INNOVATION STRATEGY TO IMPROVE THE COMPETITIVENESS OF MICRO, SMALL, AND MEDIUM ENTERPRISES OF BANDAR LAMPUNG BANANA CHIPS

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ABSTRACT

Innovation is needed by micro, small, and medium enterprises to grow and develop into large businesses. However, that innovations are limited by existing constraints such as limited number of employees, total assets, total revenues and total budget for innovation. Human resources or the entrepreneur is known to be an important factor in improving the performance and innovation of SMEs or UMKM. This research aims to formulate strategies given the constraints of innovation, human resource capacity and opportunities for innovation in improving competitiveness. The analytical method used is confirmed method, the evaluation model of structural equation modeling (SEM) and the analytic hierarchy process (AHP). The analysis showed an effect of human resources amounting to 0.761 on the settlement of the constraints and influence of 0.806 to successful innovation. The main obstacle that have to be resolved are human resources, promotion, managerial finance and administration, location, and marketing. The innovation that most influence in purchasing decisions and according to the ability of SMEs are service innovation, organization, business model, supply chain, and marketing. The best strategy formulation that can be done in improving the competitiveness of businesses are participation in exhibitions and entrepreneurship seminars, technical assistance, training and the online marketing promotion, as well as the provision of machinery and appropriate process equipment.

Keywords: innovation, competitiveness, structural equation modeling, analytic hierarchy process

ABSTRAK

Inovasi dibutuhkan oleh usaha mikro, kecil, dan menengah untuk tumbuh dan berkembang menjadi usaha besar. Namun demikian, inovasi harus disesuaikan dengan kendala yang ada mengingat keterbatasan jumlah tenaga kerja, jumlah aset, jumlah pendapatan dan jumlah anggaran untuk melakukan inovasi. Sumber daya manusia diketahui menjadi faktor penting dalam peningkatan kinerja dan inovasi usaha mikro, kecil, dan menengah. Penelitian ini bertujuan untuk merancang strategi inovasi yang sesuai dengan kendala, kemampuan sumber daya manusia dan peluang inovasi dalam upaya peningkatan daya saing. Metode analisis yang digunakan yaitu konfirmasi, evaluasi model structural equation modeling, dan analytic hierarchy process. Hasil analisis menunjukkan sumber daya manusia berpengaruh sebesar 0.761 terhadap penyelesaian kendala dan berpengaruh sebesar 0.806 terhadap keberhasilan inovasi. Kendala utama yang harus diselesaikan adalah pada sumber daya manusia, promosi, manajerial keuangan dan administrasi, lokasi, dan pemasaran. Sementara inovasi yang paling mempengaruhi keputusan pembelian dan sesuai kemampuan UMKM saat ini adalah inovasi pelayanan, organisasi, model bisnis, rantai pasok, dan pemasaran. Formulasi strategi terbaik yang dapat dilakukan dalam upaya peningkatan daya saing adalah keikutsertaan pelaku usaha dalam kegiatan pameran dan seminar kewirausahaan, bimbingan teknis, pelatihan dan promosi pemasaran online, serta penyediaan mesin dan peralatan proses yang sesuai.

Kata kunci: inovasi, daya saing, structural equation modeling, analytic hierarchy process

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INTRODUCTION

Micro, small, and medium enterprises in a country's economy plays an important role, in other words it creates a lot of employment compared to the same investment in a larger scale business. UMKM contributions to the formation of Gross Domestic Product (GDP) are quite significant towards the country's foreign exchange with a stable export value (Apriyani et al. 2014). Micro, small, and medium enterprises must have competitiveness so that it can keep developingg. In 2013 the number of UMKM in Indonesia was 57.8 million units or 99.99% of the total business units in Indonesia (Kemenkukm, 2015).

The role of UMKM is almost equal all over Indonesia, not to mention Lampung Province. According to the data from the Cooperative Office and UMKM of Lampung Province, up to 2013 there were 375,415 UMKM units in Lampung Province. This number consists of 276,662 units of micro scale businesses, 78,827 small scale businesses, and 19.92 medium-scale businesses (Diskumkm, 2015). Banana chips are the most sought product and they become a typical souvenir from Bandar Lampung City. This business also gets special attention from the local government, which can be seen from the establishment of a cracker industry center area. Based on the initial field survey, there are 29 banana cracker businesses that belong to the cracker center and 3 other cracker industries outside the cracker industry center.

