The Business Model Analysis of Wika Lab Using Business Canvas Approach

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Abstract

WIKA Lab development prospect is potentially high, since their current achievement is reached with conventional management system and limited human resources and utilities. Therefore, there were several steps of the job which should be done by WIKA Lab's partner. This limitation was seen not as the obstacle hampering them in performing high quality of service. This research is used to unveil the business model of WIKA Lab and determining the strategy of improving the business to the better level. This research used Business Model Canvas, since it can analyze nine elements showing the basic foundation of logic how company can make money. The identification result of this Model showed that WIKA Lab classified their clients differently as WIKA's internal segment, WIKA's subsidiaries, and WIKA's external clients. The internal segment of WIKA contributes 95% income to the company. The subsidiaries provide 5% and the rest 0.6% is contributed from the external segment of WIKA. The model of business improvement of WIKA Lab bureau has successfully been formulated based on the recovery of the internal and external segments towards each component from the current business model. Concerned customer's portfolio, the existent of the substitute product, less supportive system, less number of external factor are resulted from the less number of human resources in marketing or introducing the services of laboratory test in WIKA.Based on the recovery of the business model, a strategic recommendation can be constituted to improve the working performance, such as focus of exploring business potential from 95% clients, business expansion by diversification outside Jakarta by opening new laboratory office branch in WIKA's subsidiaries in Indonesia.

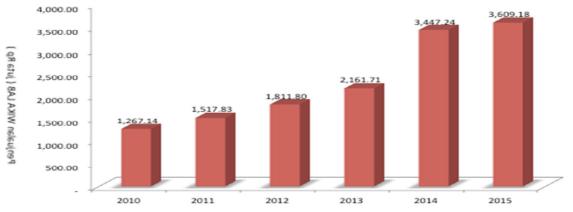
Keywords: Construction Service Industry, Business Model Canvas, Business Development Strategy, WIKA Lab, SWOT

1. INTRODUCTION

The development of construction service industry in Indonesia is improving significantly since the increasing number of building/properties development or the other infrastructures/public facilities. During the period of 2002–2013, the average rate of construction industry growth in Indonesia based on the construction finishing score is in the level of 23% (BPS (National Statictics Board) 2013). Construction Service is the service producing physical facilities and media along with the technical planning arrangement, execution, and monitoring. PT Wijaya Karya (Inc) Ltd is one of the biggest construction services, which is famously known as WIKA. It has 0.7% market share in the fields of construction service industry (Media Data Riset (Research Data Media) 2012). It is a state-owned enterprise which 65% of its shareholder is Indonesian Government. 18.13% of the share is owned by locals while 15.59% is owned by foreigners. The rest 1.23% of the share is owned by the management and the employees.

The development of WIKA business in the core business of construction services tends to prioritize more on the materials' quality in the building process. Under that focus, WIKA creates special bureau of to serve and provide services of material testing before its usage in the future WIKA's project building. WIKA's laboratory, famously known as WIKA Lab, was established in 1980. Now, it is still becoming the bureau of several services, including soil investigation test, concrete materials' arrangement, evaluation, and the control of concrete material quality in the execution and investigation of mounted concrete, etc.

The development of WIKA Lab's performance has been averagely in the level of 24.53% during the last 6 years. It is continuously increasing along with the trust of the society to the construction industry as what is portrayed in **Figure 1**. The market opportunity of the testing service business is highly potential referring to the material testing funds for every project. Averagely, the number of the funds is the 1% of the total value of the project. However, recently the sale of WIKA Lab in the internal sector is higher comparing to the external ones (**Figure 2**). It is caused by the condition of the Lab which is still formed as the bureau of WIKA corporation with conventional management system. The heads of the laboratory in the company is still working based on one man show system where they do many jobs by themselves. In improving the sales of WIKA Lab and answering the chance of construction improvement which needs Lab testing services in the future as well as the anticipation of threats (the raise of other competitive Lab testing companies), there should be a mapping of recent WIKA Lab business condition and the perspective towards the opportunities of development.





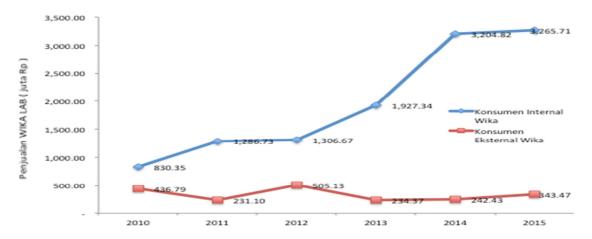


Figure 2. WIKA Lab's Income from Consumers (in million Rupiah) during 2010 - 2015 Source: WIKA Lab's financial statements in 2010-2015

Based on the statements, the problems of this research stated as follows.

