

## DEVELOPMENT OF OFFSET-BASED PRINTING BUSINESS MODEL

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**Abstract:** The application of a business model in offset printing is one of the keys to facing competition. The tight competition is not only limited to the quality of the prints produced, but also to customer service and market gain. The purpose of this research is to develop an offset-based printing business model. The analysis was carried out using the Business Model Canvas (BMC) and strength-weakness-opportunity-threats (SWOT) approaches. Data were obtained based on literature studies, field observations, and expert interviews. BMC is used to model the offset-based printing business development. While the SWOT approach is used to analyze internal and external factors that affect the offset-based printing business. The results of this study have obtained 13 elements that need to be applied to the printing business. It is time for an offset-based printing business model to shift from one that concentrates on production to one that focuses on the digital market, both through websites and social media applications.

**Keywords:** business model, BMC, offset printing, SWOT, digital market

**Abstrak:** Penerapan model bisnis pada percetakan offset menjadi salah satu kunci untuk menghadapi persaingan. Ketatnya persaingan tidak hanya sebatas pada kualitas cetak yang dihasilkan, namun juga pada layanan pelanggan dan perolehan pasar. Tujuan penelitian ini adalah mengembangkan model bisnis percetakan berbasis offset. Analisis dilakukan menggunakan pendekatan Business Model Canvas (BMC) dan strength-weakness-opportunity-threats (SWOT). Data diperoleh berdasarkan studi literatur, observasi lapang, dan wawancara pakar. BMC digunakan untuk memodelkan pengembangan bisnis percetakan berbasis offset. Sementara pendekatan SWOT digunakan untuk menganalisis faktor internal dan eksternal yang mempengaruhi bisnis percetakan berbasis offset. Hasil penelitian ini telah memperoleh 13 elemen yang perlu diterapkan pada bisnis percetakan. Model bisnis percetakan berbasis offset sudah saatnya beralih dari yang konsentrasi terhadap produksi menjadi konsentrasi terhadap pasar digital baik melalui website maupun aplikasi media sosial.

**Kata kunci:** model bisnis, BMC, percetakan offset, SWOT, pasar digital

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## INTRODUCTION

In various countries, the printing industry has become a strategic sector in contributing to improving the economy (Ainul et al. 2017). However, the printing industry has changes. The development of the times and technology puts pressure on the printing business, especially offset-based printing. According to data from the *Badan Pusat Statistik* in 2019, the Printing and Media Recording Reproduction Industry increased by 19.58% compared to the previous year (BPS, 2019). However, entering the current digital era, offset-based printing business players are decreasing. This is because offset-based printing business actors are less adaptive, making it difficult to compete (Kontan, 2019). On the other hand, this is an opportunity that causes increasingly fierce competition between certain printing business actors. In addition to getting customers, printing businesses also compete to get the latest technology so that they can provide greater production capacity, ease of production activities, and better quality (Wiranata and Haryadi, 2013).

Offset-based printing businesses can compete if they have a business strategy. Business strategy is needed as a competitive strength and business growth. Before implementing a business strategy in the printing business, business actors must first understand the technology that is currently developing, the production process and the right target market (Wiranata And Haryadi, 2013). One of the business strategies that can be applied to the offset printing business is the business model canvas (BMC) with a strength, weakness, opportunity, threats (SWOT) approach.

Based on previous research searches, it was found that BMC was used to propose a new business model design to be applied to one of the new business units of CV OAG which produced spinach chips (*Keripik Bayam*) (Rukka et al. 2018). There are nine elements of BMC that can help to identify elements that need improvement in determining business strategy. Research by (Herawati et al. 2019) uses BMC to develop the best business model for the fried edamame business located in the value proposition block, customer segment, revenue stream, and channels. The study of Zulkarnain et al. (2020) has succeeded in determining 6 blocks which are the priority proposals from BMC at PT Pitu Kreatif Berkah printing, namely customer segments, customer relationships, channels, key activities, key partnerships and cost structure. However, this study

aims to analyze all BMC blocks with the integration of the SWOT approach. The results of the SWOT approach analysis can be used for future offset printing business strategies.

## METHODS

Field observations are direct observations of business activities that occur in the offset print-based packaging industry in the South Jakarta, Central Jakarta, East Jakarta, and Bekasi areas. Field observations were carried out through cluster sampling data collection methods. Direct interviews are obtaining information or confirming research results directly to stakeholders who are directly involved in the packaging printing industry. Respondents were selected through stratified random sampling data collection techniques. Expert assessment is asking for expert opinion (practitioners and academics) in justifying an assessment of an assessment of various factors to improve production efficiency in the packaging industry. This part is done through the purposive sampling technique.