Nevertheless, UMKM have some weaknesses in undertaking their business. Research on UMKM's obstacles has been carried out. Indriati (2015) explained that UMKM's general obstacles, as stated in the results of Statistics Center Bureau survey in 2011, were capital, marketing, business competition, raw materials, production technique, expertise, human resource managerial skills, lack of financial management knowledge, and accounting. The obstacles of UMKM banana chips that are located in Bandar Lampung City are no strategic location, no market center or network, no effective and reachable technological support, and unplanned waste handling (Wulandari, 2012). The obstacles faced by the UMKM must be tackled immediately since Indonesian economy is facing a new challenge, that is the emergence of ASEAN Economic Community.

Micro, small, and medium enterprises needs innovation in order to survive in the medium of tight competition. Besides, innovation is also needed by micro, small, and medium enterprises for its growth and development to become a large-scale business. Research on the improvement of business competitive power using innovation approach has not been carried out. However, innovation targeted must be suitable with the existing obstacles since there is a limit of asset, amount of income, and amount of budget for carrying out the innovation. In carrying out innovation, there must also be a strategic formulation to determine a suitable type of innovation. Strategies are related to effectiveness rather than efficiency, and they are a process of analyzing the environment and designing suitability among organization, resources and aims as well as environment (Proctor, 2000).

In order to handle the main obstacles to increase UMKM competitiveness and implement the type of innovation to be applied, human resource is assumed to have an important role in the organization effectiveness. Human resources are known to become an important factor in improving performance and a business innovation. Research carried out by Kisengi (2–14) explained that there was a correlation between education and entrepreneurship behavior. Chen's research (2009) also explained that human resources gave a big and important role in the interaction between buyers and businessman. The research results carried out by Ardiana et al. (2010) explained that the quality of human resources in UMKM will affect UKM performance. According to Khristianto (2008) some factors that affect the quality of human resources are gender, education, age, experience, amount of salary, training, and capability to access information/internet. Based on the description above, it can be said that the aim of the research is to design innovation strategies in order to increase competitiveness of micro, small, and medium enterprises of banana chips in Bandar Lampung City. The specific aims of the research are, however, (i) to analyze the main obstacles in improving competitiveness, (ii) to analyze the type of innovation to be applied in order to improve competitiveness, (iii) to analyze the role of human resources in order to solve the obstacles and to carry out innovation for improving competitiveness, and (iv) to formulate innovation strategies in order to improve UMKM competitiveness.

METHODS

This research was carried out from February to July 2016. The location of the research was banana cracker UMKM in Bandar Lampung City. The location was chosen based on the consideration that Bandar Lampung City was one of the banana cracker industry centers in Indonesia. Data used consisted of primary as well as secondary data. Primary data was obtained by carrying out a survey on the consumers and depth-interview using questionnaires and observation on the business doers and selected experts. Secondary data was obtained from the results of previous research analysis and related document data.

This research was divided into four stages. The first was a preliminary survey on the consumers of banana chips and a survey on business doers related to the on-going business profile. The method of collecting data was by distributing online questionnaires to consumers and interviewing business doers. Consumers' data were analyzed descriptively, while data on the business doers' profile correlation were tested using rank spearman to find out the relation between business doers' criteria and their competitive ability. The outcome of this stage was information on innovation that would affect the decision to purchase the product by the banana cracker consumers, type of product preferred, and correlation of the business criteria that could affect efforts to improve competitiveness.

The second stage was to identify the condition of micro, small, and medium enterprises in improving competitiveness. The condition observed was the obstacle that could hinder improvement of business competitiveness and innovation that was technically possible to carry out and that gave significant effects on the efforts to improve competitiveness. Method of collecting data was carried out by using direct survey and questionnaires completed by business doers. The questionnaires given were a form of confirmation based on secondary data that had been collected previously with reference to the present obstacles and UMKM innovation. Data obtained were analyzed using a structural equation modeling with partial least square approach and with the help of software SMARTPLS 2.0. The outcomes of this stage were priorities on the obstacles faced and priorities of the innovation to be carried out that would become measures for setting-up alternative strategies for the next stages.

