

Development of Managerial Competence through Knowledge Management in Small Industries in West Java

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Abstract. The research focuses on the gaps of the capability of managerial competence among small industry holders at the province of West Java. It specifically aims to identify the factors influencing managerial competence capability and formulate an appropriate managerial competence profile for small business holders in West Java province. This research was conducted with the quantitative approach by using survey method and data analysis technique of MSA (Measure of Sampling Adequacy) factors analysis, based on Bartlett's test of sphericity. Research population includes all of small and middle industry holders in West Java Province (198.478 small industry business). Through the cluster random sampling, 400 respondents were taken as the research sample representing four regions: Sukabumi Regency, Purwakarta Regency, Cirebon Regency and Bandung Regency. The results show there are three major factors influencing managerial competence capability, namely technical skill, human relations skill, and conceptual skill. The three factors are the embodiment of knowledge management.

1. Background

Small and Middle Industry activities have an important role in every national economic activity, specially its role when Indonesia faced economic crisis, to hold society economic and social resistance. Their existences were holding big economic hopes, particularly as people income sources.

The amount of micros, small and middle industry business (MSME) is the majority of businesses in Indonesia. There are about 50 million business units of (MSME) in Indonesia or 99% of total existing business units. From all MSME units, recording to the Cooperative and Small & Middle Industry State Ministry the majority is micro business with the amount of 47.702.310 units or nearly 95% more [1]. Small industry unit is about 2 million units, and Middle Industry is about 120.000 units. Big industry is only about 4.527 units or about only 0, 01%. With this huge number, it is clearly that small business take very strategic position in national economy in Indonesia.

Similar composition is revealed in many countries. For example, in Japan, at 2007 the amount of little and middle industry reached 4,69 million units (99, 7% compared with big industry which only about 13 thousands units (0, 3%). little and Middle industry in Japan had absorbed 30 million employees (70, 2%), while large industry absorbed 13,7 million people (30, 5%). The value of small and middle industry export reached 137 billions yen (51. 1% and large industry had about 131 billions



yen (48, 9%). It is reflected that small and middle industry was main strong foundation of Japan's economy [2].

In Thailand, although small and middle industry had not yet rolled as main contribution, but it had contributed significantly to export value, which had reached 26, 5% from total national export value. Small and middle industry in Singapore had contributed 47, 5% of export, while in Malaysia reached 20 % [3].

In Indonesia, although the amount of small and middle industry units reach 99%, but the contribution to export values in 2003 was only 19%. It showed that the development of small and middle industry in Indonesia was slow. Such growth is backed by strong domestic demand and is being driven by the micro, small, and medium-sized enterprise MSME sector. In Indonesia, there were 56.5 million MSMEs accounting for 99.9% of total enterprises in 2012 [3].

According to Provincial Statistical West Java [1], low contribution of small and middle industry to export value reflected low capability of them. Generally, there are two main problems. First, financial problem and second, non-financial problem (management organization). Financial problems include:

- Inappropriate of available and accessible fund by MSME.
- There no systematic approach to funding program for MSME.
- High transaction fees, because of very complicated credit procedure which takes much times for small fund.
- Lack of access to formal funding sources, because of either lack of banking network at remote area, nor suitable information.
- High margin for investment and capital.
- Un-bankable small business holders because of there are no transparencies in financial management and lack of managerial and financial capability.
- The problems of management organization (non-financial problems) include:
- Lack of information on production technology and quality control process, because of minimum chances to follow the technology development and lack of education and training.
- Lack of information on marketing because of limitation of accessible information by MSME regarding global market, also because of the low capability of MSME to provide product or services by market demand.
- Lack of human resources with appropriate skills.
- Lack of understanding to financial and accounting knowledge.
- Limitation of business network for co-operation between small industry holders (marketing information system)

Almost all non-financial problems of MSME are oriented to low knowledge and managerial competence of small business holders. According to Statistic [1], the small and middle business holders are graduated from Elementary School (70 %). In the other side, knowledge plays a very important role for company improvement. The more advanced of company's and human resource's knowledge, they will get better competitive ability to enter a global market.

