

Impact of the Implementation of Business Model Canvas (BMC) on Improving Student Entrepreneurship Learning Outcomes

Saidun Hutasuhut¹, Irwansyah¹, Agus Rahmadsyah¹, M. Fachry Nasution¹ and Reza Aditia²

¹Faculty of Economics, Universitas Negeri Medan, Medan –Indonesia

²Postgraduate Student, Universitas Negeri Medan, Medan -Indonesia

Keywords: Entrepreneurship Learning, BMC, Learning Outcomes

Abstract: Student entrepreneurial intentions in Indonesia are still low and need to be improved. One of the many way to do this is to organize entrepreneurship education. However, what kind of entrepreneurship education model that is considered useful still needs to be developed. This study tries to teach entrepreneurship by implementing Business Model Canvas (BMC) because it is believed to be able to increase knowledge that will have an impact on increasing student entrepreneurial intention. The method used in this study is a quasi-experiment involving two classes of entrepreneurship courses at the Universitas Negeri Medan Economics Faculty. One class as an experimental class (BMC) and the other one as a control class. Hypothesis testing is done by the "t" test. The results of the study showed that BMC could be implemented well and received a very good response from students. The learning outcomes of the BMC application class proved to be significantly different from the learning outcomes in the control class. The learning outcomes of the BMC class are higher than the control class.

1 INTRODUCTION

The number of civil servants applicants for 2018 is 4,081,203 while the available formations are only 238,015 (Kompas.com, 11 November 2018). This condition illustrates how high the public interest is to become civil servants. This situation illustrates that entrepreneurial intentions are still low. The orientation of the community is still more likely to find work than to create their own jobs. Students as one component in it should be more rational and critical to get civil servants formation that limited. Knowledge, insight and critical power possessed by students should be more oriented towards developing their own business rather than fighting for very limited job vacancies. This phenomenon is the impact of the low intention of student entrepreneurship as explained by Indarti & Rostiani (2008). Student entrepreneurial intentions in Indonesia are still weak. Then when viewed in August 2015, 11.97% of unemployed people in Indonesia were college alumni. Furthermore, research by Hutasuhut (2016) also supports that only 25.53% of students are ready for entrepreneurship even after receiving additional education..

Entrepreneurship education is increasingly calculated to improve the economy of a country. According to Sirelkhatim & Gangi (2015) entrepreneurship education is one of the fastest growing education fields globally. In Indonesia, entrepreneurship education has been taught at the education level from high school to college. Entrepreneurship education is expected to contribute to improving the culture of an entrepreneurial society. The extent to which entrepreneurial education affects students is still a matter of debate in various circles (Fiet, 2000). The debate is related to the accuracy and effectiveness of entrepreneurship teaching methods (Westhead, Storey, & Martin, 2010); (Westhead et al., 2010).

According to (Jack & Anderson, 1999) teaching entrepreneurship education aims to integrate science (business and management competencies) and art (eg, creative and innovative thinking). Entrepreneurship learning, in an academic context especially at universities, is based on theoretical aspects and practical knowledge (Heinonen & Poikkijoki, 2003). Research results by Allan A. Gobb (2015) show that in developing entrepreneurial behavior we need a process that includes the identification of traits related to

entrepreneurship, both in the form of skills and attributes inherent in entrepreneurship.

According to P. Kyrp, (2003) entrepreneurship education must be directed at learning activities that can improve understanding, knowledge about business and entrepreneurship for people who want to become entrepreneurs. The level of knowledge that students have on entrepreneurship readiness influences their desire for entrepreneurship. For this reason, entrepreneurship education on campus must be designed for learning activities that can internalize entrepreneurial character values. However, entrepreneurial learning has so far been minimal in variety and not many use models that lead to the formation of values (affection). Entrepreneurship learning models at the vocational school level are generally lectures, product selling assignments, and observations (Winarno, 2009). As a result, the effectiveness of learning still needs to be questioned in developing entrepreneurial attitudes and character. Research results by Rahayu Wening Patmi (2008) strengthen the condition that entrepreneurial learning has no significant effect on entrepreneurial attitudes. Furthermore, Priyanto, (2010) states that entrepreneurship learning has not significantly produced entrepreneurs, and the products that are generated from entrepreneurship education are "craftsmen" and thinkers only".

