

A Comparative Study on the Confidence in Venture Creation between MIS Students and Other Business Major Students in the USA

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Abstract

This study was conducted to identify the difference in the level of confidence about venture creation between MIS students and those of other business major in the USA. For this study, data were collected from 70 business students including ANOVA, t-test and multiple regression were employed to analyze the collected data. The results of the study show that MIS students who have interdisciplinary knowledge including IT field and business field, have much higher level of confidence about venture creation. The results of this study suggest that MIS education be required to build an effective entrepreneurship education for business major students.

요 약

본 연구는 미국의 경영정보전공 학생집단과 일반경영전공 학생집단의 창업 자신감에 대하여 서로 어떻게 다른가를 비교 분석했다. 본 연구에 필요한 자료는 미국의 네브라스카 대학교의 경영정보전공 학생들과 일반경영전공 학생들로부터 설문지를 통하여 직접 수집했다. 자료분석은 ANOVA, t-test 그리고 다중회귀분석을 사용했다. 분석결과는 MIS전공 학생들이 일반경영전공학생들 보다 창업에 대한 자신감이 훨씬 더 높았다. 본 연구 결과는 창업에 대한 자신감이 부여되기 위해서는 경영정보교육이 필요하다는 것을 시사하고 있다.

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I. INTRODUCTION

With the evolutionary development of information and communication technology, small venture companies utilizing these technologies are achieving higher competitive advantage than conventional large companies with huge facilities and tools, and most of high values are created by high technology-based venture companies.

It has been historically proven that the people who have strong entrepreneurship have established a powerful country. For example, Spain had controlled Middle and South America for 400 years by the virtue of the entrepreneurship of Queen Isabella, who invested venture capital to adventurous venture creation of a challenging sailor, Christopher Columbus, who discovered the new world. In addition, today's prosperity of the U.S.A economy, which has been strongly supported by entrepreneurial firms, also proves it. Therefore, entrepreneurship education on college students is very important for the future of a nation (Chang & Lim, 2000).

Most of successful venture companies are technology-based firms, and they are contributing significantly to both economic growth and technological innovation of a nation (Jones & Evans, 1995). Although most technology-based companies are led by technical entrepreneurs, interdisciplinary talent, including management skill as well as information technology knowledge is required for being a successful entrepreneur. Therefore, we can assume that the level of confidence about venture creation of MIS students, who are studying interdisciplinary courses consisting of both IT field and management field

are higher than those of other business majors.

So, the purpose of this study is to compare the level of confidence about venture creation between MIS students and those of other business majors, and to give a direction for entrepreneurship education for MIS students by analyzing the result of data analysis.

II. LITERATURE REVIEW

2.1. Definition of Venture Company and Entrepreneurship

Greenberger and Sexton (1988) maintained that new venture creation is an interactive process in which personal characteristics interact with an interpretation of important events in the environment to influence decisions about new venture creation. Lee (1998) defined a venture company as a small and medium sized company based on a high technique characterized by high risk and high return, and he also maintained that all companies with new ideas and techniques are ventures. Timmons (1994) stated following definitions.

- (1) Entrepreneurship is creating and building something of value from practically nothing.
- (2) Entrepreneurship is the process of creating or capturing, pursuing the opportunities regardless of the resources currently controlled.
- (3) Entrepreneurship involves the definition, creation, and distribution of value and benefits to individuals, groups, organizations, and society.
- (4) Entrepreneurship is one of building long-term value and durable cash flow

streams rather than a get-rich-quick proposition.

- (5) Entrepreneurship is a human creative act.
- (6) Venture creation accompanies vision and enthusiasm.
- (7) Venture creation requires positive attitude to risk taking in term of human resources and finance.

This study adopted Timmons' definition because of following reasons.

- (1) Venture creation means challenging something new and this means something creative.
- (2) Venture creation doesn't necessarily require a high technique for its success. For example, simple ideas around our daily lives can give huge benefits and wealth to human society.

Therefore, this paper concluded that Timmons' definition covers all generic meaning of venture creation.

2.2. Characteristics of Venture Creation

According to Timmons (1994), it is very common that venture creations based on teams are more frequent than those based on individuals since it is very hard for technically skilled entrepreneur to have all knowledge for management. And 70-80% of venture firms, which are successful, are based on teams.