This research uses descriptive qualitative research with the BMC method and SWOT approach. The object of this research is 2 medium-scale offset printing and 3 small-scale printing. The research began by conducting a literature study, field observations and expert interviews regarding the offset printing business. Data were obtained through literature study, field observation, and expert interviews. Business model identification is carried out using the BMC and SWOT approaches. The results of the BMC and SWOT analysis are used for the development of a printing business model. BMC blocks that have a priority strategy will be implemented as a proposed offset printing business strategy. The research framework can be seen in Figure 1.

BMC is a business model that is able to describe the condition of the company in a simple and comprehensive manner. BMC can describe the resources and activities carried out by the company to increase value and generate profits so as to obtain a more effective and efficient business strategy (Chandra, 2016). BMC is not only used to describe current business conditions but can also be used to create new business strategies (Nugraha and Triyono, 2020). Long-term business strategy can also be mapped using BMC, so that it can develop the business to be stronger and able to compete (Hermawan, 2020).

BMC consists of 9 blocks of which:

- 1). Customer segments are a person or group of customers who are prioritized to be served. Usually the company will target the customer segment in accordance with the value propositions that will be offered by the company (Linovhr, 2020).
- 2). Value propositions are products or services from companies that create value and points that can bring benefits to customers. Usually value propositions can be a determinant of the success of a business to face competitors (Kurniasari and Kartikasari, 2018). Value propositions serve to explain the advantages offered by the company to customers and their advantages compared to competitors (Fernando et al. 2020).
- 3). Channels are media used by companies to establish relationships with customer segments in providing value propositions (Kurniasari and Kartikasari, 2018).
- 4). Revenue streams are the flow of funds generated from various activities that provide added value to the company (Kurniasari and Kartikasari, 2018).
- 5). Customer relationships are a type of relationship that a company builds with a particular customer segment. Companies need to pay attention to customer relationships so that customers do not easily turn to competitors who have the same product or service (Linovhr, 2020).
- 6). Key resources are the most important assets needed by the company to make the business run such as human resources (HR), equipment, and equipment (Linovhr, 2020).
- 7). Key activities are the most important things the company must do to make the business run (Zulkarnain et al. 2020). Key activities are also various activities that provide added value for the company in facing competition with competitors (Linovhr, 2020).
- 8). Key partnerships are network of suppliers and partners that make the business model work (Zulkarnain et al. 2020). The printing business usually deals with suppliers of raw materials such as paper, printing ink, various kinds of rollers, glue, plastic, yarn, and wire (Wiranata and Haryadi, 2013; Putri, 2014). In addition to suppliers of raw materials, companies also need to relate to suppliers of tools and machines supporting production activities (Sidarta, 2013).
- 9). Cost structures are all costs incurred to operate the business (Zulkarnain et al. 2020). Companies need to manage expenses in running a business in order to avoid the risk of loss (Linovhr, 2020).