In this study, entrepreneurship education was taught by applying the Business Model Canvas (BMC) introduced by Alexander Osterwalder. BMC is a way to make a business plan by documenting it in 1 page with nine business area blocks. The goodness of this model can be used for all types and business models, accelerating to know the strengths and weaknesses of the business, the process of analyzing needs and profits is done quickly. Then, according to Türko, (2016) the use of BMC allows companies to increase revenue and profits. The application of BMC in entrepreneurship learning aims to improve knowledge or learning outcomes.

2 THEORETICAL FRAMEWORK

According to Raposo & Paço, (2011) entrepreneurship since the last three decades has emerged as an economic power in the world. This encourages the importance of research on entrepreneurship education. Entrepreneurship education is increasingly important because according to Raposo & Paço, (2011) entrepreneurship education provides knowledge in the form of; (a) the ability to recognize opportunities, (b) the ability to take advantage of opportunities, generate new ideas and find the

resources needed, (c) the ability to make and operate new devices, and (d) the ability to think creatively and critically. In addition to knowledge and skills in business, entrepreneurship education also mainly develops beliefs, values, and attitudes, and aims to make students confident and consider entrepreneurship as an alternative to employment or as unemployed (Jose Sanchez, 2011).

Entrepreneurship education is essential to help increase entrepreneurial intentions (Nowiński, Haddoud, Lančarič, Egerová, & Czeglédi, 2017). Their findings explain the importance of entrepreneurship education given to students because it provides knowledge and can change one's mindset. According to Robles & Zárraga (2015) Entrepreneurship education can influence the attitudes and aspirations of young people towards entrepreneurship. The level of knowledge (learning achievement) possessed will have an impact on entrepreneurial intentions as explained by Dogan & Ebru (2015) that there is a significant positive correlation between student achievement in the classroom and entrepreneurial intentions.

Furthermore, according to Ismail et al., (2009) states that entrepreneurship course, Tessema Gerba D (2012); Premand, Brodmann, Almeida, Grun, & Mahdi Barouni, (2016) entrepreneurial education influence entrepreneurial intentions. According to Dehghanpour (2015) added that by completing an entrepreneurship course it could increase entrepreneurial intentions by 1.3 times. Then, according to Martin et al (2013) found a significant relationship between Entrepreneurship and Training Education (EET) with the formation of human capital assets related to entrepreneurship. Furthermore, Nursito et al., (2013) states that entrepreneurship education will shape students' entrepreneurial knowledge and have a positive and significant effect on entrepreneurial intentions. So Barba-Sánchez & Atienza-Sahuquillo, (2017) suggest integrating entrepreneurship education into technical education to increase entrepreneurial intentions. Priority for entrepreneurship education to develop entrepreneurial attitudes, skills and entrepreneurial behavior (Dogan & Ebru, 2015).

Business Model Canvas (BMC) Learning

One document that must be prepared before running a business is making the right business plan. Alexander Osterwalder introduced a business model, Business Model Canvas (BMC). BMC is an abstract concept design of a business model that represents business strategies and processes (Pigneur, 2010). BMC is a draft concept of how to make a business plan by documenting it in 1 page with nine business area blocks. The BMC model in learning

entrepreneurship is considered relevant for making a business plan.



Figure 1: Business Model Campas (Foundry, B. M.,2014).

The BMC model can overcome student difficulties in making a feasible business plan and at the same time be able to know the strengths and weaknesses of the business, the process of needs analysis and rapid profit analysis. Those nine blocks are consists of: (1).Customers Segment, (2) Value Proposition, (3).Customer Relationship, (4) Channel, (5) Revenue Stream, (6) Key Resource, (7) Key Activities, (8) Key Partnership, (9) Cost Structure. For more detail can see figure 1.