- 1. How is the business model recently executed by WIKA Lab based on the perspective of Business Model Canvas approach?
- 2. How is the influence of WIKA Lab's Business Model Canvas after the improvement?
- 3. What are the formulated strategies and improvement programs resulted from WIKA Lab's Business Model Canvas improvement?

Based on these problems, the purposes of this research are as follows.

- 1. Analyzing WIKA Lab's business model from the perspective of Business Model Canvas.
- 2. Determining the Business Model Canvas to improve WIKA Lab on becoming an independent laboratory testing service provider.
- 3. Providing recommendation of formulated strategies and improvement programs for the sake of WIKA Lab's development.

Theoretical Framework

This research identified the internal and external condition of WIKA Lab structurally through interviews for the internal and external stakeholders. The results of the structured interview were then analyzed using SWOT analysis to every element. It is different than the research using BMC approach which has been elaborated before, the research conducted by Harahap (2000) resulting new business model innovation which has never been done by the company. The difference of the research to this research of WIKA Lab development was located in the analysis approach using Blue Oceans Strategy which is oriented to the value of innovation through value improvement and funds reduction. The theoretical framework of this research is depicted in **Figure 3**.

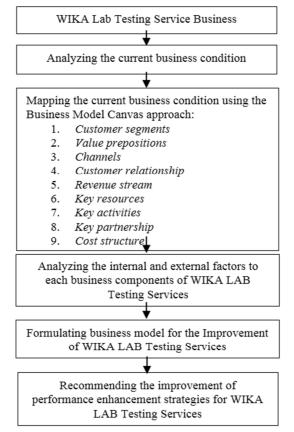


Figure 3. Operational Theoretical Framework

RESEARCH METHODS

The managing and analyzing data techniques used in this research was based on descriptive research design. This research is mainly tried to portray the characteristics of business model components from the research object. In this case, the object is using WIKA Lab in PT Wijaya Karya (Inc), Ltd using Business Model Canvas (BMC). The descriptive analysis is directed to BMC approach with the identification of nine elements of business model canvas. The observation, interview, and FGD are equipped with secondary data from documentation and literature reviews would result the current business model canvas of WIKA Lab.

The process of designing business model canvas started from defining the first element. Customer Segments played as the party who contribute incomes for the organization. The second step is defining the Value Propositions element as the statement of products and services uniqueness from the company to the targeted customer segments. The third step is Channel element where the company communicates, takes, and interacts with the customers. The success of channels is highly influenced by the effectiveness of three elements, including Key Resources, Key Activities and Key Partnership. The fourth step is deciding the Customer Relationship element to portray the way of company sustaining the relationship to the old customers, upgrading the facility's limit, and hiring new customers. These four steps is seriously influencing the fifth element, Revenue Streams. This element is related to the number of income to the company. The next step is formulating the sixth, seventh, and eighth elements. They are Key Resources, Key Activities and Key Partnership. These elements work in the back stage and should be managed well and efficiently to maintain the ninth element, Cost Structure. Thus, it can work optimally. Next, each element of business model canvas will be analyzed using SWOT analyses. Rangkuti (2009) states that SWOT is done to analyze every business building blocks in WIKA Lab of PT Wijaya Karya (Inc), Ltd, formulate the improvement model of the business, and deciding the business development programs based on the improvement model.

FINDINGS AND DISCUSSIONS

Recent Business Model of WIKA Lab

Based on the business model canvas elements from each group, the research is continued using interview with the head of WIKA Lab to obtain the overall information and input regarding the newest condition of WIKA Lab, specifically from each production groups and its team leader. The structured interview is done to explore and confirm inputs and ideas from every respondents group in business model canvas supported by secondary data

and observation results. It inspired the creation of business model improvement based on the nine elements of Business Model Canvas. This model is portrayed in Table 1.

Customer Segments

The users of products and services as the sources of income of WIKA Lab in WIKA is the consumers of construction projects in construction company, mostly known as construction service company. The correct mapping of customer segment will help WIKA Lab in deciding the correct value proposition. Every segment surely has different characteristics that it needs different approach. WIKA Lab groups the subscribers with subscribers' turnover basis approach, and, the given project consists of WIKA Internal, specifically the segments of Operation Directorate 1 (DOP 1), Operation Directorate 2 (DOP 2), Operation Directorate 3 (DOP3), and WIKA's external segment. The subsidiary company is segmented for non-construction-based clients. In this segment, the subsidiary company will be merged with WIKA's external since the number of clients for WIKA Lab is relatively small.

