

# Systems Dynamics Study of SMEs' Value Re-creation: Case of Embroidery Center Tasikmalaya

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## Abstract

Since 1980 Tasikmalaya known as "City of SMEs" because of many SMEs are scattered throughout the city. From the various SMEs, embroidery industry covers 45% of the total SMEs, growing rapidly and absorb a lot of labor. But in recent years the industry does not run as well as expected, instead of grow, a lot of SMEs close their business. Preliminary research conducted by in-depth interviews with 56 entrepreneurs indicate that in their opinion, low profit margins and the difficulty of marketing, especially after global products enter the market are considered as a major problem. Unlike most similar previous research, this study was conducted with systems dynamics approach. Until now there has been little research about SMEs conducted with this approach, hopefully this study can give idea for other researchers to take advantage of systems dynamics in deciphering what is happening in a period, and bring insight when build a theory. Here, systems dynamics bring in awareness of the importance to discover business' critical success factors and the importance of value re-creation to maintain business in global market.

**Keywords:** system dynamic, critical success factors, value creation, value re-creation, SMEs

## Introduction

Over three decades it has become popular among academics to focus investigation on small and medium sized organization (McLarty, 2012), and the reason why we have to give much attention for SMEs development is this entrepreneurship influences society and contributes to the economic development at the region where it is located. (Tripathi, 2012)

SMEs proved last resilient from several waves of crises that have occurred, such as the economic crisis of 1997-1998 and the 2008 global crisis that had rocked Indonesian economy. At that time many large companies bankrupt and was forced to make layoffs to its employees, but the SMEs would be able to absorb the unemployed (Setyawan, 2007)

Consider the advantages of SMEs mentioned above, it can be concluded that micro, small and medium enterprises will be able to strengthen the foundation of the national economy and one of main drivers for poverty alleviation.

While numerous studies have shown the importance of SMEs in determining national economic, they even said as a backbone of national economic, SMEs face many obstacles. the problems faced by SMEs, ranging from lack of capital, limited access to markets, and

difficulty competing with the major manufactures. Problems that exist in SMEs entrepreneurs themselves also become an obstacle to the development of its business like lack of managerial capabilities and undisciplined in the administration, limitation in using of technology also should be taken as one of the inherent obstacles.

Okpara in his paper said problems facing the growth and survival of SMEs in Africa can be generally classified into four broad categories: administrative, operating, strategic and exogenous problems. (Okpara, 2011)

In their research Viviers et al. (2001) noted, "The ideas are good and the people behind them are technically competent, but, they do not have the clue on how to run a business and have no underlying appreciation of business management fundamentals" (Vivier, 2001)

It is not only access to finance or the availability of capital that leads to competitiveness: it is how SMEs manage their scarce resources (financial, human, and material), market complexities and changes, as well as opportunities and threats in the environment. (Temtine, 2002).

SMEs usually lack the amount of slack resources and administrative systems that help larger companies in their decision-making

processes and, consequently, SMEs have to rely more on the abilities of their managers. (Lubatkin, 2006)

### Systems Dynamics

Systems dynamics was first brought up by the American researcher Forrester in 1956, when a computer simulated model was created, which integrated an experimental method of systematic analysis, decision making theory and information feedback control theory to form an overall theoretical basis. The aim of systems dynamics is to expand the scope of system thinking applied on more strategic issue. Forrester believes that operational research began to lose touch to real problems which faced by manager because operational research only concentrate on specific tactical issues. Specific tactical issues can be modeled mathematically as they involve a few variables that are linearly related. Meanwhile systems dynamics utilizing feedback science which uses the power of modern digital computer to unlock the secrets of complex non linear system and double cyclic. According to systems dynamics system, a set of variables in a complex system caused the causeeffect relationship in a round of feedback, where all the variables interact each other. Systemic inter-connectedness in the round of feedback determines the structure of the system, and the structure will become the main determinant in the behavior of the system. (Wrihatnolo, 2008)

Amir M. Syarif in his study said that systems dynamics (or systems thinking as it is otherwise known) has existed in the academic as well as industrial R&D community for over 25 years at least. He feel that systems dynamics as a field has great potential to be used more fervently within the business process community, and it is only being limited by a lack of understanding and knowledge about it presently. Those researchers and practitioners who consider themselves to be empirical purists, tend to shun systems dynamics/thinking as they view the inherent formalism involved in some of the methods to be leaning towards being more quantitative, and thus restrictive to modelling those “soft” human issues. (Sharif, 2005) Since there has been little research about SMEs conducted with this approach, hopefully this study can give idea for other researchers to take

advantage of systems dynamics in deciphering what is happening in a period, and bring insight when build a theory.