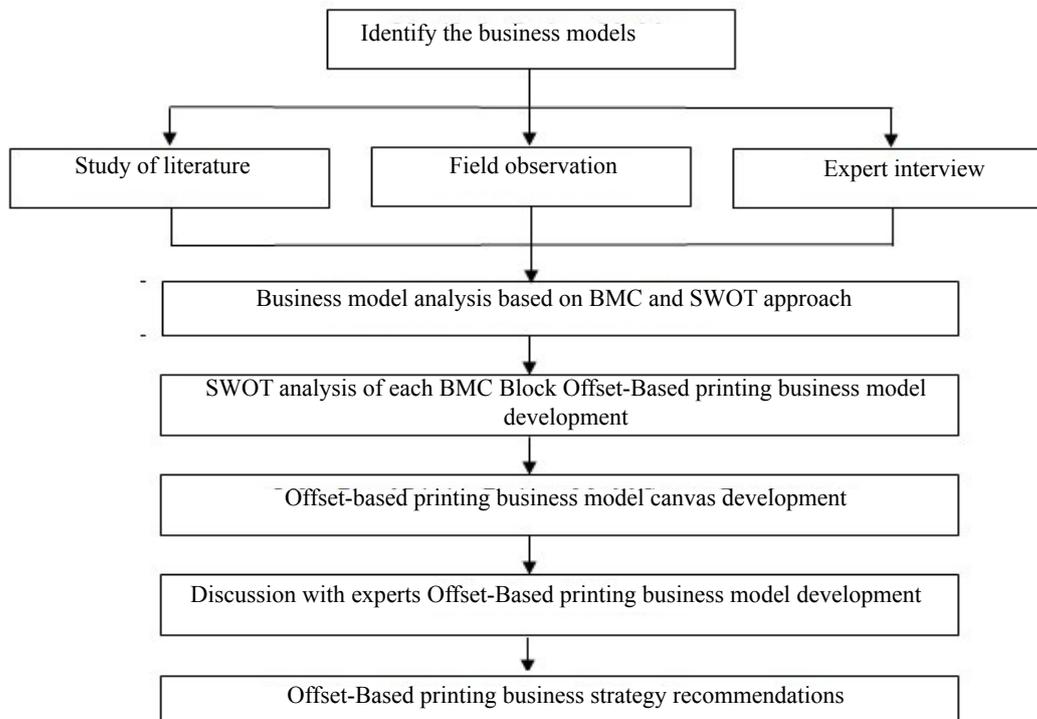


Figure 1. Research framework

SWOT is a tool to identify the company's strengths and weaknesses and the opportunities and threats that exist. The company's strengths and weaknesses are factors caused by the company's internal factors, while the opportunities and threats are factors caused by the company's external factors. SWOT analysis can provide 4 perspectives to assess business elements (Suhartini, 2012).

SWOT analysis is a formulation tool used to identify and recognize different factors based on analysis to increase strengths and opportunities, but at the same time can overcome weaknesses and threats in formulating strategic planning companies (Wicaksono, 2018; Sharma and Sehwat, 2020).

## RESULTS

### Identify the Business Model

The offset-based printing business model based on the BMC and SWOT approaches is explained into 9 BMC blocks, namely:

#### 1. Customer Segments

Customer segments are usually based on the use of prints owned by the printer (Sidarta, 2013). The customer segments that are prioritized for printing at this time are customers who have regular orders. If offset-based printing only relies on customer segments from regular customers, gradually this will boomerang for printing in the future. This is because many competitors are targeting the same customer segment (Margomo, 2018).

#### 2. Value propositions

The superiority of the company's products or services can be seen in various forms, namely competitive product prices by prioritizing product quality and the print production process is carried out according to the agreed time period (Sidarta, 2013; Suhartini, 2012). The value propositions of offset-based printing will increase along with the use of machines with the latest technology and a competent workforce. However, value propositions that are almost the same as competitors pose a threat to offset-based printing itself, coupled with the emergence of new printing technologies that offer better quality prints.

#### 3. Channels

Printing businesses can provide services to customers through direct communication (Sidarta, 2013), or use simple print media to reach customers such as brochures and newspapers (Putri, 2014). Even printing business people can take advantage of word of mouth from customers who have used printing services to other potential customers (Rahmana et al. 2021). Regarding the development of printing channels, direct communication has limitations in conveying information so that to facilitate the distribution of information, printing needs to take advantage of the use of digital media.

#### 4. Revenue streams

Offset-based printing earns a steady income from a number of customers. However, income is still volatile every month because the company only relies on revenue from the MTO production system (Sidarta, 2013).

#### 5. Customer relationships

Printing builds customer relationships with direct communication, so that printing can really understand customer desires.

#### 6. Key resources

Key resources in the printing business include existing facilities and infrastructure, usually in the form of physical assets, namely buildings, furniture, computers/laptops as well as machines supporting production activities in the preprinting, printing and finishing sections (Putri, 2014). In addition, printing can also have assets to support the company's operational activities such as trucks and cars (Wiranata and Haryadi, 2013). Another key resource is human, namely human resources with the ability to carry out printing business activities such as in the fields of purchasing, manufacturing, delivery orders, marketing, customer service, and financial management (Putri, 2014). Simply put, printing can run its business processes with HR aspects consisting of marketing, finance, and operations (Sidarta, 2013). However, offset printing currently lacks a competent workforce in the field of printing so that printing presses need to recruit workers with graphic education backgrounds.

7. Key activities

Printing usually carries out prepress activities including typesetting, artwork preparation, image assembly, plate making, printing activities and post-printing activities including finishing and packaging and even carrying out integrated delivery activities at once (Putri, 2014).

8. Key partnerships

Printing companies will usually deal with many suppliers to meet the raw materials for the production process, including paper, printing ink, various kinds of rollers, glue, plastic, thread, and wire (Wiranata and Haryadi, 2013; Putri, 2014). In addition to suppliers of raw materials, companies also need to relate to suppliers of tools and machines supporting production activities (Sidarta, 2013). Printing businesses need to

consider collaborating with many suppliers because of fluctuating raw material prices.

