

Propose Customer Development Framework for Cloud-Based Enterprise Resource Planning (ERP) Start-up

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Abstract. *Information Technology (IT) role in business has been enabling faster analysis and more reliable decision making, and it has been the backbone for the industry's competitive factor. However, full-scale Enterprise Resource Planning (ERP) software are still too costly for small and medium enterprises. Company X wanted to build the disruptive integrated Business Process Management software that could be accepted by wide range of business. Putting great efforts on product development before launching, the founders had not probed the problems from the customer's point of view. This research approached the Company's problem with customer learning and discovery from Customer Development Model. The approach includes testing the hypotheses of the customer – problem-solution fit, and product-market fit by interviewing several businesses, with the Javelin Validation Board (Lean Startup Machine) was used to help the iteration of validation process. The result of the hypotheses validation includes: narrowing customer target segment, splitting the features to several modules to be sold separately, and adding customer support team. Company X needs to narrow the customer target segment to be small and medium scale enterprises (SME) which had not settled with complex system and just about to gain more control over their operations.*

Keywords: *Business model, customer development, customer-problem-solution, lean startup, product-market fit*

1. Introduction

Businesses have tapped more substantial potentials of the IT role. There are 3 (three) types of IT and business alignment (Weiss, Thorogood, & Clark, 2007): (1) IT as technical resource (the lowest level of alignment where IT applies to administrative operations, e.g. recording transaction in the warehouse); (2) IT as business enabler (where IT is used to promote cost reduction and operation efficiency (Vossen, 2014)); and (3) IT as strategic weapon (optimization to use IT as the focal strength of the company thus strategically superior). Unfortunately, for the small and medium enterprises (SMEs) in Indonesia, those advantages of IT in business are still far beyond the reach due to: (1) economic concern (e.g. limited budget) and (2) familiarity issues (conventional ERP system is considered too complicated) (Saputro, Handayani, Hidayanto, & Budi, 2010).

For SMEs, the determining factors in adopting SaaS ERP includes vendor reputation, software fit to the business, potential willingness of the vendor to support customer, and the vendors' participation in co-creation of value for customer (Seethamraju, 2015). Integration is also one of the common requirements in SaaS adoption (Sun, Zhang, Chen, Zhang, & Liang, 2007).

Company X was established in 2016 as a start-up in an integrated Business Process Management system software. This line of business was decided only by the mutual interest and skillset of the 5 founders. The founder team had agreed to ship the product and start selling in January 2017; however, despite the efforts of developing the product; still no customer would consume the product. As one of the co-founders of Company X, author had both direct access to past steps taken by the company as the source of internal analysis and keen interest to apply scientific

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approach and tools to propose solution for steps taken in the immediate future.

This writing will be divided in to three section: (1) analysis of business situation (in which the current internal and competitor condition be analyzed), (2) root causes analysis (using cause-effect diagram) and (3) business issue exploration (in which will be discussed the concept of lean startup and customer development).

2. Literature Study

Popularised by Eric Ries and Steve Blank, Lean Startup mandated accelerated validated learning based on the cycle of build, measure, and learn. The idea was to help the businessman to address the uncertainty of finished product sales in advance by using minimum viable product (MVP). Validating the hypotheses by MVP would save resources from being wasted on developing products which are not saleable. Using the idea of lean startup, the studies were conducted to explore the action needed to improve the approach of experiment-driven software product and service development (Lindgren & Münch, 2016) and (Fagerholm, Guinea, Mäenpää, & Münch, 2017). The customer development model is a four-step framework to discover and validate whether the market had been

identified, the customer needs having been built into products, the method of acquiring customers had been tested and the right scale of the business had been deployed (Cooper & Vlaskovits, 2010). The main idea from the customer development theme is the systematic process of gaining insights from customer to learn what efforts work and what efforts do not work as soon as possible (Frisk, 2014).

Research by Aberdeen Group offered the in-depth and comprehensive look for the SMEs in utilising ERP as a source of cost-saving, operational improvements, and streamlining business process to gain the best-in-class performance (Jutras, 2010). Adoption of ICT will also enhance SMEs exposure to the international market (Ongori & Migiro, 2010). For SME in Indonesia, the perceived benefits of the software would be significant factor of e-commerce adoption (Rahayu & Day, 2015).

3. Methodology

In order to be objective, despite the position as the co-founder of Company X, in this research the author acted as a business consultant to the company X. The conceptual framework of this writing is divided into 3 steps as depicted in Figure 1.