### Critical Success Factors of SMEs

Critical success factors are those few things that must go well to ensure success for a manager or an organization and therefore they represent those managerial or enterprise areas that must be given special and continual attention to bring about high performance. Critical success factors include vital issues to an organization’s current operating activities and to its future success. (Boyton, 1984)

Chawla et al consider critical success factors exhibited by small business in China. Comparison are made to similar prior studies performed in the US and Mexico. The study finds that there are difference in the factor structure of the critical success factors and the key difference is concerning meeting the financial needs and location of the small firm in China.

### Value Creation

Value creation has long been stressed in the business literature as the main objective of organizations. Some authors state that an organization must create value for its owners whereas others insist that value must be created not just for shareholders, but also for all stakeholders. (Cenngiz Haksever, 2004). In fundamental sense, creation of value is the purpose of a firm. Values measured by profit, cash flows, stock prices, or some strategic objectives are the ultimate reasons why a firm exists. (J. Joy Choi, 2007). Creation of value for customers is a critical task for marketers, particularly when developing new products and service or starting new businesses. (J. Brock Smith, 2007)

Based on the variety of views on value creation, this study tries to reconcile these two views using systems dynamics approach because value creation important for both parties, customers and company. When the company failed to create value for customers, it will abandoned by customers, so the company will die. In the other hand if in its efforts to create value for customer the company continue to press its part, the company will gradually lose its value. This is

common in SMEs. While the price of raw material or production cost increase, instead of think how to create new value, what they do is to reduce profit margin because raising price will cause customers to move. This is the real example of what Porter mean while defined value as “what buyers are willing to pay” (Porter, 1985). Therefore instead of creating new value, so that it becomes larger, SMEs tend to sacrifice their parts for the consumer, so that eventually they lose value and are forced out of business.

To maintain its existence the company should maintain a balance between the value expected by the consumer and the value that can be given by the company. In addition the company also must be able to maintain a balance between the value expected by the owner and the value that can be given by the company.

In dynamic environment, technology advancement, market change, and rigorous competition, value creation will become the key success factor, therefore how to create value to maintain its competitive edge in the industry become the important thing.

#### Embroidery Industry at Tasikmalaya

Since the beginning of 1980s, Tasikmalaya located in the province of West Java, known as the base of SMEs where embroidery cover 45% of total SMEs. But in recent years the industry does not run as well as expected, instead of grow, a lot of SMEs close their business. Low profit margins and the difficulty of marketing, especially after global products enter the market are considered as a major problem by 56 entrepreneurs who have been involve in this research.

Based on research we known that most of today's entrepreneurs continue embroidery business that has been initiated by their parents. At the first venture they begins business with a regular sewing machine and performed as a side job between agriculture activities. The uniqueness and tidiness of embroidery which applied in cloth (mukena and kebaya), pillowcases and sheets, table cloths and various other household items carry the embroidery product become the preferred product and characteristic of Tasikmalaya.

Assistance of local governments bring opportunities to introduce embroidery product to

Jakarta and then to various other areas in Indonesia even abroad. High demand of embroidery product lead this industry well developed. As anticipation of high demand, most of entrepreneurs change manual embroidery machine to computer embroidery machine which have an average of 12 to 50 head needles. That means one computer embroidery machine can replace 12 to 50 workers. Computer embroidery machine is working 24 hours, so that the production capacity increased rapidly. The problem is change from manual to computer embroidery machine is not done with a good preparation and calculation. The entrepreneurs only saw the change will fulfill high demand but ignore the other things that should be change like how to manage cash flow, inventories, and employee.

To buy a computer embroidery machine that cost is quite high, part of the entrepreneurs sell the land, padi (rice) fields, or gold which is a traditional form of their saving, and the others bought by installments, which in turn become a burden of their cash flow.

After using the computer embroidery machine, the production capacity increased rapidly, which means the need for raw materials in this case fabric and yarn also increased rapidly when the employer is not ready with the funds needed for an increase in raw materials and especially not ready with the broader market. The first impact of this situation is clear, cash flow becomes messy. The shift from manual to computer embroidery machine happen in almost same time for most SMEs there, that make the recent market immediately saturated, while new market have not been open.