The way to create value in new era entitled knowledge-based industry is totally different from that in the past, and creating values in this new era became the main role of a venture company. Therefore the culture of a venture company is different from that of a traditional company. The culture of a venture company has following characteristics.

- (1) Speed for endless competition
- (2) Respect for creative ideas and freedom over the anxiety of failure.
- (3) Patience with accordance with chaos and disorder
- (4) Teamwork and network
- (5) Unexpected and dramatic reward
- (6) Customer satisfaction from bottom line effort.
- (7) High vision and value oriented culture

2.3. The Definition of Entrepreneurship

Low and McMillan (1998) stated that entrepreneurship is creation of a new enterprise. Hill and McGowan (1999) said Entrepreneurship is probably best understood as a process, the constituents of which are the entrepreneur, their present search for opportunities, usually grounded in the market place, and their efforts to marshal the resources needed to exploit those opportunities. Thompson (1999) said, Entrepreneurship is a pattern of behavior, a style of management, which is concerned with obtaining and managing resources to exploit opportunity. Gartner (1985) defined entrepreneurship as the creation of new organization. According to his definition, entrepreneurship doesn't have any meaning after building an organization. But entrepreneurship, which is the source for innovation, can be widely adopted not only for the creation of new organization but also for setting a new vision and business method of existing companies (Gartner, 1996). Therefore, entrepreneurship means introducing innovation to the existing organizations as well as creating new organization.

Moon and Peery (1997) introduced a following function emphasizing risk and reward.

$$\text{Entrepreneurship} = F(\text{reward-risk})$$

According to the literature reviews, entreprene-

urship can be defined as a creative spirit for innovative generation of new values from nothing along with the forecasting of crises and with overcoming them.

2.4. Success Factors for Venture Creation

Even though there is no united definition of factors guaranteeing successful entrepreneurs (Ray, 1993), the results of many studies prove that characteristics of entrepreneurs are playing an important role in successful venture creation. For example, Morrison (1998) proposed person and intuition, and society and culture as the foundation of entrepreneurship initiation. Storey (1994) suggested (1) the characteristics of the entrepreneur, (2) the characteristics of the organization, and (3) the types of strategy associated with growth. So the characteristic of entrepreneurs is one of the most important factors of successful small and medium sized company.

2.5. The Characteristics of Successful Entrepreneurs

Kets de Vries (1996) suggested characteristics for successful entrepreneurial leadership consisting of charismatic and architectural roles for building organization with a clear vision and direction, supported by an appropriate organizational structure and management control and reward systems, making employees empowered and committed. Gilder (1971) stated entrepreneurship requires a life of labor and listening, aspiration and courage. Glancet (1998) maintained that the entrepreneur determine motivations and objectives, which in turn determine the performance of companies. Evans (1997) classified financial considerations, a desire for greater responsibility and control of decision-making and desire for greater personal development as factors for successful entrepreneurs.

Hill (1999) suggested individual commitment, determination, vision, energy, tolerance of risk, and ambition as success factors for venture creation. Watson (1998) stated personal background, motivation for start up, and growth orientations as factors for successful venture creation. According to Morrison's study (2000), a profile of entrepreneur is the one who: is intelligent and analytical; is an effective risk manager and networker; posses a strong set of moral, social and business ethics; exhibit a basic trader's instinct; and is dedicated to life-long learning in its many forms.

2.6. MIS Students and Venture Creation

Technology-based venture companies are contributing significantly to both economic growth and technological innovation. And knowledge about management as well as that about IT is required for being a successful entrepreneur. Therefore we could assume that MIS students, who are studying interdisciplinary courses consisting of both IT field and management field, show higher level of confidence about venture creation than those of other business majors.

The result of many studies also supports this assumption. For example, Glancey (1998) suggested most entrepreneurs are highly educated professionals with managerial experiences. Boussouara and Deakins (1998) also argued that not only high technology but also business mind and sense are required for successful entrepreneurs.

Therefore, this study will identify the difference in the level of confidence on venture creation between MIS students and those of other business majors and give an educational direction for MIS students by interpreting the results of the study.