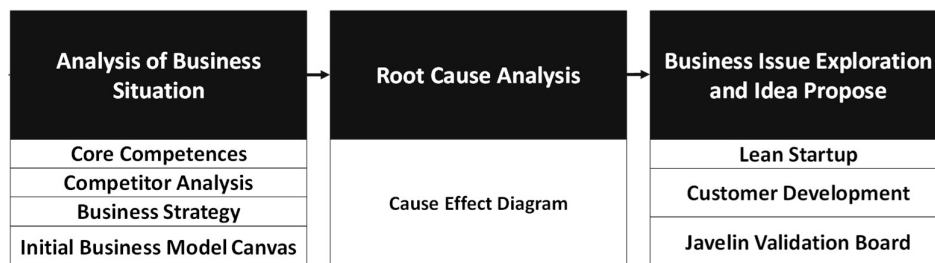


Figure 1. Conceptual Framework

This concept is intended to capture the current condition and problems in the company X so far, also to obtain external factors which affect the company, and then to plan the steps to remedy the internal situation. As the first step, the analysis was done using

core competencies analysis, external analysis, literature studies, and mapping the current approach taken by Company X into business model canvas. In the next step, the result from previous step was compiled in a root causes analysis. After that, for future actions,

interview had been done to some of the prospects. Because the product would be sold by business-to-business (B2B) channel, the interviews were delivered to business entities. The author assumed that by querying 10 businesses would be able to capture the first business prospects for company X, given current capacity of the company X. These initial users are to be maintained while at the same time company X grows its capacity. The interview was conducted to a group of selected respondents which has following criteria: (1) The company is a small to medium scale of business, (2) The company is in operation at the time of interview, so the hypotheses developed above could be crosschecked with the real situation inside the company, and (3) The interviewee has decision power over his company in terms of IT system selection. The inquiries to the respondents were formed qualitatively to homogenous group of respondents (3 criteria above). The author needs to maintain the originality of the first-hand interview to gather as much as information as well as suggestions and expectation. Although relatively small, the sample had fulfilled the inquiries prepared by the author in the Javelin Validation iterations.

4. Finding and Discussion

Core Competencies Analysis

Core competencies are capabilities that serve as a source of competitive advantage,

*Table 1
Discovering Core Competencies*

Resources / Capabilities	Is Valuable?	Is Rare?	Is Costly to imitate?	Is non-substitutable
Innovation	Yes	Yes	Yes	No
Personnel committed to create value through bringing IT to wider reach.	Yes	Yes	No	No
Personnel experienced in large business process setting	Yes	No	Yes	No

distinguish the company from rivals, reflect its personality, and emerge over time through an organisational process of accumulating and learning how to deploy different resources and capabilities (Hitt, Ireland, & Hoskisson, 2011).

Each resource and capabilities are evaluated based on four categories: valuable, rare, costly-to-imitate, and non-substitutable. Valuable capabilities allow the firms to exploit opportunities or neutralise threats in its external environment. Rare capabilities are the capabilities that few competitors possess. Costly-to-imitate capabilities are capabilities that other firms cannot quickly develop. Non-substitutable capabilities are capabilities that do not have strategic equivalents.

At the moment of this research was conducted, Company X was still searching its competitive advantage towards the competition landscape which offers cheap production cost for the IT-based start-up. Company X currently still do not have any non-substitutable resources. There are only 3 (three) categories of core competencies which are met by current condition of Company X as depicted in Table 1. So, based on the classification of core competencies above, the most prominent resource of Company X is its spirit of innovation to bring a more affordable IT service to a broader public.

Competitor Analysis

The competitor analysis is supposedly to help the firm prepare an anticipated response profile for the competitor. Table 2 summarizes the competitors of Company X.

Those competitors have advantages over Company X because they had been in business for a while which means more settled consumer base, brand awareness, and proven business model.

Table 2.

Competitors Summary (Techinasia.com, n.d.) (Wijaya, 2016) (Crunchbase.com) (SAP Tawarkan Solusi Terintegrasi untuk UKM: Harga Terjangkau, Aplikasi Mudah, 2016)

Competitor	Current strategy	Future objectives	Strength and Weakness	Licensing
SAP Business One (Full Scale ERP)	Targeting to help more Small and Medium Enterprises (SMEs) to grow their business	Continue growth driven by the SAP HANA platform, cloud computing and e-commerce business	(+) Experiences in delivering ERP products. (-) Expensive.	Subscription Fee
MOKA (POS)	Simple and easy-to-adopt solutions by accessing cloud-based POS system.	Accessible to everyone, and empower local businesses to grow.	(+) Easy to implement (-) Focused development	Subscription Fee
Talenta (HRM)	Providing one stop dashboard where clients can store all of their HRM needs.	Serve more than 10,000 companies in 5 years which means more than 200,000 employees	(+) User friendly Dashboard (-) Focused development	Subscription Fee
Jurnal.id (Accounting)	Fulfilling small and medium businesses needs in Accounting with international standard.	Serve more companies and government agencies	(+) Attractive and easy to use (-) Focused development	Subscription Fee

The Initial Business Model Canvas

The initial business model canvas was depicted in Figure 2.