Value Proposition

Based on the input of business model canvas and interview to several respondents, there are several information obtained from WIKA Lab clients, including:

- 1. Enough existence of Laboratory facilities
- 2. Enjoyment and Ease of Transaction
- 3. Competitive Pricing
- 4. Design and build contract

Channel

WIKA Lab as a Lab service providing direct service to WIKA's Internal projects through the procurement agency, it is needed to bridge the necessity of the project with subcontractors assuming that WIKA Lab plays the subcontractors of WIKA's Internal segment. Therefore, the market/clients in WIKA's internal segment can be obtained through the procurement agency. If it is distributed based on channeling phase, WIKA Lab testing service needs the access of facilities from the external segments continued to the post-facility phase. It is the phase when the facility is available and the clients can use the facility. WIKA Lab can directly cooperate with the other construction business segments through WIKA's top management as the mediator in engaging partnership. Besides, every project manager supposed to be able to help in marketing WIKA Lab to the consultant or owner.

Customer Relationship

According to the working partners profile of WIKA Lab in 2015, 94% of partners are from WIKA's internal, 5% are from the clients of WIKA subsidiary company and 0.6% from WIKA's external segment. This profile is understandable since the working scale is in the internal segment of WIKA which has bigger testing capability.

Revenue Stream

Beside in the laboratory, WIKA Lab can rent the testing tools to the partners. Moreover, WIKA Lab can help the partners do training for testing construction tools. It adds the revenue of WIKA Lab. The products of WIKA Lab in WIKA contributes 0.8% - 1% to every project of WIKA or 23% of NII WIKA. WIKA Lab income in 2015 had the composition of WIKA company. In 2015, the income contribution of WIKA Lab is 23%. This value shows that WIKA Lab bureau was highly contributive to WIKA's income.

Kev Resources

WIKA Lab as the construction laboratory testing industry generally have key resources in the forms of human, reputation, domestic or international network, testing tools, and information of technology. Human resources as the most important asset in WIKA Lab business model plays the role of key activities in explaining value proposition. There are 17 people who become the key resources working as laboratory technician and marketing administration.

Kev Activities

Key activity of every company is different based on the business model and value proposition offered to the clients. In WIKA Lab, the result of testing is considered as more accurate, since it is done by experienced and certified workers supported by complete and sophisticated testing tools. Thus, this thing can be an opportunity for WIKA Lab to be a calibrating lab, so, it can increase the income. Since, the market for calibrating tools in Indonesia is potentially lucrative.

Key Partnership

Based on canvas input and respondents' interview, the key of partnership in WIKA Lab bureau is maintaining the relation of WIKA corporation to several construction company in Indonesia and overseas. It is an opportunity for WIKA Lab in establishing partnership with investor or supplier of testing tools to get interesting profit sharing. Key partner of WIKA Lab bureau can be from the internal and external bureau. The mentioned partners are generally the internal partners of WIKA which is gathered to help each other in creating cooperation according to the vision and mission of WIKA.

Cost Structure

Based on the input of canvas and interview result to the respondents, there are four components of cost structure, including testing section, Information and Technology section, marketing section, and developing section. People cost or human resources are one of the main cost components in Bank. Salary, holiday subsidy, health insurance, pension, and transportation costs are the beneficiary packages for employee managed by the Human Capital division considering the position and market condition. Annual bonus given based on KPI's determination of employee's working performance. Besides the beneficiary packages for employee, training costs, etc., technical and non-technical development costs are included in people costs category. Official travel costs (transportation and accommodation), workshop/seminar and customer relationship building costs are included in the cost structure budget of WIKA Lab. In WIKA, there are many experts of enterprise development and financial management consultation of testing laboratory. Next, the reserved funding in WIKA will be high enough to develop the laboratory business.