Since it is impossible to let the machine not operating even the previous production not have been sold, they keep the production process. Lack of cash makes the purchasing of raw materials, which was originally made with cash now must be done by a certain time limit which ultimately results in a higher price. Most of the entrepreneurs even start to use loan with high interest. Undicipline in administration and limitations of ability to make records and financial statements, do not allow them to get funding from banks that interest rates are relatively lower than what they are using.

Limitations in doing proper financial

records makes most employers do not make the separation between personal and business expenses, most of them are not able to answer what is the cost incurred to produce one unit of product. This in turn makes it difficult when they have to set the selling price. They do not know how much profit margins or even losses they earn. They did not make separation of private and business money, therefore when get lot of revenue, they often use their money for consumptive purposes.

In terms of marketing, passion and creativity to penetrate the wider market both around country and abroad, finally also hindered by limitation knowledge of marketing, most of SMEs entrepreneurs could not build a brand that is known by the public, all they do is sell the product at low prices, and let the others attach their brand and sell again with the much higher margin than what they get. The failure to throw abundant production to the market, in turn, raises the costs of storage and pose unfair competition due to force employers to each other down the price, sell their products at very low prices because of the insistence of cash needs.

Recently several SMEs entrepreneurs realize that using computer embroidery machine made them lost their uniqueness. The number of imported products for similar goods with cheaper price is also one reason which lower the demand. So while the entrepreneurs of SMEs in Tasikmalaya are grappling with the increasing cost of production, substitution products at lower prices flooded the market.

Now we can see, the problem repeatedly faced by SMEs, globalization of markets, technological advances and the changing needs and demands of customers forced the nature of competitive paradigms to change continuously. Low levels of education (mostly the entrepreneur just completed education at junior high and high school) and lack of managerial capacities make them can only surrender. The words “not God will”, or “not my luckiness” found in several times interview.

#### Framework of Value re-creation

Various overlap issues in SMEs are often difficult to find a way out. What to do first and who should be involved in the development of SMEs become vague. In this study, systems

dynamics will be used to explain variable in complex system which cause the cause-effect relationship in a round of feedback, where all the variables interact each other.

Analysis and model construction of value re-creation at embroidery industry will be based on this following framework:

1. Determine the gap between the current value of company from customer's side with customer expected value.
2. Determine the gap between the current value of company from owner/business side with owner expected value.
3. Determine critical success factor based on value expected.
4. Encourage value creation through organization process.
5. Consider support from government, financial institution, and university.
6. Consider formation of supporting company by government, financial institution, and university to ensure SMEs growth.
7. Revisit the value expected from customer side with the condition after organizational and supporting company process as a basis for value re-creation.
8. Revisit the value expected from owner side with the condition after organizational and supporting company process as a basis for value re-creation.
9. Give insight to organizational process based on value re-creation.
10. Give insight to supporting company based on value re-creation.

After all value re-creation process has occurred, it is expected organizational process and supporting company able to bring SMEs embroidery product to global market.

#### Systems Dynamics Analysis of Value Creation at Embroidery Industri Tasikmalaya

As stated above, to maintain its existence the company should maintain a balance between the value expected by the consumer and the value that can be given by the company in one hand and also must be able to maintain a balance between the value expected by the owner and the value that can be given by the company in the other hand. When approaching the issue of value creation with systems dynamics, then we can see

that is not only creating value but re-creating value because value creation must become an ongoing process. There are several variables that will be used in this study, for the same perception, then the following limitations will be used.

Critical success factors in this study are all factors should be considered by the SMEs' so that business can run properly. This will be measured based on the value from customer side and value from entrepreneur side.

The current value of the company from customer side is the value given by the embroidery products produced by SMEs today. This value will be measured by indicator 1: if the value of the products produced by the company currently is considered to be satisfied; and 0: if the value of the product produced by the company currently is considered less than satisfied.

The current value of the company from owner side, is the value given by the current company process. This value will be measured by indicator 1: if the value currently is considered to be satisfied, and 0: if the value currently is considered less than satisfied.

Customer side value is a comparison between the benefit of both tangible and intangible, and costs perceived by customers. That mean company have to focus on understanding the expressed desires of the customers in their served markets and on developing products and services that satisfy those desires. (Stanley F. Slater, 1998). In this study, customer oriented associated with product quality, product enhancement and possible cost.