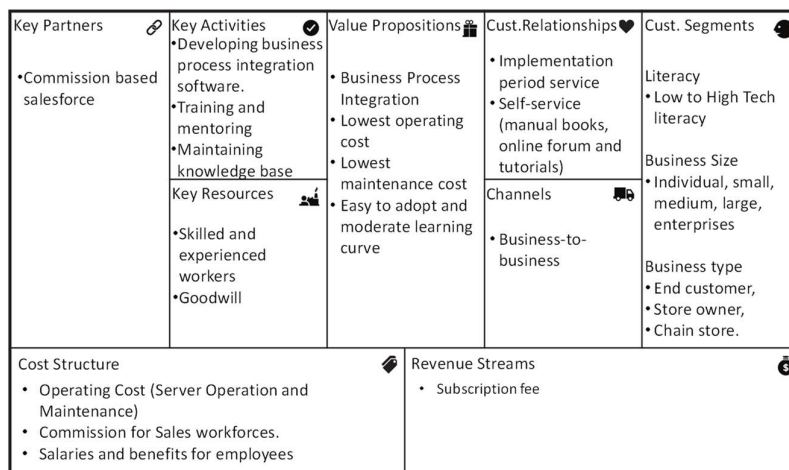


Figure 2.

The Initial Business Model Canvas

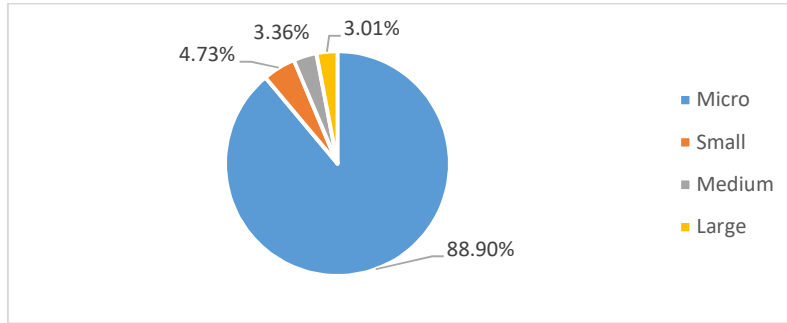


Figure 3
 Proportion of Workforce in the Micro, Small, Medium and Large industry in Indonesia in 2013 (Perkembangan Data Usaha Mikro, Kecil, Menengah (UMKM) dan Usaha Besar (UB) tahun 2012-2013, 2014)

The product which is developed by Company X was based completely on the online platform: users interact with the Company X system using web browsers directly to the Company X’s servers. This scenario limits the accessibility of the product because it requires user to be connected to internet in order to use it.

Related to the target market segment, the initial business model targeted a wide array of customer segments from a low level of technology literacy (users which preferred pen and paper to computers for recording information) to the advanced users, individual businesses to enterprises, and any type of business.

Financial Aspect

Cost per User

Cost per user is calculated as a total of cost of operation divided by the number of users and also the amount of expense which will be budgeted as a portion of revenue. The calculation is described in detail in Table 3. For example, in the beginning, Company X rented server to host both the application and database. The server rent costs USD 5 / month and estimated to handle 50 users simultaneously, so the calculated cost for server rent is USD 0.1/user/month or IDR 1,000/user/month (with the exchange rate assumption of IDR 10,000 / USD).

Table 3.
 Calculating Monthly Cost per User

No	Component	Cost Type	
		Fixed (IDR/user)	% of revenue
1	Server Rent (50 user per server)	1,000	
2	Backup Database	100	
3	Backup Image	200	
4	Server Monitoring	500	
5	Log Management	400	
6	IT Infrastructure Engineer	800	
7	Buy Proprietary Library / Procedure		2%
8	Pay Freelancer/Supplier for Library / Procedure		2%
9	Donate MIT for implemented Software		1%
10	Programmer	5,000	
11	Partner fee (or any other project based cost)	30,000	

12	Training/Documentation Material		2%
13	Customer Relation Staff	2,000	
14	Affiliate		10%
15	Sales & Marketing Expense (Ads, sales team)		15%
16	Sales & Marketing Staff	2,000	
17	Miscellaneous	10,000	
TOTAL COST		52,000	32%
Expected Margin			40%

Some expenses will be dependent on the number of revenue generated, for example the Sales & Marketing expense which currently budgeted to be 15% of the revenue. Moreover, then, after all the estimated expenses are covered, the expected margin is included to be added together so the pricing to the client can be calculated.