III. RESEARCH METHODOLOGY

3.1. Data Collection and Research Methodology

Survey was conducted with 70 students of University of Nebraska, Lincoln in the USA who took the courses consisting of business programming, human resource management, and management information systems. Among the samples, 35 students are MIS students and 42 students are students of other business majors. Questionnaires were distributed during the class of fall semester of 1999, and 59 questionnaires were available for the analysis. (Table 1) shows the result of data collection.

Table 1. The Result of Data Collection

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MIS	27	45.8	45.8	45.8
	Others	32	54.2	54.2	100
	Total	59	100	100	

According to the purpose of this study, ANOVA, t-test, and multiple regression were used.

3.2. Definition of Variables

Both students' major and the level of entrepreneurship are used as categorical variables. And the level of entrepreneurship is measured by calculating average score of following variables, which are identified as success factors of venture creation according to the literature reviews.

- (1) optimistic and progressive mind
- (2) responsibility and leadership

- (3) pursuit of change and openness
- (4) creative business mind
- (5) spirit of equality and pursuit of autonomy
- (6) industrious and independent mind
- (7) application of IT

The confidence about venture creation is used as a dependant variable.

3.3. Development of Hypotheses

Entrepreneurship and entrepreneurship education are required not only for MIS students but also for those of other business majors to build a national competitive advantage in the new millennium. Furthermore, MIS education could contribute to the industry if interdisciplinary curriculums of MIS have positive effect on the students' level of confidence on venture creation

According to the purpose of this research, as seen in (figure 1), this study divided a sample group into four groups. In (figure 1), vertical axis represents students' major, and horizontal axis represents the level of entrepreneurship.

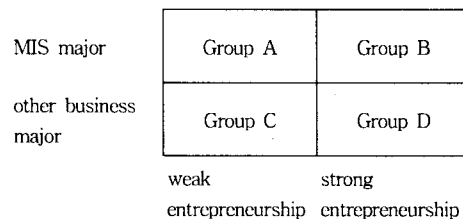


Figure 1.

The meaning of each groups are explained in (Table 2).

Table 2. The Meaning of Each Group

Group	Meaning
A	Students of MIS major with weak entrepreneurship
B	Students of MIS major with strong entrepreneurship
C	Students of other majors with weak entrepreneurship
D	Students of other majors with strong entrepreneurship

Following hypotheses are developed according to the purpose of this study.

- Ho 1: There is no significant difference between MIS students and those of other business majors in terms of the level of confidence about venture creation.
- Ho 2: There is no significant difference between students with strong entrepreneurship and those of weak entrepreneurship in terms of the level of confidence about venture creation.
- Ho 3: There is no significant difference between any two groups from four groups (A, B, C, D) in terms of the level of confidence about venture creation.
- Ho 4: Following factors have significant effect on students' level of confidence about venture creation.
 - H4a: optimistic and progressive mind
 - H4b: responsibility and leadership
 - H4c: pursuit of change and openness
 - H4d: creative business mind
 - H4e: spirit of equality and pursuit of autonomy
 - H4f: industrious and independent mind
 - H4g: application of IT

IV. RESULTS OF DATA ANALYSIS

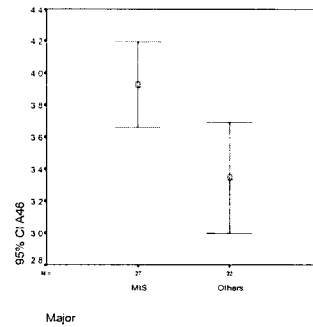
4.1. Test of Ho1

To test Ho 1, t-test between MIS students and those of other majors was employed. (Table 3) shows there is significant difference between MIS students and those of other business majors in terms of confidence about venture creation at

the significant level of 0.00. So, Ho1 is rejected, and we can conclude that MIS students have higher level of confidence about venture creation than those of other business majors. (Graph 1) shows same result.

Table 3. Comparison Based on Majors

	Major	N	Mean	Sig
level of confidence about venture creation	MIS	27	3.93	0.09
	other majors	32	3.34	



Graph 1. 95% confidence interval of mean value of each group

These results imply that MIS students have strong potential of being successful entrepreneurs than other students, thus more educational focus on venture creation is needed both for encouraging confidence about venture creation and for developing MIS students' potential.

4.2. Test of Ho2

To test Ho 2, t-test between students with strong entrepreneurship and those with weak entrepreneurship was conducted.