Product quality is the rate is good or bad quality of products produced by embroidery SMEs. Quality indicator will be measured with a likert scale between 1-5, where 1: very satisfied with product quality; 2: satisfied with product quality; 3: neither satisfied with product quality; 4: dissatisfied with product quality; and 5: very dissatisfied with product quality.

What is meant by design is forms, motifs, patterns, shades of embroidery products produced by SMEs. Design will be measured by the following indicators: 1: very satisfied with product quality; 2: satisfied with product quality; 3: neither satisfied with product quality; 4: dissatisfied with product quality; and 5: very dissatisfied with product quality.

For variable price, that meant the amount to be paid by consumers for product offered, will be measured by a scale as follows; 1: the price very high; 2: the price above average; 3: the price average; 4: the price lower; 5: the price much lower.

What is meant by business side value in this study is a comparison of the benefits and what have to sacrifice by SMEs when running embroidery business. Based on previous studies and preliminary research that has been done, the value of the business side include market focus, inventory control and cash flow control.

In this study market focus is limited to how concentrate SMEs at market niche and abilities of SMEs in facing competitor. Market niche measured with guttman scale, 1: if the company has been concentrating in a certain niche market; 0: if the company has not concentrate in specific niche market. To measured attention to competitor guttman scale will be used, 1: if the company give attention to the presence of competitors; 0: if the company do not give attention to the presence competitors.

In case of embroidery SMEs, inventory control important because it influence the efficiency and effectiveness of business. So far the entrepreneur have not done an adequate inventory records, and inventory storage costs have become a problem. Based on that condition, inventory control in this study defined as the ability of SMEs to keep the amount of inventory that it is not too little, because it would make the company to lose the opportunity to sell their product, but also not too much, because it will lead to increased storage costs. To measure whether inventory control has been going well or not, the indicators used to measure the inventory control is the ability to balancing production and selling capabilities.

Production capabilities is the ability of company to produce embroidery product in a year. Since until this study done, the SMEs still not make recording about how much they produced in a year, the production capacity will be measured as follows: 1: if the production capacity bigger than what they produced; 2: if the capacity same with what they produced; 3: if the capacity is smaller that what they should produced.

Ability to sell in this study is the ability

of the company to sell embroidery product in a year. It will be measured as follows: 1: if the ability to sell (that mean demand for the product) more than the amount it can produced; 2: if the ability to sell same with the amount it can produced; 3: if the ability to sell less than the amount it can produced.

The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. Too much focus on liquidity will be at the expense of profitability. (Abuzayed, 2012). In this study, what is meant by cash flow is the amount of cash available in the company to cover day to day operational needs. Cash flow will be measure with likert scale with the following indicator: 1: if the amount of cash is almost always not sufficient for day to day operations; 2: if the amount of cash often not sufficient for day to day operations; 3: if the amount of cash sometimes sufficient for day to day operations; 4: if the amount of cash seldom sufficient for day to day operations; 5: if the amount of cash never sufficient for day to day operations definitions and indicator used in this study.

#### Value creation

The second step after knowing what are the determining factor of business success, is investigating how value creation can occur in this industry. Previous study stated that value creation is the addition of new value to the activities of individuals or groups to produce product or services that are faster, more accurate, more efficient, higher quality, more responsive and more flexible. Value creation needs to be done because it will affect the sustainable competitive advantage.

Although the relationship between customers and value propositions is a key for achieving success in any business, it is often ignored at the business strategy and operational levels. In a business environment, when choosing a value proposition to offer in the market, managers should consider crucial factors that influence the customer at the moment when they decide to purchase. ( Jose Maleiro Martins, 2015)

In this study consumer orientation included in

one of the variables to be analyzed. What is meant is meant by this customer orientation is how the business strives to meet consumer expectations both relate to the quality of products offered, product enhancement and pricing. But it should be noted, the value creation occurs not only by meeting the expectations of the value of the company as a manufacturer, therefore the things that are affecting the value creation of the SME entrepreneurs were also analyzed. Eight variables, namely the improvement of product quality, improved design, pricing, production capability, the ability to sell, the ability to enter into certain.

Eight variables, namely the improvement of product quality, improved design, pricing, production capability, the ability to sell, the ability to enter into certain niche markets and the ability to cope with competitors as well as managing cash flow, will be included as a factor to create value. What is meant by value creation in this study is adding new value to that performed by SMEs in providing product that are faster, more accurate, more efficient, higher quality, more responsive and more flexible. The creation of value will be measured as follows: 1: if the SME entrepreneurs succeeded to create and 0: if the SME entrepreneurs have not succeeded to create value.

