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To cite this article: Triyanto *et al* 2019 *J. Phys.: Conf. Ser.* **1273** 012049

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Bussines model canvas of teaching factory fashion design competency Vocational High School in Yogyakarta

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Abstract. Directorate of Technical and Vocational Education Ministry of Education and Culture encourages Indonesian Vocational High School to to apply teaching factory learning concept to bridge education with industry needs. The aims are direct touch of students to industry system, bring students and teachers industry experience, industry supports to improve school facilities and minimize the gap between the needs of industry competence and knowledge of the school. At the completion of teaching factory students should be able to working properly and having entrepreneurship experience. This study aims to describe the teaching factory at fashion design vocational high school viewed from the aspects of the Business Model Canvas. There are the nine building blocks Business Model Canvas, among others Customer Segments, Value propositions, Channel, Customer Relations, Revenue Streams, Key Resources, Key Activities, Key Partnerships and Cost Structure. This study used qualitative methods. Modeling by interviews using the Business Model Canvas building block. The results showed that should be improve in terms of the formation of new segmentation, exted distribution chanel to digital world, addition of value to the product, creating a customer relationship trough social media, key activities involving technology, partnership and networking, optimize resources and competent human resources placement As well as the improvement in terms of financial records.

1. Introduction

The Indonesian Central Statistics Agency (BPS) announced that vocational school graduates (SMK) have a large proportion of the unemployed among educational institutions. Unemployment among Indonesian vocational high school graduates is a government concern. By the Presidential Decree in 2016, The revitalization program of Vocational High Schools in Indonesia have been started. The aims revitalizing SMK are to make students become more competence and competitive that their skills matching the needs of the world of work [1].

High unemployment rate indicates mismatch between the quality of vocational school graduates and industrial needs. The mismatch are caused by lack of teachers industrial training, lack of facilities and industrial equipment, poor of quality teaching and learning, lack of budget, and lack of employability skills. To reduce the gap, The Minister of Education through the Directorate General of Vocational High School Development (DPSMK) launched teaching factory learning model. Teaching factory is industry-based learning concept (products and services) through synergy between school and its industry partners to produce competent graduates [2].

The learning model is a work integrated learning approach by facilitating learning process with produce real products, real work situation and real bussiness activity for generate benefits for schools, student and employer. The teaching factory model are characteristic by : (1) Producing a real product to the market according industry procedure and quality standart to competency achievement ; (2) School Laboratory or workshop facilities layout reflects real world of work; (3) Habituation of corporate



culture while character building in the school ; (4) Adoption of manual and standar operating procedure from industry in the teaching and learning practices.

According to guideline from DPSMK [2] , there are 7 element for implementation of teaching factory in SMK consisting of : (1) Relayout Laboratory or workshop to reflect real work environment ; (2) Whats product will be produce to competency achievements ; (3) Teaching and Learning Model ; (4) Human Resources ; (5) Management Commitment ; (6) Industrial Partnership ; (7) Customer relationship/promotion.

The problem implementation of teaching factory program is not uniform in each SMK [3]. SMK has not fully following policy and the guideline. There are diferent problems in every school with human resource, budget, parnertship, workshop/laboratory square, equipment, scheduling, marketable product, management, financial administration and team work. When the teaching factory correctly implemented, it will be improving student work experience ready in terms of the skills needed for work , entrepreneurship skills and their attitude order to interact with people in the workplace. They are many succes story implementation teaching factory in SMK like Honda and Yamaha Service Center in SMKs , Cooperation between Edotel (SMK Training Hotel) and Industry Partners, Metal fabrication production line in SMK Mikael, Retail shop franchise in SMK business centers, and Cooperation between SMK and agriculture products processing Industry [4].

In term teaching factory, students directly practice in the laboratory/workshop by producing goods or services that can be sold to consumers. In another sense, during learning process both theoretical and practical, student are learning real industry activity from production shop, marketing and corporate culture. Based on the term and the various initial teaching factory programs that have been implemented, the study focuses on describes bussines model of teaching factory. The business model is consist of nine building blocks in the basis to create Business Model Canvas (BMC). The nine building blocks are customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure [5].

2. Methods

This study used a qualitative research approach. This research used observation and a interview with the person who have responsibility to manage implementation of teaching factory program. The researcher is as instrument to develop and extended some question based on nine building blocks in the basis to create Business Model Canvas (BMC)

Based on research objectives. The sample is determined by purposive sampling technique. The samples of this research is 2 private SMK bussines and tourism skills program on fashion design competency in Yogyakarta. They have different model implementation of teaching factory. The one was implemented base on DPSMK guideline and the other was implemented base on self model suported by Corporate social responsibility program (CSR). Qualitative approaches were used to analyze data. Content analysis was used for qualitative data from the observation and interviews. The procedure of this study show in Fig. 1.