With that proportion, the overall cost + margin was calculated to be IDR 185,714.29 /user/month. From this calculation, the base price for user was then set to be IDR 200,000.00 /user/month.

Market Size: Volume and Value

Company X targeted the small to medium business as its initial customer target segment. Therefore, the market size, was calculated below:

a. The total unit of business including micro, small, medium and large businesses in Jakarta is 1,235,651 unit and total workforce 4,825,464 persons (Hasil Pendaftaran (Listing) Usaha / Perusahaan Sensus Ekonomi 2016, 2017).

b. In 2013, small business has percentage of 1.13% of the total business and employs 4.73% of the total workforce; then, the medium scale business is 0.09% of the total business and employs 3.36% of the total workforce (Perkembangan Data Usaha Mikro, Kecil, Menengah (UMKM) dan Usaha Besar (UB) tahun 2012-2013, 2014).

c. In 2015, the number of small scale and medium scale business in Bandung are 390 unit and 281 unit. It is also noted that the number of those small and medium businesses was still growing (Jumlah UMKM Berdasarkan Tipe Bisnis Tahun 2015 , 2015)(as cited from the (Lebang, 2016, p. 2)).

Using the percentage from the 2013 and assumption of similar proportion will apply to data of businesses in Jakarta in 2016, the number of small and medium business in Jakarta in 2016 is given in Table 4.

Table 4
Calculating Small and Medium Business in Jakarta in 2016

Business scale	Number of business (unit)	Workforce (person)	Average workforce (person)
Small	13,962	228,244	16
Medium	1,112	162,136	146

Because Company X provides Business Process Management (BPM) system and can be categorized a special-purpose product, it is assumed to have a low penetration rate of 1%

(How to estimate market size: Business and marketing planning for startups, 2009). Market volume is calculated using the formula:

$$\text{Market volume} = \text{Number of target customers} \times \text{Penetration rate}$$

So, the market volume for Company X in Jakarta and Bandung are: $(13,962 + 390) \times 1\% = 144$ small scale business, and $(1,112 + 281) \times 1\% = 14$ medium scale business

Since Company X was using several user accounts (not organisations) as the base for revenue calculation, then the workers in a business will be considered as users. Market value calculation is given in in Table 5.

Table 5
Calculating Market Value for Company X

Business scale	Market Volume (unit)	Avg. Workforce (person)	Value / user (Rp)	Market Value (Rp)
Small	144	16	200,000	460,800,000
Medium	14	146	200,000	408,800,000
				869,600,000

Financial Projection

In calculating the financial projection, a bottom-up approach was used as an assumption. Starting in 2018, Company X had acquired 100 active users. The number can be assumed a medium-sized business with 100 active workers in it or 5 small-sized business with average 20 workers.

By exerting efforts of sales and marketing, the number of customers was projected to have a user growth rate of 10% every month. In this case, there are some conditions which could make the registered users to grow: (1) acquisition of users from new company

because of the effort of marketing, (2) organic conversion of trial customers to paid users, or (3) existing client companies satisfied with the features therefore add their unregistered users into the system.

Besides the growth, it is also projected a part of paid users leaving the service (churn). Lost customers, in this case, can be caused by some conditions: (1) a client decides to stop using our service, making all the registered users in that company was simultaneously taken out, or (2) existing clients reducing their paid users accounts from the system. The lost customer rate was set to be 3% in this calculation.