Value creation will become the basis of organizational processes and supporting company. What is meant by organizational processes are activities performed by SMEs based on critical success factors, value creation, government support, financial institution and universities. Government support, financial institution and university was added as supporter for value creation because a variety of research about SMES previously showed the important role of the three institutions. The existence of organizational process will be measured as 1: if the organizational activities performed by SMEs based on critical success factors, value creation, government support, financial institution and universities considered to be running as expected; and 0: if the organizational process is not run as expected.

**Table 1.**  
**Variables, Operational Definition and Indicator**

<b>Variable</b>	<b>Operational Definitions</b>	<b>Indicator</b>
Critical success factors	All factors should be considered by the SMEs' so that business can run properly	Measured based on the value from customer side and value from entrepreneur side.
Current value of the company from customer side	The value given by the embroidery products produced by SMEs today.	1: if the value of the products produced by the company currently is considered to be satisfied; and 0: if the value of the product produced by the company currently is considered less than satisfied.
Current value of the company from owner side	The value given by the current company process.	1: if the value currently is considered to be satisfied, and 0: if the value currently is considered less than satisfied
Customer side value	A comparison between the benefit of both tangible and intangible, and costs perceived by customers.	Measured by the opinion of customer about quality, design and price
Quality	The rate is good or bad quality of products produced by embroidery SMEs..	1: very satisfied with product quality; 2: satisfied with product quality; 3: neither satisfied with product quality; 4: dissatisfied with product quality; and 5: very dissatisfied with product quality
Design	Forms, motifs, patterns, shades of embroidery products produced by SMEs.	1: very satisfied with product quality; 2: satisfied with product quality; 3: neither satisfied with product quality; 4: dissatisfied with product quality; and 5: very dissatisfied with product quality.
Price	The amount to be paid by consumers for product offered.	1: the price very high; 2: the price above average; 3: the price average; 4: the price lower; 5: the price much lower.
Business side value	The comparison of the benefits and what have to sacrifice by SMEs when running embroidery business.	Based on previous studies and preliminary research that has been done, the value of the business side include market focus, inventory control and cash flow control
Market niche	If the company has been concentrating in a certain market niche or not	1: if the company has been concentrating in a certain niche market; 0: if the company has not concentrate in specific niche market.
Competitor	If the company give attention to competitor or not	1: if the company give attention to the presence

		of competitors; 0: if the company do not give attention to the presence competitors.
Inventory control	The ability of SMEs to keep the amount of inventory that it is not too little, because it would make the company to lose the opportunity to sell their product, but also not too much, because it will lead to increased storage costs.	To measure whether inventory control has been going well or not, the indicators used to measure the inventory control is the ability to balancing production and selling capabilities.

Production capability	The ability of company to produce embroidery product in a year.	1: if the production capacity bigger than what they produced; 2: if the capacity same with what they produced; 3: if the capacity is smaller that what they should produced.
Capability to sell	The ability to sell in this study is the ability of the company to sell embroidery product in a year.	1: if the ability to sell (that mean demand for the product) more than the amount it can produced; 2: if the ability to sell same with the amount it can produced; 3: if the ability to sell less than the amount it can produced.
Cash flow	The amount of cash available in the company to cover day to day operational needs.	1: if the amount of cash is almost always not sufficient for day to day operations; 2: if the amount of cash often not sufficient for day to day operations; 3: if the amount of cash sometimes sufficient for day to day operations; 4: if the amount of cash seldom sufficient for day to day operations; 5: if the amount of cash never sufficient for day to day operations.

While what is meant by supporting company is a company set up to support the efforts of entrepreneurs running SMEs well. Currently the SME entrepreneurs still has many weaknesses that would require a long time to overcome. Most of the entrepreneurs only graduated from junior high and high school, so the managerial capabilities such as conducting financial records, managing the workforce and the ability to negotiate with consumers is very limited. It needs to be established to support the company, whereas the formation of support company is the result from cooperation and support of governments, financial institutions and universities. The existence of supporting company measured by: 1: if there is supporting company; 0: if no supporting company.

The government's role in helping the growth of SMEs has been studied by many researchers before. Beck, et al conducted a study with respect to growth and the role that can be played by SMEs in alleviating poverty. In their study, government found an important role in supporting the development of SMEs and thus alleviate poverty. (Thorsten Beck, 2005)

In Indonesia, 90% of business outside agricultural sector are SMEs, which is a major source of job creation, but even so the support from the government for SMEs is still low. (Tambunan, 2007). Governments can provide support for the operations of the company

through various regulations, the implementation of various industrial fairs and through taxation policies. Thus, what is meant by the government in this research is how big support given by the government for embroidery SMEs. Indicators for government's role is give support or not. If the government give support, then the given value is 1, whereas if governments do not give support, then the given value is 0.