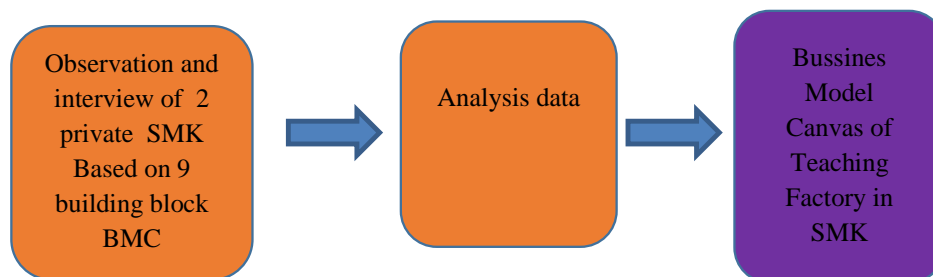


Figure 1. Describe the research procedure

3. Results and Discussion

In the Teaching factory learning model, SMK should setting the workshop layout close to real working situation and condition in the workplace. The resulting product have a industry quality standar and meet customer need. For habituation of industrial culture, They must Applying the principle of occupational health and safety and using industry standard operational procedure at each stage of the learning process.

3.1. Description teaching factory at SMK A

SMK A is one of the best vocational secondary education fashion design program in Yogyakarta. They are one of 125 SMK/VHS which have mandate as pilot project to implementation of revitalization program form DPSMK. One of the program is apply teaching factory in the teaching and learning process. All tourism skills program such as beauty treatment, cullinary , fashion design, hotel, tour and travel bussines at SMK A have implemented teaching factory in learning process. The teaching factory program in SMK A was develop by guideline from DPSMK. The production in teaching factory program integrated in teaching and learning process in classroom/workshop. The student was learner and worker. For detail description, base on observation of 7 element of implementation see table 1.

Table 1. Seven elements of teaching factory implementation at SMK A

Element	Description
1. Relayout Laboratory or workshop to reflect real work environment	<ul style="list-style-type: none"> - Teaching factory was set up like apparel manufacture - Production equipment use industrial stnadard machine such as pressing machine, high speed sewing machine, and other - The layout didnt reflect real work environment.
2. Whats product will be produce to competency achievements	<ul style="list-style-type: none"> - The resulting product is a school uniform for own student - Didnot have standar quality document like in industri. - The working process to assembling garment like in apparel industry by assembling component
3. Teaching and Learning Model	<ul style="list-style-type: none"> - The structure of model involve four steps : Product development, prototyping, prototype evaluation, mass production - The learning media is jobsheet - Block and semi block schedulling
4. Human Resources	<ul style="list-style-type: none"> - Teacher - Student - Expert from apaprel industry
5. Management Comitment	<ul style="list-style-type: none"> - Have a structure oragnisation - CommitmentSuport from principle - Financial suppor by DPSMK
6. Industrial partnership	<ul style="list-style-type: none"> - Apparel manufacture in yogyakarta
7. Customer relationship/promotion	<ul style="list-style-type: none"> - Direct marketing - Technopark as showroom

3.2 Description teaching factory at SMK B

SMK A is vocational secondary education fashion design program which supported by Corporate Social responsibility from one of automotive company in Indonesia. Teaching factory in SMK B is one year incubating business program for their fresh graduate but the product inline with when they was study in School. The teaching factory program links with teaching and learning processing at school. The production in teaching factory program did not integrated in teaching and learning process in workshop. The student was learner linked with alumni activity in the taching factory. For detail description, base on observation of 7 element of implementation see table 2.

Table 2. Seven elements of teaching factory implementation at SMK A

Element	Description
1. Relayout Laboratory or workshop to reflect real work environment	<ul style="list-style-type: none"> - Teaching factory was set up like home industry/butique - Production equipment use industrial standard machine such as pressing machine, high speed sewing machine, and other - The layout didnot reflect real work environment.
2. Whats product will be produce to competency achievements	<ul style="list-style-type: none"> - The resulting product is a apparel made from written batik which create by their student - Didnot have standar quality document like in industri. - The working process to assembling garment by whole garment like in bouique or tailor - Have a brand
3. Teaching and Learning Model	<ul style="list-style-type: none"> - Expert from fashion designer engage in teaching and learning process as guest lecture and mentor fro design and production - The learning media is jobsheet - Linkes student learning activity with poduction in teaching factory/bussines incubator which alumny working in.
4. Human Resources	<ul style="list-style-type: none"> - Teacher - Student - Fashion designer
5. Management Comitment	<ul style="list-style-type: none"> - Batik artisan from village arround the school - Have a structure oragnisation - Commitment Suport from principle
6. Industrial partnership	<ul style="list-style-type: none"> - Financial support by CSR program - Collaboration with batik artisan community
7. Customer relationship/promotion	<ul style="list-style-type: none"> - Direct marketing - Have Gallery as showroom at School - Fashion show - Competition - Trade exhibition - Have a gallery locatted in Jakarta