Table 4. Comparison Based on the Level of Entrepreneurship

	Major	N	Mean	Sig
The level of confidence about venture creation	Students with strong entrepreneurship ()= 3.48)	29	3.90	.014
	Students with strong entrepreneurship ((3.48)	30	3.33	

(Table 4) shows there is a significant difference between students with strong entrepreneurship and those with weak entrepreneurship in terms of the level of confidence about venture creation at the significant level of 0.05. So, Ho2 is rejected, and we can conclude that students with strong entrepreneurship have higher level of confidence about venture creation than those of weak entrepreneurship.

4.3. Test of Ho3

To test Ho3, one ANOVA among 4 groups (A, B, C, and D) was conducted.

Table 5. Test of Homogeneity of Variances
The level of confidence about venture creation

Levene Statistic	df1	df2	Sig.
2.129	3	55	.107

As seen in (Table 5), homogeneity of variances is assumed (P value:0.107 >0.05).

The result in (Table 6) shows that there is a significant difference between any two groups from 4 groups.

Table 6. The Result of ANOVA
The level of confidence on the venture creation

	Sum of Squares	DF	Mean Square	F	Sig
Between Group	6.084	3	2.028	2.792	0.49
Within Group	39.950	55	0.726		
Total	46.034	58			

And the result of multiple comparisons in (Table 7) shows that a significant difference exists between Group B (MIS students with strong entrepreneurship) and C (students of other business majors with weak entrepreneurship).

This result means that both interdisciplinary curriculum of MIS and the level of entrepreneurship have positive effect on the level of confidence about venture creation.

Table 7. Multiple Comparisons

Dependent Variable: A46

	(I)G	(J)G	Mean Differ (I)-(J)	Std. Error	Sig	95% Confidence Interval	
						Lower Bound	Upper Bound
Scheffe	A	B	-5.56E-02	.348	.999	-1.06	.95
		C	.69	.342	.267	-.30	1.68
	B	D	.31	.376	.882	-.78	1.39
		A	-5.56E-02	.348	.999	-.95	1.06
	C	D	.74	.277	.077	-5.41E-02	1.54
		A	.36	.318	.732	-.55	1.28
	D	C	-.69	.342	.267	-1.68	.30
		B	-.74	.277	.077	-1.54	-5.41E-02
	D	A	-.38	.311	.680	-1.28	.51
		B	-.31	.376	.882	-1.39	.78
	A	C	-.36	.318	.732	-1.28	.55
		D	.38	.311	.680	-.51	1.28

4.4. Test of H4

One multiple regression analysis was used to identify the variables influencing students' level of confidence about venture creation. According to the result of data analysis, R square was 48.6%, and F value was 6.890, and equation was significant at the significant level of 0.000. As seen in (Table 8), only "creative business mind" is identified as an important variable, which influence the level of confidence about venture creation, and its p-value was 0.000. Thus, H4d was accepted.

Table 8. The result of Multiple Regression Variables

Variable	Accept	Reject	Hypothesis
Optimistic and progressive mind		X	H4a
Responsibility and leadership		X	H4b
Pursuit of change and openness		X	H4c
Creative business mind	0		H4d
Spirit of equality and pursuit of autonomy		X	H4e
Industrious and independent mind		X	H4f
Application of IT		X	H4g

This result implies that creative business mind is a common factor affecting the level of confidence about venture creation across all groups. So effective education for developing creative business mind are needed to improve the level of confidence about venture creation.

V. CONCLUSION

In spite of the vigorous venture creation in the practical field in the information system and telecommunication sector, no educational research about the entrepreneurship of MIS students has been conducted yet. Thus, this study was conducted to find the difference in the level of confidence about venture creation between MIS students and other business majors.

According to the results of this study, MIS students, who have interdisciplinary knowledge including IT field and business field, have much stronger level of confidence about venture creation. And positive correlation between the level of entrepreneurship and that of confidence about venture creation was identified. Furthermore, MIS students, who has strong entrepreneurship showed the highest level of confidence about

venture creation.

The results of this study suggest the potential of strong synergy effect of the combination of MIS and entrepreneurship education. Thus, effective entrepreneurship education is required for MIS students to develop their potential of being great entrepreneurs and to give contribution to the industry.

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