Financial institutions can provide support to SMEs through financing, whether it be the ease of the procedure for obtaining credit, low-cost funds, as well as monitoring the use of funds in the form of loans. Study conducted in Africa revealed that the problem of access to finance has been noted as one of the major challenges that inhibit the survival and growth of the SME sector in most African countries. (Emeka E. Ene, 2014)

In Indonesia, it is also still a problem, especially because of the limitations of the SMEs in financial reporting required by Bank Indonesia regulation on the provision of credit for SMEs. One of Bank Indonesia's rules, Bank Indonesia Regulation Number 14/22 / PBI / 2012 Article 5 concerning the granting of credit or financing by commercial banks for the development of SMEs. It is stated that to provide credit or financing for SMEs, accounting information in the form of financial statements is required. The problem is the entrepreneurs can not meet this rule. Therefore



in this study, not only the financial institutions, but also university included as parties to provide support for SMEs to provide guidance, either directly to SMEs or through supporting company.

Another reason involves collage is previous studies stated that the creation of economic development through various programs conducted by universities is an important event in the evolution of economic development activities. Various programs offered include the development of information technology, labor, technology transfer, assistance for small and medium enterprises as well as partnerships. (Liao, 2007). Mentoring or assistance to SMEs is one thing that proved as positive influence on the performance of the company. (Barrett R, 2006). Mentoring program is also well done because it does not required huge resources, and cost effective. (Powell, 2012, Hamburg,

2014)

Thus, the definition of financial institutions in this study is how big the role played by financial institutions in supporting the development of entrepreneurs embroidered or in other words, have SMEs utilize financing facilities from financial institutions or not? Indicator to financial institution will be measured by Guttman scale, where 1: if SMEs are already using funds from banks; 0: if SMEs are not using fund from banks.

What is meant by universities in this study is whether the university has been help SMEs to improve their managerial capability or not. To measure the role of universities, 1: if the collage already play important role for the development of SME's, and 0: if the university have not play important role for the development of SMEs. Table 2, summarize variable, operational definition and indicator which will used.

**Table 2.**  
**Variable, Operational Definition, Indicator for Value Creation**

<b>Variable</b>	<b>Operational Definition</b>	<b>Indicator</b>
Value creation	Adding new value to that performed by SMEs in providing products that are faster, more accurate, more efficient, higher quality, more responsive and more flexible.	1: if the SME entrepreneurs succeeded to create value; and 0: if the SME entrepreneurs have not succeeded to create value.
Organizational process	Activities performed by SMEs based on critical success factors, value creation, government support, financial institution and universities.	1: if the organizational activities performed by SMEs based on critical success factors, value creation, government support, financial institution and universities considered to be running as expected; and 0: if the organizational process is not run as expected.
Supporting company	Company set up to support the efforts of entrepreneurs running SMEs well	1: if there is supporting company; 0: if no supporting company.
Government	How big support given by the government for embroidery SMEs.	1: if government support exist; 0: if government support not exist.
Financial institution	How big the role played by financial institutions in supporting the development of entrepreneurs embroidered or in other words, have SMEs utilize financing facilities from financial institutions or not?	1: if SMEs are already using funds from banks; 0: if SMEs are not using fund from banks.

University	Whether the university has been help SMEs to improve their managerial capability or not.	1: if the collage already play important role for the development of SMEs, and 0: if the university have not play important role for the development of SMEs. Table 2, summarize variable, operational definitiona and indicator which will be used.
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**Value Recreation**

One of the advantages of dynamic systems is the utilization of feedback effect. In research on value creation, it will be seen how the value creation is not just a one-time process, but an ongoing process. Processes that occur in the organization at this time, should be the basis for the creation of new value by considering new customers' expectations and business' expectation itself (in this study plus supporting companies). Value re-creation will make the company flexible to face the opportunities and challenges in business. Therefore what meant by value recreation in this study is the process by which SMEs create new values based on the latest condition of consumers, owners and markets.

Indicator of value re-creation is 1: if value recreation has been done; or 0: if value re-creation has not been done.