SWOT Analysis of Business Model Canvas in WIKA Lab Bureau

To complete the identification of WIKA Lab business model, there should be an understanding of WIKA Lab travels in WIKA. According to Rangkuti (2009), SWOT analysis is the identification of several systematic factors to formulate the company's strategy. Moreover, the SWOT analysis refers to the logic of maximizing strengths and opportunities to become helpful areas, whereas it can also minimize the possibilities of weaknesses and threats that endanger the existence of the company. The analysis of strengths and weaknesses represent the internal factor situation, while the analysis of threats and chances represents the external factors. SWOT analysis is done towards every component of Business Model Canvas (BMC), so, it can obtain structured analysis following the logical sequence of company business as the basis of business' improvement model. The portrayal of SWOT analysis in this research is based on Table 2. These are the SWOT analyses for every component of BMC based on interview results with respondents.

Business Improvement Model of WIKA Lab Bureau

After identifying the business model through the participation of all employees in all divisions, deep interview was subsequently done to every head of sales team and the products to elaborate the input, including the SWOT analysis and respondents' perspective regarding the business improvement model. Beside the functional manager, deep interview was also done to the Head of Division of WIKA Lab and the Head of Business Finance Working Group Division to get the perspective in divisional level. The obtained analysis can be the SWOT evaluation or the future planning. The portrayal of WIKA Lab business improvement model can be seen in Table 3.

Customer Segments

WIKA needs to map the clients' portfolios in which 95% of WIKA Lab incomes were only concentrated on the internal sectors of WIKA. Referring to the SWOT analyses in the customer segments components, there is a chance of managing the clients from the external sectors of WIKA for the sake of WIKA Lab's business potentials. WIKA Lab clients from external sectors for WIKA is very small, it is because the obstacles in marketing and human resources on WIKA Lab. To map the portfolios of WIKA's external segments, there should be the analyses of:

1. Relationship

2. Facility Usages

Value Proposition

WIKA Lab bureau should be able to make sure that the service is in line with the testing characteristics. It is proven from the policy or infrastructure documentation or the involved human resources competence. The documentation of policy is related to the requirement of services in general or simply the operation's technical provision which can be the guidance of the business. The completion of service providers should be dynamic and continuous in fulfilling the clients' needs. The introduction of WIKA Lab to the external body is needed, so, WIKA Lab should have a marketing team. Since marketing team plays important roles in supporting the strategies to attract many new clients. The effectiveness of marketing programs is measured during the testing of projects from the clients.

Channel

The network of WIKA's office should become the solution of WIKA Lab's problems. It is the place where all the facilities are marketed by WIKA Lab. The internal and external segments of WIKA with many numbers of clients are naturally able to have more business channels along the existence of business unit in every network of WIKA's branches. It eases the clients out of town to use the services provided by WIKA Lab testing services.

Customer Relationship

The types of customer relationship are the approaches which have been applied in WIKA Lab bureau. It should be applied for the sake of customized solution towards the external business segments of WIKA's external with bigger scale and more massive. WIKA Lab should be able to make marketing team which can introduce the testing service of WIKA Lab and should be able to attract new clients. Marketing team should be able to

understand the necessity of the clients regarding the appropriate testing services of the laboratory.

Revenue Stream

The formulation of income structure can be done based on the business segments to the staff of marketing, so, the income of WIKA Lab from the level of personals, divisions, departments, and team heads can be determined. The revenue stream of every element is different based on the actual income in the previous year according to the number of deals in the pipeline and the determined margins. Generally, the internal segments have bigger margins than the other business segments, but, service provider business is hoped to be able on attracting external party in continuously using the services of WIKA Lab. Thus, the income of WIKA Lab can increase periodically not only to its internal sector.

Key Resources

The commitment of WIKA's management in executing the investments is the correct way to support WIKA Lab's bureau in providing the improvement of value proposition to the clients for the sake of service improvement. WIKA Lab should be able on creating new systems in giving the testing services to the clients by making team consists of experienced human resources. Then, the built system has to be based on Information of Technology which can help the team works in integrative way. It can be started on inserting technology to list the internal and external clients, the service requests, the agreements, and the execution in the laboratory.

Key Activities

Key activities done by the key human resources should be the parameter for the management in evaluating the employee's performance with reward and punishment system. WIKA Lab should use the working performance system or KPI for every employee in the initial times of the year until the review of performance in each semester becomes ideal. KPI only needs to adjust with the logic of aforementioned business improvement model. *Key Partnership*

WIKA Lab should create organized structure under WIKA in ensuring the different policy in the working process. The dependency of WIKA Lab to the other division in doing the key activities should be concerned more that the business process can work well. The role of management in building company's culture is seriously determining the synergy of each division to achieve the goals of the company.

