons.

Dewah, P., &Mutula, S. (2016). Students' perceptions of the infopreneurship Education in the Department of Records and Archives Management at the National University of Science and Technology. *South African Journal of Information Management, 18* (1). http://dx.doi.org/10.4102/sajim.v18i1.717

Geraeeli Sheikh, R., & Volvi, P. (2014). Investigating the role of information and Communication technology in promoting entrepreneurship. *National Conference on Cooperative Entrepreneurship, Economic Jihad, and Islamic Azad University*. [in Persian]

Gibb, A. (2005).*Entrepreneurship and small and medium enterprise development: Guide to a strategic policy review process and guide to the Development of a strategic plan*. Paris: OECD.

Kazemi, M., & Arjmandinejad, E. (2010). An in-organizational entrepreneurship Study using Stevenson's model. *The First International Management Conference, Innovation and Entrepreneurship*. [in Persian]

Lahm, Robert J., Jr، Stowe, & Charles R. B. (2011). *Infopreneurship: Roots, Evolution and revolution*. The Dream Catchers Group, llc ISSN

Nami, K. (2010). The *creativity and influence of information and communication Technology*. Master's thesis, University of Tehran, Faculty of Psychology And Educational Sciences. [in Persian]

Ocholla, D.N. (1999). Information intermediaries in the next millennium: An Agenda for action for the development of information consultancy and Brokerage in Africa. *Library Management*, *20*(2), 105–114. http://dx.doi.org/10.1177/ 016555159802400203

Ramugondo. Lugisani S. R. (2010). An Exploratory study of infopreneurship as a job option for Library and Information Science students: A literature review. *11th DIS Annual Conference*, 2nd – 3rd September, Richards bay, University of Zululand, South Africa.

Saberi, M. K. (2014). *Designing the Enterprise Entrepreneurship Model of Iran Public Libraries Institute through Structural Equation Modeling (SEM).* PhD dissertation. Islamic Azad University, Science and Research Branch, Tehran. [in Persian]

Saberi, M.K. (2017). Entrepreneurship in information and knowledge science: an exploratory factor analysis. *National Studies on Librarianship and Information Organization*, *28* (3), 29-45. [in Persian]

Salasi, A. (2014). *Influencing factors of infopreneurship through databases*. Master's Thesis, AllamehTabataba'i University, Tehran. [in Persian]

Weitzen, H. S., & Rick Parkhill. (1996). *Infopreneurs, online and global: Taking the hottest business of the '90s into the 21st Century*. USA: John Wiley & Sons.