**Bringing SMEs to Global Markets**

In in-depth interviews found many SMEs entrepreneurs complain thin profit margins and difficulty selling their produce as the main problem, in addition, the influx of global products to the market is also considered as a problem. Hence in this study we will see how to bringing SMEs into global markets.

The global market is a worldwide market open to all businesses. The global market is experiencing rapid development and can be a tremendous opportunity for companies who are ready to face it, on the other hand, the global market could

bring a threat to SME entrepreneurs who are not ready to face the open competition.

In a systems dynamics that will be presented, what is meant by global market is the ability of SMEs to sell their products in global market. It will be measure as 1: if SMEs can sell their product in global market and; 0: if SMEs can not sell their product in global market.

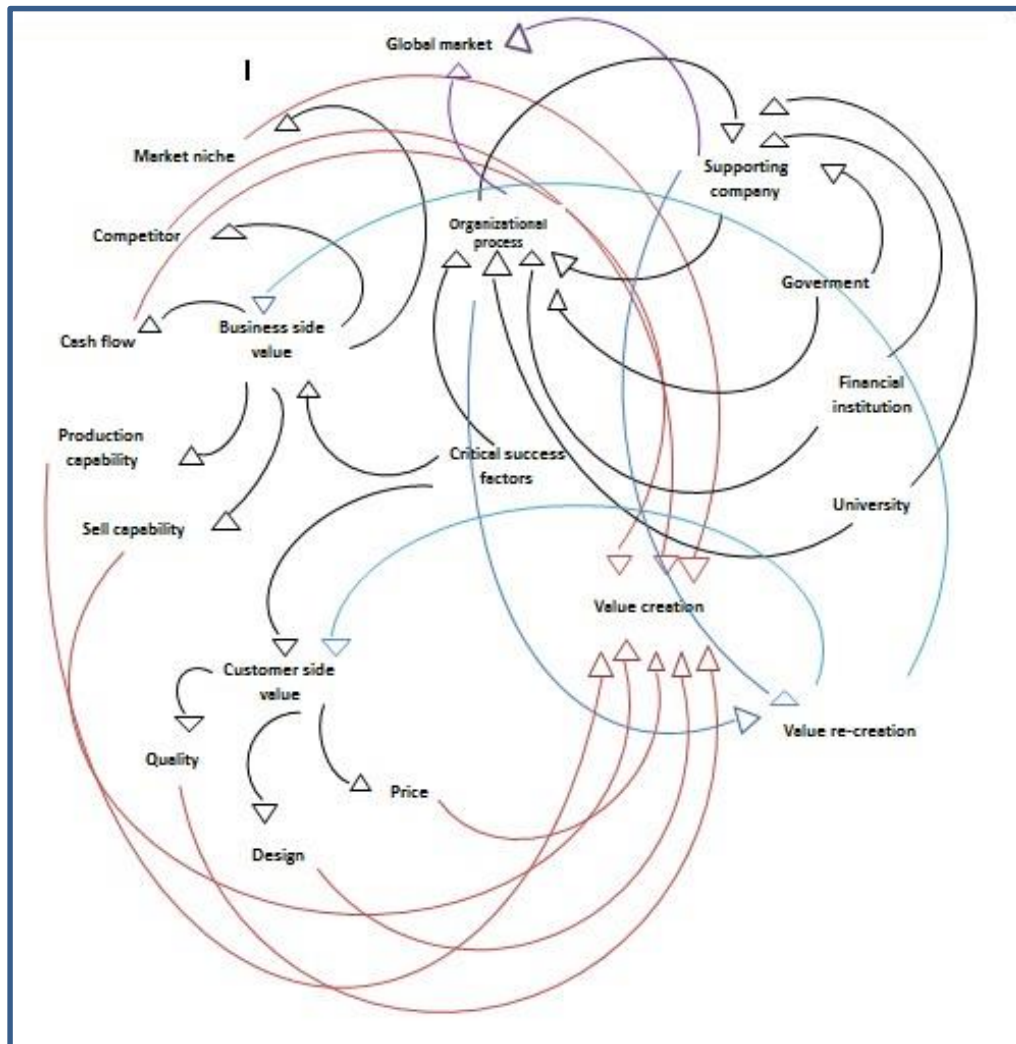
**Conclusion**

Previous studies indicate the important role of SMEs in national economic development. But even so, SMES face many problems either cause of limited managerial capacity, capital, technology acceptance and so on. Overlapping problems causes trouble shooting becomes difficult, because it can not be found tip base. Using a systems dynamics, problems that occur on SMEs can be described more clearly, and solution opportunities become visible.