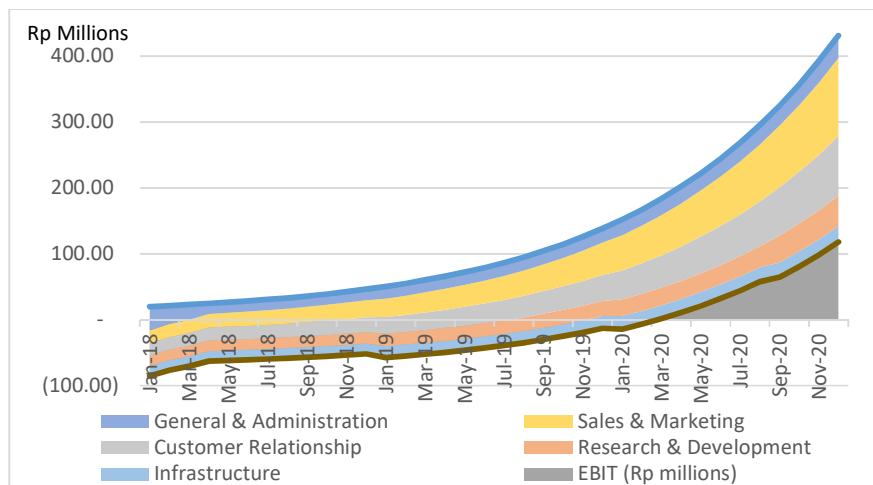


Figure 4
Projection of the Number of Users

Figure 4 depicted the proception of the customer in the period of 3 years (2018 – 2020). In this projection, Company X was supposed to reach its 1000th users in 28 months. As the benchmark, MOKA POS achieved some customers from launch to around 1000 in 2 years from July 2014 until mid-2016 (Freischlad, 2016).

Currently, Company X still have a single revenue stream: subscription fee with IDR200,000.00 /user/month. The cost was classified into five areas of activities (division): Research & Development (R&D), Marketing, Infrastructure, Customer Relation, and General & Administration. Each division is

managed directly by one of the five co-founders. Cost in each area of activities includes salary for the founder, salary for staff, and budget for expenses.

The founders had agreed that staff recruitment would follow the load of each division. For this calculation, the R&D division would have to recruit staff when Company X has a customer base of 1600 active users. Sales & Marketing division and Customer Relationship division will be handled directly by the founders until the user reaches 4000 active users. Figure 5 shows the financial projection for Company X in 2018 – 2020.

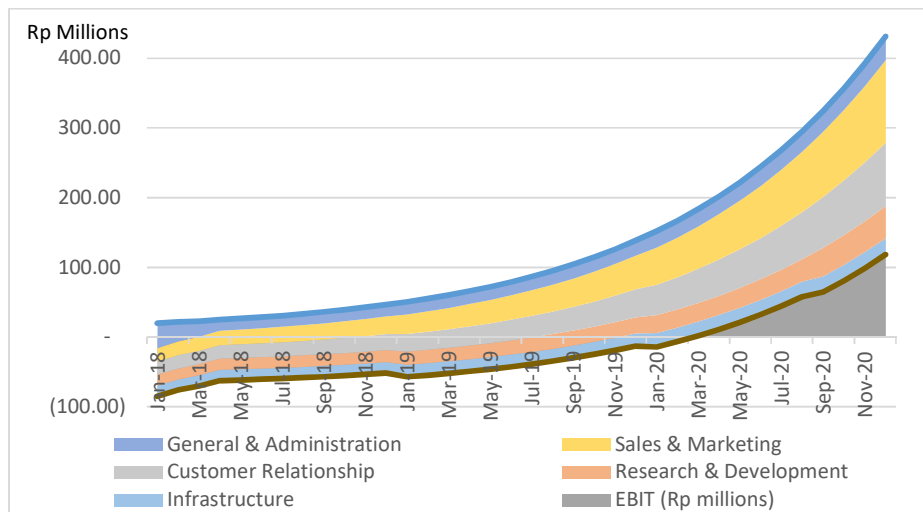


Figure 5
Projection of Financial Properties

G&A division had more proportion in the beginning to contain permit and legal handling expenses. The cashflow is projected to be definite starting in March 2020 or the 27th month of running.

The metric to be evaluated based on the above projection are customer acquisition cost (CAC), months to recover CAC, customer lifetime, customer lifetime value (CLV), and CLV:CAC ratio. CAC is calculated by comparing the total Sales & Marketing expenses to the generation of new customer. So, using the projection of 2018 – 2020 above, the parameters are listed below:

- Total Sales & Marketing Expenses: IDR1,677.59 millions
- New Customer acquired: 2,970 customers

$$\begin{aligned}
 CAC &= \frac{\text{Total Sales \& Marketing Expenses}}{\text{New Customer Acquired}} \\
 &= \frac{\text{IDR1,677.59 million}}{2,970} \\
 &= \text{IDR564,844}
 \end{aligned}$$

$$\begin{aligned}
 \text{Months to recover CAC} &= \frac{CAC}{\text{ARPA} \times \text{Gross Margin}} \\
 &= \frac{\text{IDR564,844}}{\text{IDR200,000} \times 40\%} \\
 &= 7.06 \text{ Months}
 \end{aligned}$$

Customer lifetime is the average length of each customer and is dependent on the churn rate (the rate of lost customer leaving the

service). The calculation for customer lifetime is given below:

$$\text{Customer Lifetime} = \frac{1}{\text{Churn Rate}} = \frac{1}{3\%/month} = 33.33 \text{ months}$$

Customer lifetime value (CLV) is a prediction of the value of business from in the relationship with the customer (customer lifetime). It is calculated by the sum of average revenue per account (ARPA) for a customer lifetime.

$$\begin{aligned} \text{CLV} &= \text{ARPA} \times \text{Customer Lifetime} \\ &= \text{IDR}200,000 \times 33,33 \text{ months} \\ &= \text{IDR}6.67 \text{million} \\ \text{CLV: CAC Ratio} &= \frac{\text{IDR}6,666,667}{\text{IDR}564,844} = 11.80 \end{aligned}$$

The revenue stream which will be employed by Company X is subscription fee, with a fixed price for each customer. In the financial projection which is described in previous discussion, the metric shown good points (see Table 6).