3 RESEARCH METHOD

This study uses an experimental method, carried out at the Economics Faculty, Universitas Negeri Medan. The study population was all entrepreneurship classes at the Economics Faculty, Universitas Negeri Medan in the odd semester 2018. The sample class was determined by two classes. One class as BMC treatment (experimental class) and one other class as the control class and determined by purposive random sampling.

Indicator of BMC Quality

To assess the quality of learning with Business Model Canvas (BMC) curriculum quality criteria were proposed by Nieveen (1999), namely (a) validity, (b) practicality, and (c) effectiveness. The way to test the learning model is presented in Table 1.

Table 1: BMC Quality Testing

Assted Aspect	Instrume nt	Assess or	Assted Material	Crit eria
Students respond	Observati on sheet	Studen ts	devices and implemen tation of BMC	

Practical ly of model	Observati on sheet7	Expert	Implemen tation	
Effectiveness of model	Test	Resear ch subject	Learning outcomes	

Data Analysis Technique

To find out whether the BMC model is useful for improving learning outcomes is carried out by the "t" test. To facilitate the calculation of the data used SPSS assistance.

Result and Analysis

The reaction principle of the applied BMC model first looks at student responses to the design and implementation of BMC, and the results are presented in Table 2.

Table 2: Student responses to BMC Learning Tools and Implementation

Aspect	Respond	
	Satisfied	Unsatisfied
Respondents' feelings about the component		
Subject matter	100	0,00
Applied BMC model	100	0,00
Students' work sheet (business plan)	100	0,00
Learning atmosphere	100	0,00
Lecturer appearance	100	0,00
The way lecturers teach	100	0,00
Average (%)	100	0,00
	New	Not new
The respondents opinion to the component		
Subject matter	83	17
BMC Model	97	13
Learning atmosphere	79	21
Lecturer appearance	79	21
The way lecturers teach	86	14
Average (%)	85	15
	Clear	Unclear
Respondent's opinion about the language used in:		
BMC Worksheet	100	0,00
Test	93	7

Average (%)	96,55	3,50
	Interesting	Not interesting
Respondents' opinions about the intent of each question/problem presented in:		
BMC Worksheet	100	0,00
Test	86	14,00
Average (%)	93	7,00
	Interesting	Not interesting
Respondents' opinions about appearance (writing, tables/pictures and location of		

The results are given by the observer on all aspects of the observation starting from the preliminary stage, the core activity, closing, managing the time and atmosphere of the class are on an average score greater than 4 in the excellent category. This explains that the application of BMC can be implemented well and is feasible to apply to teach entrepreneurship courses.

To find out whether the data are normally distributed, the normality test results are obtained, and it is obtained that the learning outcome data meets the conditions under which Asymp. Sig. (2-tailed) 0.200 > of 0.05 as described in Table 3. Furthermore, the homogeneity test results by looking at the significance value of 0.619 > 0.05 means that the two groups of learning outcomes of the experimental class and the control class are homogeneous.

Table 3: Normality test

One-Sample Kolmogorov-Smirnov Test		
	Learning outcomes	
N		64
Normal Parameters ^{a,b}	Mean	66,5194
	Std. Deviation	10,12468
	Most Extreme Differences	
	Absolute	,086
	Positive	,079
	Negative	-
		,086
Test Statistic		,086

tables/images) contained in:		
BMC Worksheet	93	7
Test	86	14
Average (%)	89,50	10,50

Student responses to the application of BMC viewed from each aspect turned out to be 100% happy, 85% said new, 96.55% said the language used was clear, and 93% understood. Furthermore, 89.5% of students asked for the application of the BMC model to be interesting, and only 10.50% stated that it was less attractive.

Asymp. Sig. (2-tailed)	,200 ^{c,d}
a. Test distribution is Normal.	
b. Calculated from data.	
c. Lilliefors Significance Correction.	
d. This is a lower bound of the true significance.	