The third stage was to analyze the role of human resources as an independent variable or exogenous on the solution of UMKM obstacles and to implement innovations as a dependent variable or endogenous. The method for collecting data was carried out using a direct survey and questionnaires completed by involved respondents, that is business doers. Questionnaires were a form of confirmation based on the secondary data with reference to factors that could affect the quality of human resources. The method for analyzing data was structural equation modeling using partial least square approach. The software used was SMARTPLS 2.0. version. The outcome from this stage was the main factor that could affect how big the role of human resource was in solving the obstacles and their success to carry out innovations. In the second and third stages analyses were carried out simultaneously using structural equation modeling. According to Chin (1998), the best thing about this method was it was able to test a complex research that contained a lot of variables simultaneously. Hwang et al. (2010) also explained that the structural equation modeling method could complete analysis with one estimation while others could complete it with some regression equations. In the structural equation modeling method, the constructed validity and reliability was tested by identifying the model and evaluating the construction.

The last stage was to formulate innovation strategies. This stage was carried out to gain innovation strategic model to improve UMKM competitiveness of banana chips in Bandar Lampung City. The strategies were based on constructed assumptions. The results of the previous stages became a foundation for making assumptions of innovation strategies to improve competitiveness. Formulation was initiated with forming a group of experts that had been involved in the improvement of business competitiveness. Then strategic alternative assumptions were formulated that could meet two criteria, namely having significant impacts and possible to be carried out technically. In this stage selected strategic assumptions were prioritized to be formulated to become innovation strategies that could improve competitiveness. Prioritizing strategies was carried out using an analytic hierarchy process method with the help of software Microsoft excel (Indriati et al. 2015 modified). For clearer information, see the Figure 1.
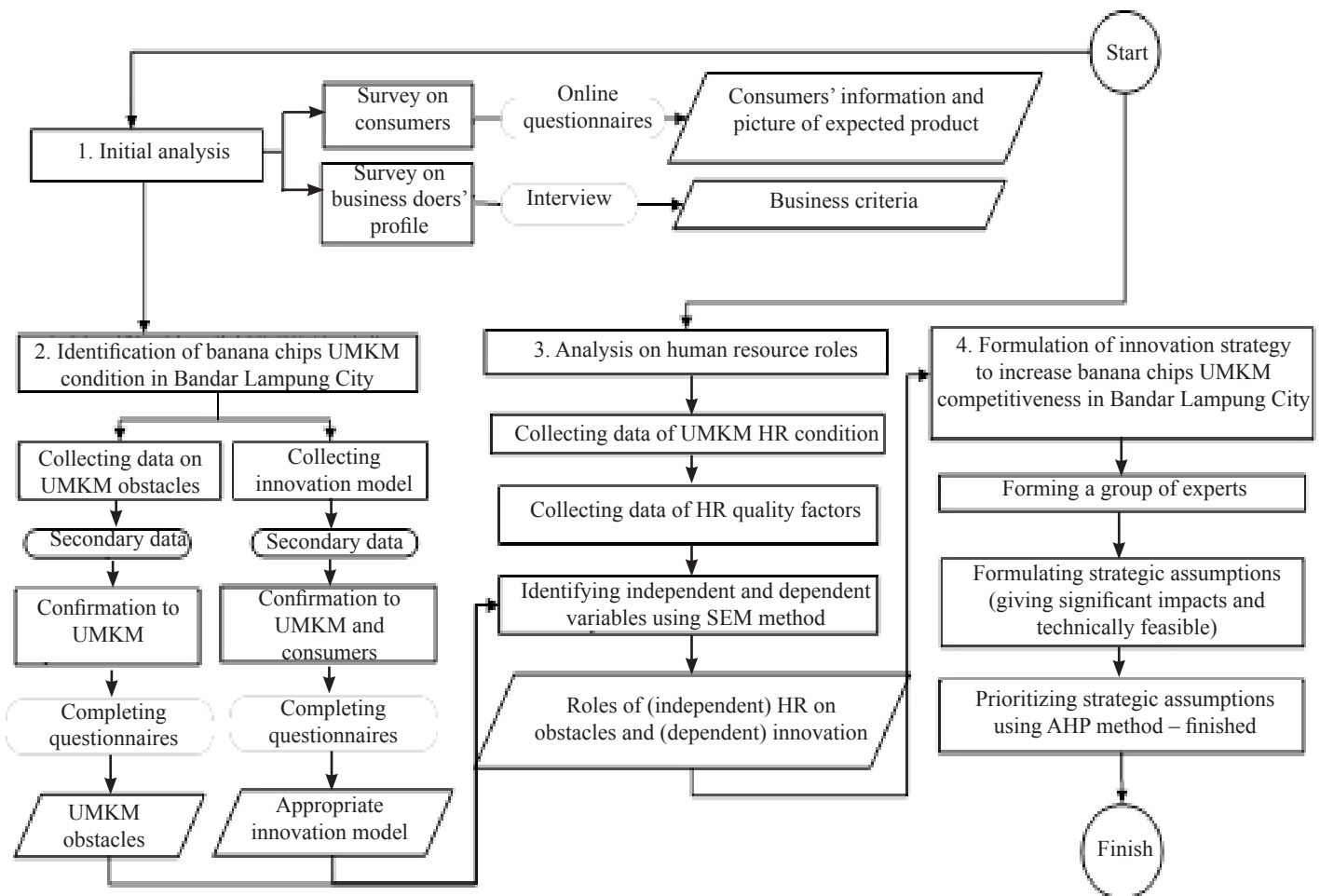
Figure 1. Research framework