Cost Structure

The mechanism of funding allocation from testing services division and support division to the business segments is an ideal cost structure for construction industry. The cost structure of WIKA Lab will be given proportionally to every business segment based on the portion income resulted. The infrastructure costs include system and channel which use cost allocation where there is a direct cost for every service related with operational matters. Generally, the cost will be given to the pricing component given to the clients. The improvement areas can be the focus of WIKA Lab bureau in handling the cost structures by getting the funds for WIKA lab operational testing.

Table I Business Model Canvas of WIKA Lab Bureau							
Key Partners	Key Activities	Value Proposit	ions Customer	Customer segments			
 Business Segments WIKA Lab partners WIKA's internals WIKA's subsidiary company WIKA's externals WIKA's Network 	 (Sales) Acquisition of new clients & maintaining the clients (Product) the expertise of construction material testing services dominantly in land testing Manual business 	 The comfort and ease of transaction Accurate testing data Quick and Efficient Da Collection Competitive Pricing Good Reputation 	 Telephone and E-mail services Speakers in Construction Seminars QC training center Soil problem 	 WIKA construction projects WIKA's subs construction projects WIKA's exteral projetcs Project Owners Planning Consultant 			
	 process Key Resources Human Resources Lab testing tools WIKA Lab Laboratory WIKA Lab reputation 		 Channels WIKA's office branches Telephone and E-mail services Construction Seminars Academicians 				
Cost Structure People Testing Tools Rea Laboratory and T Certification	-	Rev	 Testing Services Calibration of Fields Tes Training Center Volume and Income 	ting Tools Services			

Table 1 Business Model Canvas of WIKA Lab Bureau

Table 2 SWOT Analyses of WIKA Lab Bureau based on Business Model Canvas

Components	Strengths	Weaknesses	Opportunities	Threats
Customer Segments	 Internal Project of WIKA is available. There are some companies which have subscribed to WIKA Lab's services 	 No Internal Department wants to use WIKA's Laboratory Many companies do not know the existence of WIKA's laboratory 	 Many investors invested. Government programs in improving the infrastructure. Many consultant companies using construction labs. The potential of wider market from construction material testing laboratory 	 Competitors. Many external companies have subscribed to the other competitors Foreign project often uses their own construction lab.
Value Prepositions	 Reliable quality of testing results The excellent services Nationally accredited company. 	- Higher prices than the competitors.	 WIKA Lab always prioritize quality. The improvement of accreditation to international level. Lab WIKA is progressing to go international. 	 Many competitors of construction lab company. Pricing competition of each construction company.
Channels	 The internals of WIKA has procurement agency. Top management of WIKA, making it has many business relations. 	 WIKA Lab does not have any marketing staffs. The procurement agency competes the lab The internal project of finding subcontractor is not through the procurement bureau 	 The JO projects can help market the partners The project managers can help marketing WIKA Lab Directing power to target the market between state-owned enterprise and internals WIKA is reliable 	 WIKA does not have competitive prive since it's still dependent to partners. The competitors have stronger marketing strategies. The demand of using independent lab.
Customer Relationships	 The advancement of Information and Communication Technology Indonesian's Good Manner 	 Low earning consumers are neglected No special staff for WIKA Lab marketing. 	 The marketing section helps the relation building to the customer. The establishment of WIKA Lab's marketing. Maintaining good relationship of marketing segments to the other department in WIKA 	 Customers do not feel appreciated to order the future job.

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Components		Strengths		Weaknesses		Opportunities		Threats
Revenue Streams	-	Providing testing tools. Able to provide training for testing technicians. The market for internal is available.	-	Natural resources of lab WIKA is very small. Small building. Unaccredited training institution.	-	The recruitment of workers and tools additions. Training in the institution outside WIKA is expensive. The training of technician can be done well inside and outside of the project	-	The consumers are not satisfied with the services of tools to rent and training.
Key Resources	-	Experienced and professional personnel Accredited nationally and having complete soil testing tools	-	Many of the personnel are seniors. Less quantity of soil testing tools. The testing tools are working manually	- - -	Partnership between the other company with many testing tools Testing tools investments. Adding testing fields. The development to calibration lab	-	The competitors have more natural resources and very competent and skillful workers The orders are served not in the right time
Key Activities	-	The testing in WIKA Lab is more accurate	-	Less interests of public to testing labs	-	The development to calibration lab Finding its own income	-	Many senior workers
Key Partnerships	-	There have been some company working in construction laboratory fields in Indonesia	-	Partners in testing laboratory fields are difficult to cooperate The competitors are more lucrative	-	Building partnership with investors Building partnership with supplier of testing tools not with the testing laboratory company, thus the outcome will be more interesting	-	The clients will be taken by the competitors The clients are dissatisfied with the services
Cost Structure	-	Many experts of company development and finance. High number of reserved funds in WIKA	-	The expensive number of investment costs The reserved foreign exchange in WIKA is prioritized for bigger scale investment	-	Business mentoring and entrepreneurship	-	Monetary crises threats making the projects decreasing