9. Cost structures

Printing has fixed costs and variable costs, namely, fixed costs in the form of initial investment, employee salaries, internet, electricity, water, fuel, taxes, insurance, advertising and promotion costs and variable costs including the purchase of raw materials. In addition, printing usually has an investment budget for purchasing the latest machines. However, budgeting investment costs will certainly increase the cost of printing expenses.

The factors that influence the business model of each BMC block based on the SWOT approach can be seen in Table 1.

Table 1. The results of the SWOT analysis of each BMC block

Blok	SWOT factor			
	Strength	Weakness	Opportunity	Threats
Customer Segments	The customer segments for offset-based printing is an upper-middle class business that is loyal to this printing business, so that it can provide benefits for the company because of purchases in large quantities with cooperation contracts within a certain period of time (Wijaya, 2017).	Limited printing only relies on fixed customers.	Expansion of customers through digital media such as websites and social media (Sidarta, 2013).	Many competitors are targeting the same market so that the competition in the printing industry is getting tougher.
Value Propositions	Companies can meet customer satisfaction from quality prints, print perfection, and timeliness according to deadlines (Sidarta, 2013).	Requires more capital to fulfill the value proposition.	Printing can use a competent workforce and the latest machines to support the quality of print production.	Competition with competitors who offer lower prices with competitive quality, the emergence of other new printing technologies with better quality.
Channels	Utilizing the distribution of information through direct communication, simple print media, and customer word of mouth.	Printing cannot reach a wider customer segment.	Utilize the use of digital media as a means of promotion.	The same channels as competitors.
Revenue Streams	Obtaining regular income from a number of customers.	Income still fluctuates every month.	Printing has the opportunity to add other key activities so as to increase revenue.	Competition with competitors who offer lower prices with competitive quality.
Customer Relationships	Communication is done directly to understand customer desires.	Lack of conveying information about discounts or promotions to customers (Suhartini, 2012).	Printing has the opportunity to serve customers through digital media.	There is no cooperation contract with the customer.

Table 1. The results of the SWOT analysis of each BMC block (Continue)

Blok	SWOT factor			
	Strength	Weakness	Opportunity	Threats
Key Resources	Facilities and infrastructure that support the course of business activities.	Lack of competent personnel in their respective fields.	Availability of graphic education graduates.	There are workers recruited by other companies.
Key Activities	Integrated printing activities starting from preprinting, printing, and post-printing.	The production process in printing still produces a lot of waste.	Innovation in activities that add value to printing.	Production activities in the printing business, which are almost the same as competitors, make it easy to imitate.
Key Partnership	Collaborative relationships with many suppliers to fulfill inputs for activities in printing.	Prices of raw materials from suppliers are fluctuating (Zulkarnain et al. 2020).	There are many suppliers of raw material.	Suppliers can also cooperate with competitors.
Cost Structures	Have a budget for the investment costs of new machines.	Increased investment and operational costs.	Looking for an alternative machine with a capacity and quality cost that suits your printing needs.	The use of the latest machines must be accompanied by experts in their fields.

### Business Model Canvas Development

Several aspects of business model development from the BMC block that can be carried out by printing business players include, in the customer segment block, it can be done by expanding customers through the digital market so that offset printing can reach a wider range of customers. Printing can use a make to order production system as well as a make to stock (MTS) production system, thus enabling offset printing to acquire new customer segments. Channel blocks can be developed by direct promotion or using websites and social media applications. In addition, promotions can also be carried out by utilizing the customer get customer program so that offset printing can have more networks with other companies/communities. While the customer relationship block can be done by providing customer service for marketing through digital media. Promo and discount programs with certain criteria can be embedded in personalization and digital marketing services. Offset printing business people can increase key resources by recruiting workers with graphic education backgrounds. Key activities can be carried out by integrating pre-printed, printed, post-printed, and computerized controlled delivery activities. Furthermore, promotional activities can be carried out directly through social media applications and websites. Printing can increase the key partnership by adding suppliers to avoid dependence on one supplier.

In addition, printers can also cooperate with collectors for the sale of by-products (Waste) of offset printing production activities.

Printing can continue to improve the value proposition by ensuring the suitability of the prints as requested (Correctness), the perfection of the prints (Completeness), and the timeliness of printing with the specified time (Effectiveness). In addition, printing can offer after sales service to customers with several terms and conditions to minimize the risk that customers fear (Putri, 2014). Increase revenue streams from revenue from design services, prepress services, printing services, print finishing services, delivery services, and sales of production waste such as paper, printing plates, films, and pallets. In addition to income from production with the MTO system, printing can also expand revenue from production with the MTS system. Offset printing usually has a cost structure in the form of initial investment, employee salaries, costs for purchasing raw materials, internet, electricity, water, fuel, taxes, and insurance. For business development, printing needs to have a budget for investment in the latest machines that support production capacity and quality. For details regarding the development of offset-based printing BMC, see Figure 2. The gray color in each block is part of the BMC development, while the yellow color is a business element that has been applied to the printing business.