Table 4: Test of Homogeneity of Variances

Learning outcomes			
Levene Statistic	df1	df2	Sig.
,249	1	62	,619

Table 5: Group Statistics

	Class	N	Mean	Std. Deviation	Std. Error Mean
Learning outcomes	BMC	33	70,3710	9,68869	1,68658
	Control	31	62,4194	9,02505	1,62095

Table 6: Hypothesis testing

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
		Learning outcomes	Equal variances assumed	,249	,619	3,392	62	,001	7,95166	2,34451
	Equal variances not assumed			3,399	61,997	,001	7,95166	2,33924	3,27558	12,62773

Based on Table 6 it is known that the application of entrepreneurial learning with Business Model Canvas (BMC) proved to be significantly different

from learning outcomes with the control class. Learning outcomes seen from the mean class of BMC are higher than the mean of control classes. The findings of this study are in line with research by Raposo & Paco (2011) which states entrepreneurship education provides knowledge about recognizing opportunities, utilizing opportunities, creating and operating new devices and the ability to think creatively and critically. Furthermore, Robles & Zagara (2015) added that entrepreneurship education can influence the attitudes and aspirations of young people towards entrepreneurship. Then, Raposo & Paco (2011) states the same thing that entrepreneurship Education can increase knowledge, improve skills, competencies, and attitudes that can determine future career choices. Furthermore, they suggest entrepreneurship education and training should be more concerned with changing attitudes than knowledge because the effect can be more significant in business creation and the ability to overcome obstacles in entrepreneurship. Nursito & Nugroho (2013) also stated that entrepreneurship education shapes students' entrepreneurial knowledge and positively and significantly influences entrepreneurial intentions. Sirelkhatim & Gangi (2015) mapped the content and methods of teaching entrepreneurship education in three themes; first, providing theoretical content about entrepreneurship and teacher-centered teaching methods with the aim of increasing students' awareness of entrepreneurship as a career choice, the second and third themes of teaching through the practice of entrepreneurship which aims to inherit entrepreneurship and learn more student-centered, and designed to build entrepreneurial skills. This will create an environment where students can emulate real business situations or really allow them to start or contribute to the business creation.

4 CONCLUSIONS

Entrepreneurship learning with BMC can run well in class and get an excellent response from students. Classes taught with BMC proved higher learning outcomes than the control class. Entrepreneurship learning needs to be taught with models that encourage the internalization of the entrepreneurial character. One model that can be used is Business Model Canvas.

REFERENCES

- Allan A. Gobb. (2015). The Enterprise Culture and Education, Understanding Enterprise Education and Its Links with Small Business, Entrepreneurship and Wider Educational Goals. *International Small Business Journal*, 11(3), 11–34.
- Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2017). Entrepreneurial intention among engineering students: The role of entrepreneurship education. *European Research on Management and Business Economics*, 24(1), 53–61. <https://doi.org/10.1016/j.iedeen.2017.04.001>
- Dehghanpour, A. (2015). The process of impact of entrepreneurship education and training on entrepreneurship perception and intention : Study of educational system of Education + Training Article information ;, (April 2013). <https://doi.org/10.1108/ET-04-2013-0053>
- Dogan, & Ebru. (2015). the Effect of Entrepreneurship Education on Entrepreneurial Intentions of University Students in Turkey. *The Journal of Entrepreneurship*, 23(1), 1–18. <https://doi.org/10.1177/0971355713513346>
- Fiet, J. O. (2000). THE THEORETICAL SIDE OF TEACHING ENTREPRENEURSHIP, 9026(99), 1–24.
- Heinonen, J., & Poikkijoki, S. (2003). An entrepreneurial-directed approach to entrepreneurship education : mission impossible ?, (2002). <https://doi.org/10.1108/02621710610637981>
- Hutasuhut, S. (2016). Model pengembangan pembelajaran kewirausahaan berbasis dunia usaha (PKBDU) untuk meningkatkan jiwa entrepreneur dan hasil belajar mahasiswa UNIMED. Universitas Negeri Medan. Medan.
- Indarti, N., & Rostiani, R. (2008). Intensi Kewirausahaan Mahasiswa : Studi Perbandingan Antara Indonesia , Jepang dan Norwegia Intensi. *Jurnal Ekonomika Dan Bisnis Indonesia*, 23(4), 1–27. <https://doi.org/10.22146/jieb.6316>
- Ismail, M., Khalid, S. A., Othman, M., Jusoff, H. K., Rahman, N. A., Kassim, K. M., & Zain, R. S. (2009). Entrepreneurial Intention among Malaysian Undergraduates. *International Journal of Business and Management*, 4(10), 54–60. <https://doi.org/10.5539/ijbm.v4n10p54>
- Jack, S. L., & Anderson, A. R. (1999). Entrepreneurship education within the enterprise culture Producing reflective practitioners, 5(3), 110–125.
- Jose Sanchez. (2011). The influence of entrepreneurial competencies on small firm performance. *Revista*