3.3 Bussines Model Canvas

The business model is a system of resources and activities, which create a value that is useful to the customer and the sale of this value makes money for the company [6]. In 2010, Osterwalder, Pigneur and Smith was developed Busssines Model Canvas (BMC). The BMC is visualization tool of business model which describes the rationale of how an organization creates, delivers, and captures value using

nine components: customer segments, customer relationships, distribution channels, value proposition, key resources, key activities, partners, cost structure and revenue streams . The BMC describes the relation among the business owners and their partners as well as their customers that can clearly shows all the components bussines model and their interconnections [7] (Fig. 2).

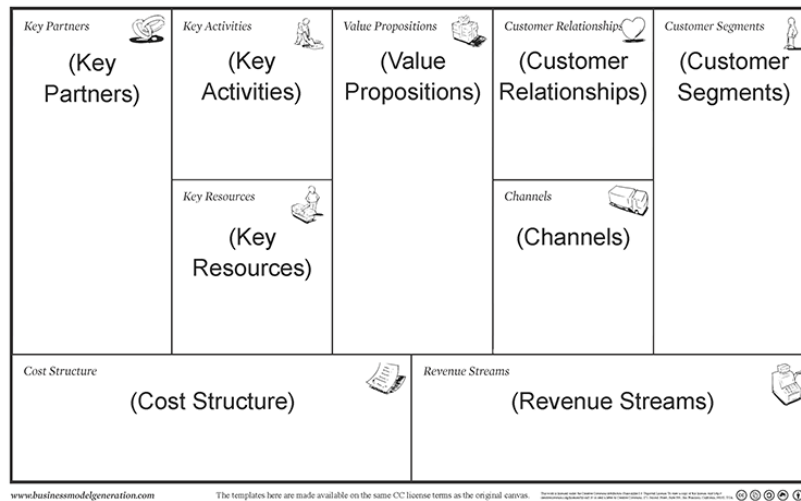


Figure 2. Nine building block of bussines model canvas.

3.4 Description Bussines Model Canvas at SMK A

According data collection form interviews and observation, The BMC for SMK is shown in Figure 3.

Key Partner Fabric suplier Apparel Manufactur School Committe	Key Activity Design Patern and Cutting Sewing Finishing Distribution	Value Propotion Product : School uniform Tailor Services Value: Low Price Hight Quality Fashionable	Customer Relationship Direct Contact	Customer Segmen Their School Other School
	Key Rersource Industrial Sewing Laboratory Technopark Student Teacher Routine School Budget		Chanel Technopark and Laboratory at school	
Cost Structure: Material Cost Electricity Cost Maintenance Cost Sallary			Revenue Stream: Make by order School Uniform Tailor services Funding from revitalization Program	

Figure 3. Bussines Model Canvas for SMK A

3.5 Description Bussines Model Canvas at SMK b

The BMC for SMK B is shown in Figure 4.

Key Partner Local Batik artisan Fashion Designer Local Government Fabric Suplier Batik Lover Community CSR from Company	Key Activity Design Written Batik Patern and Cutting Sewing Finishing Marketing Fashion Show Exhibition	Value Propotion Product : Written Batik Tailor Services Apparel using Batik Cloth Value : Low price High Quality Fashionable Have a brand	Customer Relationship Direct Contact Social Media	Customer Segmen Internal customer Worker at CSR Company Local Government Staff Batik Lover Community
	Key Rersource Industrial Sewing Laboratory Technopark Student Teacher Routine School Budget		Chanel Gallery and Laboratory at School Gallery at Jakarta Trade Exhibition Fashion Show	
Cost Structure: Material Cost Electricity Cost Maintenance Cost Marketing Cost Sallary		Revenue Stream: Selling batik Cloth Tailor services Funding from CSR		

Figure 4. Bussines Model Canvas for SMK B

Business model canvas are reveal the visual ideas describing a bussines model of teaching factory implementation at both SMK. Figure 3 and 4 are shown SMK B have more closely bussines activity when they are compare using nine building block of bussines canvas model. If we are compare using the guideline form DPSMK with 7 element implementation of teaching factory, SMK A have more in line with the guideline because the production integrated in the teaching and learning process.

4. Conclusions

Teaching factocy at SMK fashion design competency in Yogyakarta have 2 model for iplementation. First model is base on guideline from Directorate of Technical and Vocational Education Directorate General of Primary and Secondary Education Ministry of Education and Culture where SMK produce a product integrated in reguler teaching and learning with industrial partnership. Second model is teaching factory as bussines incubator for one year program after graduation mentoring by fashion designer which have suply chain system with reguler teaching and learning process.

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