One of the important efforts to enhance capacity and competence of small business holders is to improve their capability on science and technology, which are appropriate for their productivity and strengthening their competitive ability [4]. With the trend of highly competitive business, technology development, and customer's need improvement, the success of small and middle industry business will be determined by how they can develop themselves to become a learning organization for business innovation and managerial competence development. Therefore, we need knowledge management, as an effort to identify, organize, develop and implement knowledge.

In every study regarding implementation of knowledge management in industry and organization, the conclusion is that the implementation of knowledge management contributed positive influence to increase capability and competitive ability of the industry or organization itself. However, the implementation of knowledge management in small and middle industry at Indonesia is very limited. This is because of minimum study, research and model development for knowledge management

implementation in little and middle industry sectors. This is why researchers determine the topic for this research.

2. Literature Study

Knowledge management (KM) became a consequential concept in management and scientific study topic [5]. The implementation of KM in many multi-national companies contributed positively to the concept development as an important concept to be implemented in organization, to reach goals effectively and efficiently [6].

KM was first related specially to business by Tom Davenport in 1998 with his bestseller-book, *Working Knowledge: How Organizations Manage What They Know* published by Harvard Business School Press. By this book, Davenport can be acknowledged as a pioneer of 'business knowledge management' and motivate the business world to KM [7].

There are many studies related to large companies that implemented KM. The result is that the affectivity of KM was founded in large companies those had implemented KM. The analysis showed that implementation of KM in many big companies contributed to affectivity and efficiency of KM, to increase the company's work and income. In the book *The Knowledge management Toolkit* published by Prentice Hall PTR, Amrit Tiwana, it is shortly described the results of some studies include study at airplane industry Rolls Royce, computer software company Platinum Technology Inc., consumption technology company Nortel Corporation, semi-conductor telecommunication company GaSonics and Texas Instruments, also medicine and nutrition company Monsanto. Tiwana showed the description of KM implementation and its effect to company work improvement, described by its production and sales [6].

KM is based on basic idea that the most precious resources in an organization are knowledge of people within the organization itself. This is not a new idea, because organization also means managing human resources. The new concept of KM is that focus of management is "knowledge." This focusing aspect is forced by the changes' acceleration in a business world and development of global economy into the new era called "knowledge economy era." Rao in *Knowledge Management Tools and Techniques*, defined KM as; Knowledge management is a systematic discipline and a set of approaches to enable information and knowledge to grow, flow, and create value to an organization [8].

It refers to identification by Robert L. Katz in *Harvard Business Review*. It is still believed there are 3 essential managerial skills: 1. Technical skill, which is the capability to use knowledge and certain skill; 2. Human relations skill, is a capability to interact, work, understand and motivate the other person, individually or in the group, and 3. Conceptual skill, is mental capability to analyzed and diagnose a complex situation [9].

From some definitions of some sources, it is concluded that KM is a system to create, collect, organize, distribute, and use knowledge in organization or individual, purposed to increase learning process and organization performance. Managerial Competence is knowledge and capability those related with managerial capability needed to handle organization's tasks.

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There are nine factors in managerial competence, include: 1. Understand and capable of a design business model; 2. I have advanced future vision; 3. Systematic thoughts; 4. Capable of integrate and manage resources; 5. Risk management; 6. Marketing idea; 7. Managing stakeholders; 8. Lead and manage changes; 9. Develop human resources and value improvement [11].

There are many definitions regarding small industry in Indonesia's Law, in Undang-Undang No. 20/2008 about Micro small and Medium Enterprises, Small Industry was defined as business, which meets criteria such as: a) Own net asset more than Rp. 50.000.000,00 (fifty millions rupiahs) to the

maximum of Rp.500.000.000,00 (five hundreds millions rupiahs) excluding properties used as a business house; alternatively, b) Have yearly omzettes more than Rp. 300.000.000,00 (three hundreds millions rupiahs) to the maximum of Rp 2.500.000.000,00 (two billions and five hundreds millions rupiahs); c) independent, not as branch or company expands owned, controlled or become direct and or indirect part of middle or big industry, and d) forms individual business, informal or formal business company, including co-operative [12].