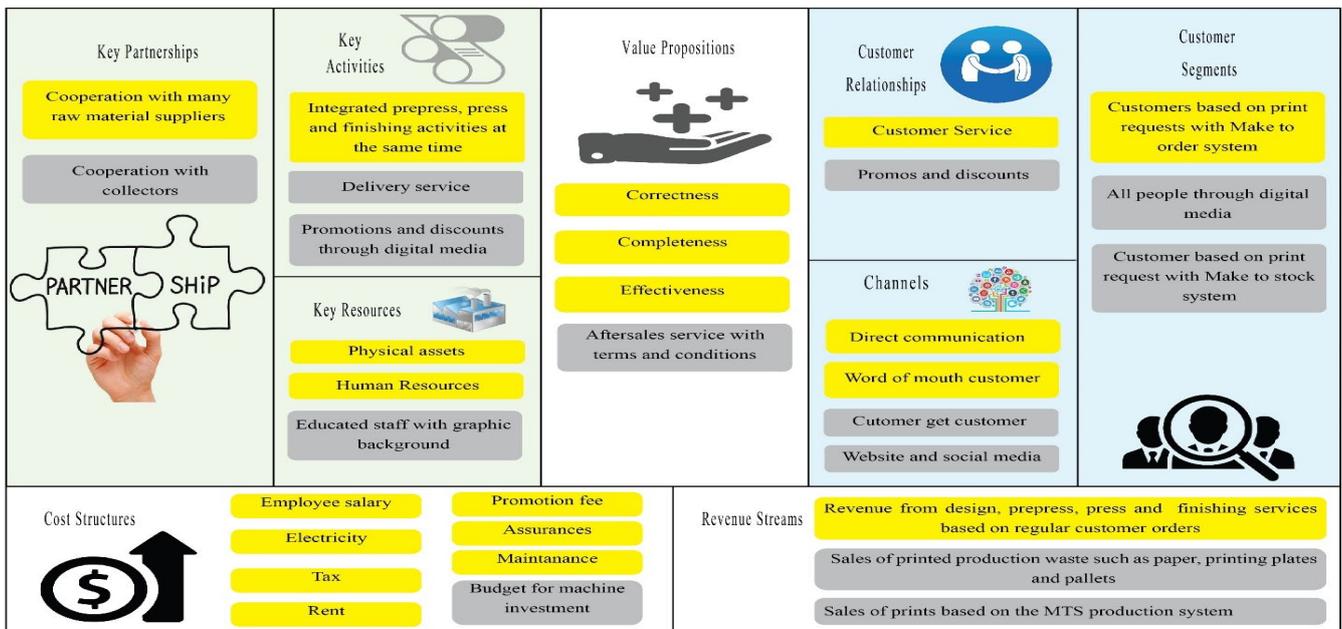


Figure 2. Development of BMC

According to expert opinion, the suggested alternative strategy for offset printing business development based on BMC analysis is to use a key resource block strategy. This is due to the need for workers with graphic backgrounds to support printing business activities in the future.

### Managerial Implications

This research has succeeded in providing a printing business model so that it needs to be an enlightenment, especially for micro-scale printing businesses. Micro-scale business actors need to understand the 9 blocks of business models that influence corporate decision making. Printing business people can take advantage of BMC in the results of this research to be applied to their printing business. Furthermore, printing business players must be able to communicate the company's decisions to partners who play a role in the printing business process.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Offset-based printing needs to implement business model development, especially in the customer segments block by developing the market through promotions on the website and social media and printing can use a make

to order production system as well as a make to stock (MTS) production system. In the value propositions block, printing can offer after sales service to customers with several terms and conditions to minimize the risk that customers fear. Customer relationships can be done through the provision of promos or discounts to large and loyal customers. In the key resources block, it is done by recruiting educated workers with graphic education backgrounds. Then the key partnerships block is done by increasing cooperation with collectors. Key activities are developed by promoting through digital media in real time and offering delivery services. Cost structures have increased due to the cost of machine investment. It is time for an offset-based printing business model to shift from one that concentrates on production to one that focuses on the digital market, both through websites and applications

### Recommendations

Further research can be done by designing an integrated printing business model performance measurement. The printing business model has been successfully recommended, but in the process of implementing the business, business people need to understand the technical aspects of implementing an appropriate offset-based printing business model. Business people must pay attention to these technical matters so that the development of micro-scale companies becomes better and more professional.

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