In the case of embroidery industry at Tasikmalaya, we can see that the main problem is SMES do not trying to made value in order to meet customers expectations, and therefore can not meet owner expectation too. When value offer by the product not meet customer expectation, consumer will abandon the product. In the other hand, when value offer by the company not meet owner expectation, SMEs will close down.

With the help of systems dynamics, we can see that value cration and value re-creation is ongoing activities throughout the life of SMEs.

Figure 1.



Systems Dynamics Analysis of Value Creation at Embroidery Industri Tasikmalaya

**Table 3.**  
**Causal Relation Chart of Value Re-creation**

<b>Variable (Cause)</b>	<b>Variable (Effect)</b>	<b>Relation</b>
Current value of company from customer side	Customer side value	Current value of company from customer standpoint is the basis of value creation from customer side
Critical success factors	Customer side value	Critical success factors are what things that can affect the success of the company, in this case associated with the expected value from the consumer side.
Customer side value	Quality	The literature shows that what determines the compliance level of customer satisfaction on the expected value is the improvement of product quality.
Customer side value	Design	In addition to improving product quality, the literature also indicates that customers value side requires improvements in design or value of the products offered
Customer side value	Price	Customer value side also require reasonable and competitive price.
Current value of company from business side	Business side value	Current value of the company from the entrepreneur itself be the basis of the value of the business
Critical success factors	Business side value	Critical success factors depend on the expected value of the consumer and of course by the expectation value of the company itself. At this time what they get is lower than expectation, so many entrepreneurs are losers and closed.
Business side value	Production capability	Business side value will determine how the production capabilities minimum that must be owned by the company, it is related to the ability to manage inventory
Business side value	Sell capability	Production capability will not provide a positive impact for the company if it is not accompanied by the ability to sell, hence the business side value also requires the ability to sell. Such as production capabilities, including the ability to sell in the ability to manage inventory.
Business side value	Market niche	Business side value will also determine the extent to which market niche to be filled by the product. This is related to the ability to focus on the market.
Business side value	Competitor	Business side value also requires sensitivity to notice and overcome competitors
Business side value	Cash flow	Various previous studies indicate that the ability to manage cash is often a problem for SMEs.
Quality	Value creation	Improving product quality in turn is expected to create value.
Design	Value creation	Improved design is one way to create value.
Price	Value creation	Determination of a reasonable and competitive price will create value.
Production capability	Value creation	The ability to manage inventory, in this case the production capability is the basis of value creation.
Sell capability	Value creation	The ability to sell is one thing that must be done in the creation of value.
Market niche	Value creation	Opening a new market niche is what needs to be done in value creation.
Competitor	Value creation	Attention to what the competitors did, canbring insight for SMEs to improve and create value.
Cash flow	Value creation	The ability to manage cash as previously noted, is one of the problems often faced by SMEs, hence an increase in the ability to create cash is one way to value creation.
Critical success factors	Organizational process	Critical success factor relates to the processes in an organization. The activities carried out within the company (organizational

		process) will show what critical success factor that has been set has been executed.
Value creation	Organizational process	Value creation is the foundation when performing various processes within the organization
Government	Organizational process	Government can play a role that affects the organization in the form of regulation.
Financial institution	Organizational process	Financial institutions can play an important role in supporting the advancement of SMEs by granting loans cooperation and supervision of their use.
University	Organizational process	University can help SMEs with mentoring and training for MSMEs
Government	Supporting company	Government can help the development of SMEs by supporting the establishment of supporting company. What is meant by supporting company is a company formed in cooperation between governments, financial institutions and universities, supporting the company will help the entrepreneurs of SMEs in dealing in with third party.
Financial institution	Supporting company	Financial institutions can help the development of supporting SMEs through lending.
University	Supporting company	Universities can collaborate with the supporting company to develop and determine what training may be granted to SMEs.
Value re-creation	Customer side value	Value creation is a process that should occur continuously. Value recreation should be set back by the value of the consumer side, because the values are dynamic.
Value re-creation	Business side value	In addition to considering the expected value from the consumer side, the creation of value must also consider the value of the company itself, which may also be changed.
Organizational process	Global market	Organizational process is done based on things that have been mentioned above can be done with the goal of bringing the products to the global market
Supporting company	Global market	Supporting company will be a way for SMEs to bring their products to global markets.

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