Table 6
Company X Financial Metric Evaluation (Skok, 2013)

Metric	Company X	Guideline	Comment
CLV:CAC ratio	11.80	> 3	OK
Months to recover CAC	7.08	< 12	OK

Although both of the key SaaS Financial metric satisfy the guideline above (Skok, 2013), there is a note for CLV:CAC ratio, that the ideal number for CLV:CAC ratio should be close to 3. CLV:CAC ratio which is a lot greater than 3 means the business spending too little on Sales & Marketing expense (Customer Lifetime Value to Customer Acquisition Ratio (CLV:CAC)). More aggressive Sales & Marketing effort should be exercised by Company X.

Taking into account that the financial aspect analysis had shown the potential market size and good financial metric, then the cause of Company X's problem should be analysed further.

Root Causes Analysis

Root causes analysis was done with the Ishikawa Diagram (or the fishbone diagram).

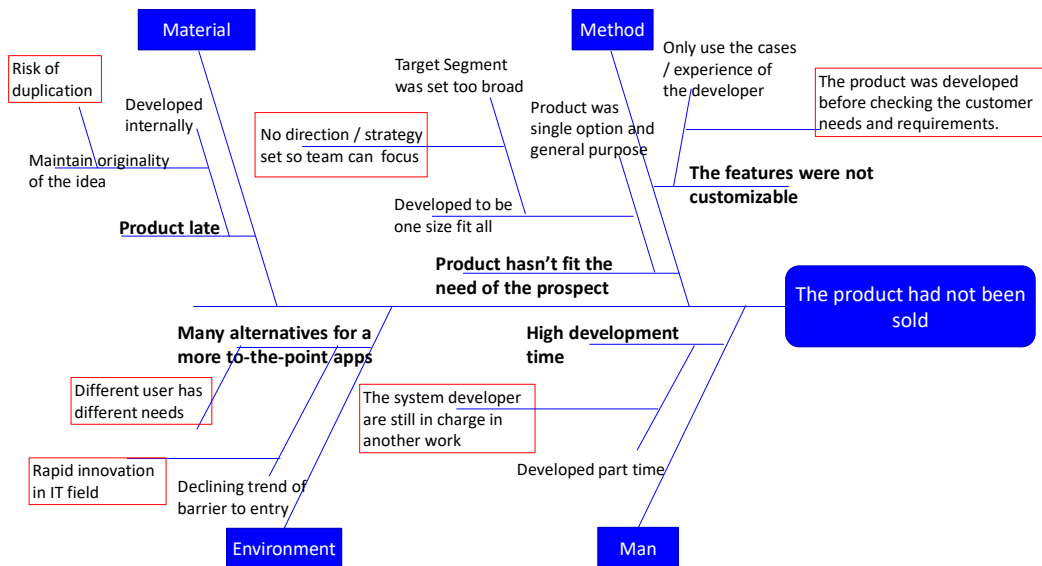


Figure 6
Cause and Effect Diagram of the Defined Problem

The problem was placed as the effect of several cause categories: Man, Method, Material and Environment. The cause and effect diagram as depicted in Figure 6. and the root causes are marked by red outlines. The causes were explored by asking the question “why” repetitively until the causes known to be elementary.

The result of root causes analysis shown that Company X’s product had not been able to include the root causes from the ‘method’ branch, which are:

1. The product was developed only by assumptions of the business problems which can be solved by the founders’ skills. Those assumptions had not been validated whether there are real customer experiencing the problem (customer-problem validation) and then whether the solution proposed by the founders could solve the customer’s problem (customer-problem-solution validation).
2. In developing the product, there had been no validation whether enough number of customer willing to pay for the solution proposed. The product was developed before customer needs and requirements were checked.