According to data in Provincial Office of Co-operative, Small Industry and Trading the matrix of industry condition at West Java Province including classification, business unit amount, employee absorbance and investment from 2005 to 2007 (see table 1) [13].

Table 1. Industry Condition at West Java Province

Sektor Industri	Tahun 2005			Tahun 2006			Tahun 2007		
	Unit Usaha	Tenaga Kerja	Investasi (Rp)	Unit Usaha	Tenaga Kerja	Investasi (Rp)	Unit Usaha	Tenaga Kerja	Investasi (Rp)
Besar	276	3.176	40.861.696.000	84	7.602	567.821.273.372	95	8.498	615.949.973.177
Menengah	30	1.082	22.495.068.000	104	4.714	83.735.267.587	146	5.660	106.463.267.242
Kecil	30	2.242	72.666.882.000	1.588	2.675	235.609.189.321	2.880	48.246	263.990.568.136
Total	336	6.500	136.023.646.000	1.776	14.991	887.165.730.280	3.121	62.404	989.403.808.555

Source: Dinas Koperasi UKM dan Perindag Jawa Barat

3. Methodology

Research method used in first year is an explorative survey with the quantitative approach. The research subject includes small industry holders located at West java province. Research instruments are pooling, interview's guideline and focus group discussion. Data analysis conducted quantitative analysis based on an existing data group. Quantitative data analysis technique used SEM Analysis, with the SPSS computer program support.

Overall, in three years of activities, this research used R & D method by Borg & Gall, through 4 D steps, which are: define, design, develop and disseminate. Define and design steps were conducted in first years with the support of SPSS program. In the second year, the researchers were directed for develop the knowledge management model [14].

The results from first and second year were followed up in the third year with disseminating step and implementing the knowledge management model, also designing the management information system that will support small industry holders understanding in West Java Province.

Data collection techniques used in this study include: (1) observations of participation / observation (2) study the documentation; and (3) interviews. Assessment is done by providing an initial assessment before and after the training skills training activities as a whole, and to compare the performance field [15].

In the first year, we conducted managerial competence profile mapping of small industry holders. This map will be used as basic input in designing knowledge management model, to develop managerial competence for small industry holders, based on literature study, field observation and focus group discussion, to determine an appropriate model suitable to small industry characteristics.

Refer to the research goals, the indicators or achievement parameters from this research are :

3.1. Managerial competence on the small industry level at research area West Java:

- Managerial competence existed before this time in small industry holders;
- Problems of managerial competence faced by small industry holders.

3.2. Concept and understanding of knowledge management:

- Identify the implementation of knowledge management by small industry holders at West Java;

- Define the principles and knowledge management model form in developing managerial competence for small industry holders;
- Formulation of the knowledge management model in developing managerial competence for small industry holders;
- Design of the management information system to support the implementation of knowledge management for small industry holders.

Along with the goals and indicators/achievement parameters, therefore the output of this research in first year is description about managerial competence profile of small industry holders at West Java Province [16].

The research population includes all registered small industry holders at BPS Jawa Barat [17]. Based on data in 2014, the population reached 198.478 units of small industry business.

Research sample was based on cluster random sampling, which was determined the representatives of West Java region, divided into 4 area:

Region 1 was represented by Sukabumi Regency,

Region 2 was represented by Purwakarta Regency,

Region 3 was represented by Cirebon and

Region 4 was represented by Bandung Regency

4. Results

This research was focusing on research goals, which are the problem related to Managerial Competence faced by all industry holders. Managerial Competence is the knowledge and capability related with many managerial abilities those are needed to solve organizational tasks. In their business, those industry holders must have suitable capability.