- Latinoamericana de Psicología, 7(2), 239–254.
- Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28(2), 211–224. <https://doi.org/10.1016/j.jbusvent.2012.03.002>
- Nieveen, N. (1999). Prototyping to Research Product Quality. In *Design Approaches and Tools in Education and Training*. Kluwer Academic Publisher.
- Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czeglédi, C. (2017). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, 5079(August), 1–19. <https://doi.org/10.1080/03075079.2017.1365359>
- Nursito, S., Julianto, A., & Nugroho, S. (2013). Analisis Pengaruh Interaksi Pengetahuan Kewirausahaan Dan Efikasi Diri Terhadap Intensi Kewirausahaan. *Kiat Bisnis*, 5(2), 148–158.
- P. Kyrp. (2003). Entrepreneurship Pedagogy-The Current Public and Some Future Expectations. In the 3rd European Summer University.
- Pigneur, A. O. and Y. (2010). *Business Model Generation A Handbook for Visionaries, Game Changers, and Challengers*.
- Premand, P., Brodmann, S., Almeida, R., Grun, R., & Mahdi Barouni. (2016). Entrepreneurship Education and Entry into Self-Employment among University Graduates. *World Development*.
- Priyanto. (2010). Penyusunan Model Pendidikan Kewirausahaan untuk Level Pendidikan Formal dan Non Formal. Salatiga.
- Rahayu Wening Patmi. (2008). Pengaruh Lingkungan Tempat Tinggal, Intensitas Pendidikan Ekonomi Keluarga dan Pembelajaran Kewirausahaan Terhadap Motivasi Usaha dan Sikap Kewirausahaan. Universitas Negeri Malang.
- Raposo, M., & Paço, A. (2011). Entrepreneurship education: Relationship between education, 23(2001), 453–457.
- Robles, L., & Zárraga, M. (2015). Key Competencies for Entrepreneurship. *Procedia Economics and Finance*, 23(October 2014), 828–832. [https://doi.org/10.1016/S2212-5671\(15\)00389-5](https://doi.org/10.1016/S2212-5671(15)00389-5)
- Sirelkhatim, F., & Gangi, Y. (2015). Entrepreneurship education: A systematic literature review of curricula contents and teaching methods, 1–11. <https://doi.org/10.1080/23311975.2015.1052034>
- Türko, E. S. (2016). Business Plan Vs Business Model Canvas in Entrepreneurship Trainings: A Comparison of Students' Perceptions. *Asian Social Science*, 12(10), 55.
- Westhead, P., Storey, D. J., & Martin, F. (2010). Entrepreneurship & Regional Development: An International Outcomes reported by students who participated in the 1994 Shell Technology Enterprise Programme. *ENTREPRENEURSHIP & REGIONAL DEVELOPMENT*, (December 2014), 37–41. <https://doi.org/10.1080/08985620010018273>
- Winarno, A. (2009). Pengembangan Model Pembelajaran Internalisasi Nilai-Nilai Kewirausahaan pada Sekolah Menengah Kejuruan di Kota Malang.