Customer Development Framework

According to (Cooper & Vlaskovits, 2010), customer development is a four-step framework to discover and validate that the market had been identified, the customer needs had been built into products, the method of acquiring customers had been tested and the right scale of the business had been deployed. The process is used to discover and validate the following information:

1. The product solves the problem of an identifiable group of users (customer discovery).
2. The market is saleable and large enough that a viable business might be built (customer validation).
3. The business is scalable through repeatable sales and marketing roadmap (company creation).

4. Company departments and operational processes are created to support scale (company building).

Customer Discovery

Customer-Problem-Solution fit had been the sub-process in Customer Discovery Step (Cooper & Vlaskovits, 2010). Minimum Viable Product (MVP) was intended to help the respondents to visualise and grab the concept of product from Company X. The MVP is like a prototype from which the look and feel can be experienced before the real product was built. For this purpose, the essential functions of our products had been deployed on a small scale rented server so the users can get the experience of using the product.

Customer Validation

Moreover, then for Customer Validation, it is needed to be researched for the acceptance of the market for the proposed solution (product): whether or not the product is sold at a price higher than the costs, whether or not customer lifetime value is higher than the costs.

Validation using Javelin Board

To test the hypotheses of Customer-Problem-Solution, the Javelin Board from Lean Startup Machine was used as the supporting tool. First, it was needed to validate that there is the customer segment who has problem and conversely, the problem has real customer segment. There are many kinds of problems that can be proposed a solution, however only several problems would have a prospective market to make sure the effort is visible to be pursued.

In the validation process, the Author predetermined the customer segments, the problems of those customer achievable to solve, and the proposed solution. The mix of interview and pre-sell method was done to get insight from the customer of product-market-fit by pre-selling the service, having considered all the costs. In order to validate the customer target segment, it was projected to have 2/3 of the respondent confirm they

have the problem which we would like to solve. The first iteration failed to validate this, so we have to pivot the customer target segment. After the 2nd and the 3rd iteration, more positive responses were achieved, that more than 60% of respondents acknowledges the problem.

Therefore, the iteration can be continued to check whether or not our solution could be accepted in their firms. The success criterion was set to 60% of the respondent willing to

pay to break-even-point (BEP). Seven of the 10 respondents receive the price offering, other respondents uttered options like the price of being proportion from the value generated to the company, and the other preferred one-time deal type of product buy instead of contract-based subscription. Because the respondent who agreed the price offering are more than our success criterion, the product - market fit was concluded to be validated. The iteration process was depicted in Figure 7.

Table 7
List of Respondents

No	Company
1	Futuristea
2	Monokkrom ID Wedding Photography
3	T. Kardin Pisau Indonesia
4	GBS Clothing
5	La Derra Hotel
6	SDM Labs
7	Dino Donuts
8	CV. Anugerah Mandiri Sejahtera
9	Klinik Sehat Cikampek
10	WKF Fabric Shop

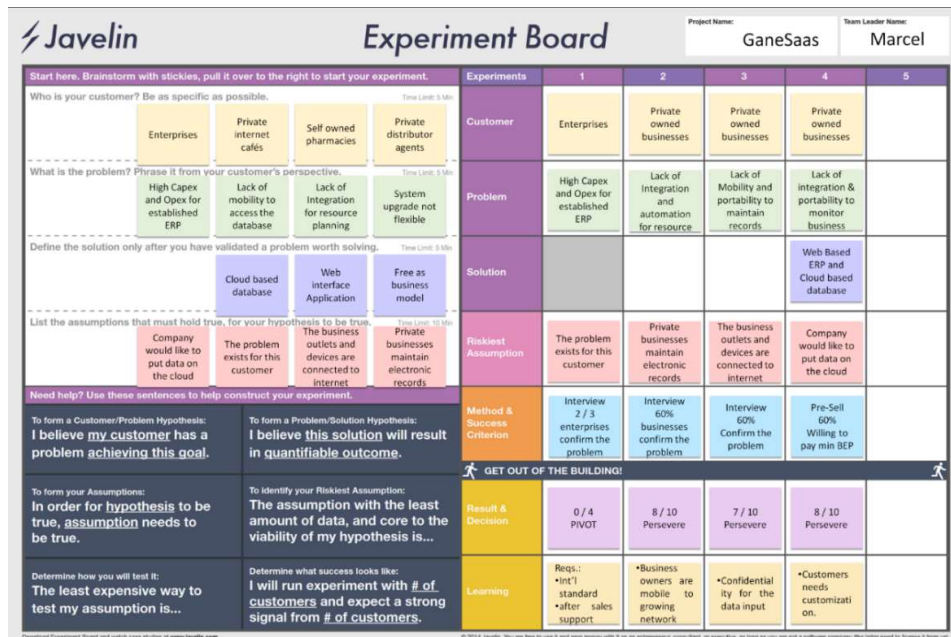


Figure 7.
Javelin Validation Board

In addition to validated customer-problem-solution (CPS) and product - market fit (PMF), while proceeding with interview, the researcher had also gain further information (i.e. expectations or standards). The validated CPS and PMF along with the new insights were used as the reference in modifying the new business model to be proposed to solve the problem faced by Company X.