The results from field observation and data analysis, it could be described in table 2. Based on the table 2 shows the rotated Component Matrix, it is revealed the difference correlation between nine research variables in Managerial Competence research, into two groups of factors, concluded in the next table:

Table 2. Rotated Component Matrix

item	Factor loadings	Component
X ₁	0,805	1
X ₂	0,782	1
X ₃	0,765	1
X ₄	0,449	1
X ₅	0,537	2
X ₆	0,579	2
X ₇	0,541	2
X ₈	0,734	2
X ₉	0,702	2

Therefore, the nine research indicators for Managerial Competence research variables, was reduced into two dominant factors:

Factor 1 includes variable: X₁, X₂, X₃, X₄

Factor 2 includes variable: X₅, X₆, X₇, X₈, X₉

Which:

X₁ = understanding and be able to design business model

X₂ = having advanced future vision

X₃ = systematic thoughts

X₄ = be able to integrate and manage resources

X₅ = risk management

X₆ = idea marketing

X₇ = stakeholders management

X₈ = lead and manage changes

X₉ = develop human resources and value improvement

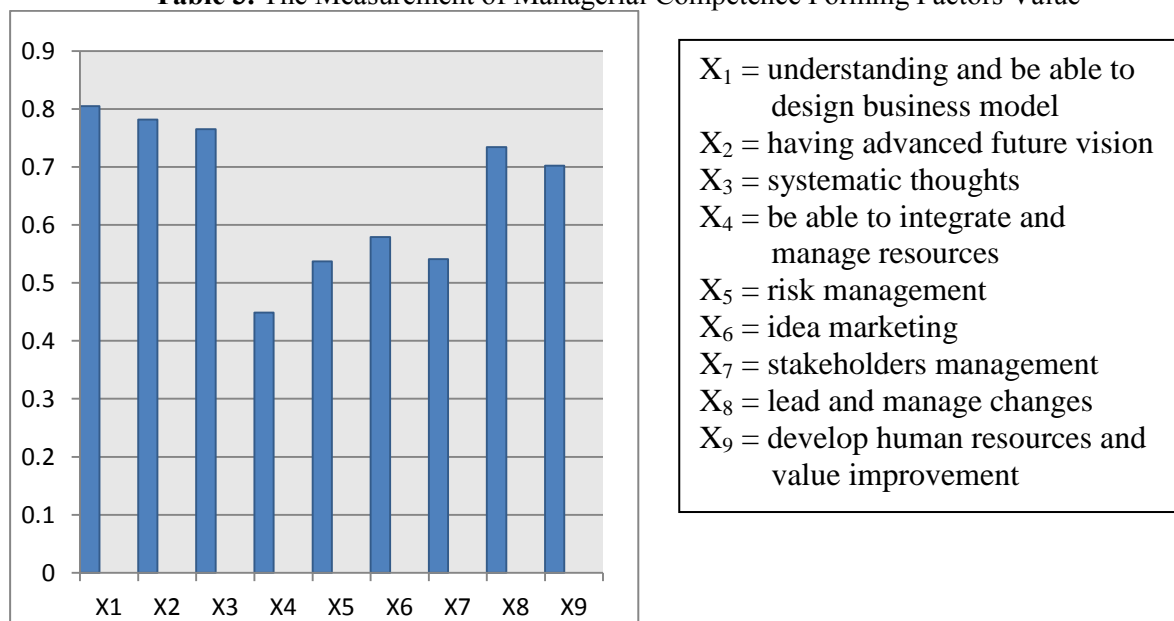
Managerial Competence is formed by two dominant factors such as internal and external factors. The internal factors relied inside the businessman character, including X₁ = understanding and be able to design business model, X₂ = having advanced future vision, X₃ = systematic thoughts and X₄ = be able to integrate and manage resources.

External factors are important capability that a businessman must have. This external factor included X₅ = risk management, X₆ = idea marketing, X₇ = stakeholder's management, X₈ = lead and manages changes, and X₉ = develop human resources and value improvement

Based on above discussion, the real problems related to managerial competence of small industry holders at West Java are divided into three parts as follows: technical skill, human relations skill, and conceptual skill. Problems on technical skill include lack of understanding to management knowledge and technology application on running business. The problems of human relations skill include the minimum development of existing human resources and lack of motivation to improve capability. And the problems of conceptual skill include low capability to identify, analyses and solve problems, which are causing the weakness of business competitive ability, facing globalization era.