Tab	Table 3 WIKA Lab Bureau's improvement based on Business Model Canvas							
Key •	Partners Business Segments WIKA Lab partners	Key Activities (Sales) Acquisition of new clients & maintaining the	 Value Propositions The comfort and ease of transaction Accurate testing data 	Customer Relationship Telephone and E-mail services Speakers in Construction Seminars	Customer segments WIKA's exteral projetcs Project Owners Planning Consultant			
<u>Impr</u>	rovement : The improvement of key partners understanding The creation of MoU with key partners Resources for Internal and External Segments Focus of external key partners	 clients (Product) the expertise of construction material testing services dominantly in land testing Manual bisnis proses Improvement : The adjustment of KPI based on the improvement process The widening of WIKA external customer segments The improvement of construction material testing services More certification IT based Key Resources 	 Improvement : Widen the laboratory testing building Focusing of quality improvement 	 QC training center Soil problem Solving Improvement : Direct approach to 	Improvement : Focus on widening projects Widen outside Jakarta			
		 Key Resources Human Resources Lab testing tools WIKA Lab Laboratory WIKA Lab reputation <u>Improvement :</u> Review the organization structure Recruiting the experts Recruiting supporting workers New tools investments Improvement on systems Enlist in International Accreditation 		 WIKA's office branches Telephone and E-mail services Construction Seminars Academicians <u>Improvement :</u> The addition of new channel of business solution Using IT for efficiency 				
:	 Testing Tools Renting Laboratory and Tools Maintenance Certification Improvement : Indirect cost efficiency Testing tools maintenance efficiency 			Revenue Streams • Testing Services • Calibration of Fields Testing Tools Services • Training Center • Volume and Income Improvement : • Determine the targeted income • Adding the knowledge in testing materials • Market focus • Diversification of testing materials business				

Table 3 WIKA Lab Bureau's improvement based on Business Model Canvas

The Strategy of Improving WIKA Lab's Bureau Working Performance

The improvement in this research will give the recommended strategies in Divisional level. The strategies in improving the working performances from clients and new income sources from clients' acquisition are listed as follows.

1. WIKA Lab's bureau needs to improve its portfolios in focus of increasing the contribution from 0.6% of clients outside WIKA and dig their business potentials. Consequently, WIKA Lab needs to expand

the business outside of Jabodetabek and Indonesia as a whole.

- 2. WIKA's strategy to improve productivity in networking branches to defend the clients' volume and adding transactional volume from new clients' acquisitions.
- 3. Marketing only works from Internal and External segments of WIKA oriented with customer relationship to defend clients and explore business potentials from new clients.
- 4. The focus of partnerships for external party is the company networks should work as the channel in getting new clients.

Managerial Implications

The recommendation of working performance improvement is in the investment of new system and the allocation of new branches of WIKA Lab outside Jakarta. Both initiatives of key resources need the agreement from the managements since it needs high costs. The proposal of hiring investment cost and human resources should be followed by business projection measurement in the target of income improvement. The other initiatives are the key activities of the adjustment of Key Performance Indicator with new business model to all team.

CONCLUSION AND SUGGESTIONS

Conclusion

The business model of WIKA Lab improvement model successfully formulated based on the improvement of internal and external analysis towards every component of the recent business model. Concentrated clients, the existence of substituted product, less supportive system, and less number of clients are the external factors caused by less number of human resources in marketing or introducing WIKA Lab testing services. Based on the business improvement model, it can be determined that the strategic recommendation for working performance improvement should be focused on the exploration of 95% business potentials from the existing clients and company expansion to diverse the business outside Jakarta opening new laboratory branches of WIKA in Indonesia.

Suggestions

Based on the research and conclusion, there are several suggestion proposed: (1) recommended strategy formulated as the business improvement model for WIKA Lab bureau can be actioned further by executing implemented programs refers to certain priority and timing target and (2) The process of model formulation for WIKA Lab has been conducted through the participation of all employees and the result can be communicated with all employees along with the adjustment of Key Performance Indicator, so, the business idea and the attempt of creating value can become the collective target.

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