The Updated Business Model Canvas

Based on the CPS and Product-Market Fit validation above, author made change proposal for Company X's business model canvas (BMC) which are described below:

Customer Segment

Company X has to be realistic in its forming period to focus to acquire concise customer segment. From the validation process above, the customer target segment was proposed to be narrowed down from covering many scale of businesses (from micro, small, medium, and large enterprises) to only focus to small and medium privately-owned businesses in the meantime.

Value Propositions

The result of the interview indicated that the customers would like to feel free to include or not to include particular application modules in the service. So, for the value proposition part of BMC, "customization to fit the customer need" was added. And then, to customer's suggestions and inputs, Company X employs responsive support team to quickly follow up issues or questions. Those two additions to value proposition was to capture the customer based on the validated learning from the process above.

Customer Relationship

To be in line with the value proposition, to the customer relationship part of BMC "personal assistance in terms of technical support that will be readily available and responsive" was added to maintain the satisfaction of the users.

Key Activities

Additional key activities to be followed up by the founders is continue to the customer creation steps by scaling execution of the current operation. Beside acquiring more and more customers, Company X also need to maintain the satisfaction of the customer. This can be done by measuring the usage of the application, e.g. whether the application actively accessed, whether the functions available was fully utilized, whether there are functions which will significantly help the customer better. By monitoring such parameters, Company X would be prepared should some users need assistance to get more value from using Company X services.

Key Partners

Still to be in line with the value proposition of responsive support team, Company X also add the commission-based support team to handle basic troubleshooting and customer support. And then, should a more serious follow up action was needed, Company X prepare a project-based developer team which will handle rapid software development as a result of potential customer special request.

Cost Structure

Those of the above additional activities would add the cost components of BMC: the commission for customer support team and also the project-based software developments. Therefore, the updated business model canvas would be as depicted in the Figure 8.










Key Partners  <ul style="list-style-type: none"> • Commission based salesforce and support team. • Project based developer team. 	Key Activities  <ul style="list-style-type: none"> • Scaling execution by cust. creation • Maintain existing customer • Training and mentoring 	Value Propositions  <ul style="list-style-type: none"> • Customization to fit the customer need • Responsive application and support team 	Cust. Relationships  <ul style="list-style-type: none"> • Personal assistance (Readily technical support) • Self-service (manual books, online forums and tutorials) 	Cust. Segments  <ul style="list-style-type: none"> • Business Size • Small and Medium Businesses
Key Resources  <ul style="list-style-type: none"> • Skilled and experienced workers • Goodwill 		Business Process <ul style="list-style-type: none"> • Business Process Integration • Lowest O&M cost • Easy to adopt, moderate learning curve 	Channels  <ul style="list-style-type: none"> • Business-to-business (comp. visits, account managers, etc.) 	
Cost Structure  <ul style="list-style-type: none"> • Operating Cost (Server O&M, Customer visits) • Commission for Sales and Support workforces. • Salaries and benefits for employees. • Project-based developments 			Revenue Streams  <ul style="list-style-type: none"> • Subscription fee 	

Figure 8
The Updated Business Model Canvas (revision in bold)

Limitation and Future Research

This research was limited to the customer development for Company X which is a business process management system service provider start-up based in Jakarta. The future researches could address deeper analysis about the macroeconomic conditioning for similar start-ups, staging strategy to scale the business, and CPS revalidation for the expansion to new innovations in order to always up-to-date to the future trend and capture new opportunities (including other revenue streams).

These changes to BMC was done based on the Customer-Problem-Solution validation with regards to analyzing the internal and external factors and iterated interview to selected respondents. So, the modified BMC was proposed as the solution for Company X to improve its position in the market.

5. Conclusion

From the discussion above, it can be concluded that:

1. Company X's initial business model contained customer target that was too broad, the customer need had not been measured, and the solution given by the

company had not validated to the real case problem.

2. As the research suggested, Company X was needed to focus their business model customer segment to SME and add several value propositions to increase the acceptance from the potential buyers.
3. Doing the validated learning about the customer-problem-solution and product market fit is important for start-ups to get the needed insight about the product and business model they are working to develop.
4. Minimum viable product (MVP) was needed as the sample for the potential buyer to experience the idea and concept of the product which are going to be sold. From that experience, the feedback could harness the product to be better.

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