Table 3 shows the measurement of managerial competence forming factors value. Managerial competence was formulated by nine factors as stated by Soongsatitanon, where those factors show high value to influence the managerial competence of small industry holders at West Java Province. Those are: understanding and designing a business model (0, 805), having advanced future vision (0, 782), and systematic thought (0.765), capable of integrate and manage the resource (0, 449), risk management (0, 537), idea marketing (0, 579), stakeholder management (0, 541), lead and manage changes (0, 734), developing human resources and value improvement (0, 702).

Table 3. The Measurement of Managerial Competence Forming Factors Value



Based on the result from this research, the important follow up to develop managerial competence is knowledge management. Therefore, this result will be referred for knowledge management study that will support managerial competence factors.

There are 3 essential managerial skills such as: 1. Technical skill, the capability to use certain knowledge and skills; 2. Human relations skill, capability to interact, work, understand and motivate other people, individually or in the group; and 3. Conceptual skill, the mental capability to analyze and diagnose complex situation [13]

The analysis of field observation findings reveals that problems of managerial skills faced by small industry holders are related to those stated by Katz. In technical skill, small industry holders at West Java have a weakness in knowledge and implementation of management and technology to support their business development, while this skill is the basic capability for small industry holders. At the other side, they still have to lack of understanding to good management in their business such as organization structure, clear work procedures, also capital and income management. Besides those, the applications of simple technology and use of traditional method are obstacles for them. This is influencing on the product that is worse than those using recent technologies.

In human relations skill, small industry holders at West Java are lacked of capability in human resources management in their business environment. Employee development to improve skills, especially in technology application is very low. Motivation given in a minimum effort without continuous control and real follow up, such as rewards for employees for examples: bonus on good performance or staff promotion.

Conceptual skill became the next problem for small industry holders at West Java. They lack of capability to identify, analyses and solve problems, so they do not have understanding of recent market demands. The unsolved globalization effects have also affected to small industry development at West Java and very low competitive ability.

The conclusion of research shows that global problems related to managerial competence are lacked of understanding and identifying the type of capability those are important for a businessman to run his business. They usually learn from their experiences, and some are only hoped from their fortune. They hold only on capital to run business, while, in reality, a company with a manager who understands and aplicate managerial skills could develop better than those without managerial skills.

5. Conclusions

The real problems related to managerial competence of small industry holders at West Java are divided into three parts as follows: technical skill, human relations skill, and conceptual skill. Problems on technical skill include lack of understanding to management knowledge and technology application on running business. The problems of human relations skill include the minimum development of existing human resources and lack of motivation to improve capability. And the problems of conceptual skill include low capability to identify, analyses and solve problems, which are causing the weakness of business competitive ability, facing globalization era.

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- The government via the ministry of Industry and Trading in national or regional level should support the industry holders to develop their business, understand and applicant managerial competence and have competitive ability in a global market.
- Educational institutions with purposes to make bright people of this nation, are hoped to transfer management knowledge and managerial competence to industry holders, to increase understanding and application of knowledge in early steps and produce well-educated businessmen.
- The business holders who have important roles to improve national economy, must have been willing to improve managerial competence to increase competitive ability in a global market,

and also proactively participate in knowledge and skill improvement activities from government or educational institutions.

Based on above recommendation, the implication of research will be proposed as follows:

- The government must increase the dissemination of capital allowance for small industry holders, providing the training of managerial competence development for small industry holders and constructive control and assistance to business holders from beginning and its development.
- Educational institutions give more education about managerial competence for business holders through seminars or trainings, and also support research on managerial competence, which will support small industry sectors to solve their problems.
- Business holders contribute and participate in seminars and trainings provided by government or educational institutions to improve knowledge and managerial competence, also to develop themselves by looking for knowledge on managerial competence via all media.

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