RESULTS

Innovation that Can Affect the Decision to Purchase and the Consumers' Preferable Product

Respondents were chosen based on three criteria, namely knowing the product, consuming the product, and domicile. Analysis of consumer's survey on the innovation was carried out descriptively. The results showed that 51 respondents chose product innovation as an innovation that influenced most the decision to purchase, while other innovations that also influenced decision to purchase were marketing innovation (36 persons), process and technology innovation (6 persons), service innovation (7 persons), business model innovation (6 persons), demand chain innovation (3 persons), and organization innovation (1 person). Then the things that were preferred by consumers through open questionnaires as an input but not yet carried out by banana cracker business doers were carrying out marketing that could reach a lot of areas, facilitating online purchasing, packaging the product that could

maintain product quality, and including the assurance of 'halal' aspect. According to Manalu et al. (2007), the availability of online-site for promotion would give positive impacts as long as it included such factors as the suitability of information and product, interesting picture projections, and safe transactions.

The Profile of Banana Chips Businessman in Bandar Lampung City

The businessman profile can be described by three criteria, namely education, relation between businessman and their employees, and business status. The results showed that the businessman's education ranged from Elementary School to Magister level. As much as 6% of the respondents were of elementary school level, 9% junior high school, 38% senior high school, 6% diploma, 38% bachelor graduates, and 3% magister graduates. Those data explained that the background level of education of the businessman was mostly senior high school and bachelor degree (S1). According to Ariani and Ayu (2013) the standard of

human resource educational level in the micro, small and medium scale was of senior high school and its equal education. Whereas the educational level of the workers was on elementary senior high school levels, 25% of the businessman chose to employ those of elementary school level, 9% chose those of S<P level, and 66% chose those of senior high school level. The relation between the employers and their employees showed that 47% businessman chose their employees from their own family, 37% from non-families, and 16% from the mixture of families and non-families to run the business. One of the reasons why the businessman chose their own families was to minimize the cost.

Data from respondents based on the business status or business identification showed that 75% of the business was involved in producing banana chips and 25% was the sellers. Seventy-five percent of business or 24 business sectors chose to produce their own product in order to maintain the quality of the product and to minimize the cost. For these reasons, they were able to sell their product with cheaper price. While 25% business or 8 business sectors were the sellers who obtained their banana cracker product from the craftsmen outside Bandar Lampung area. They were of the opinion that this way was more efficient because they did not need to have a big investment for the machines and process facilities.

Correlation Between Business Profile and the Improvement of Competitiveness

In research, the capacity of business competitiveness for micro, small, and medium enterprises of banana chips in Bandar Lampung City was measured using three approach criteria, namely business existence or sustainability (in year unit), turnover obtained each year, and number of employees. In order to improve business competitiveness for micro, small, and medium enterprises for banana cracker product in Bandar Lampung City bivariate analysis technique was used to see how big the correlation between education, asset, and business status and the increase of competitiveness was. In this analysis the independent variables were education (XA), asset (XB), and business status (XC), while the dependent variables were the existing effort (Y1), turnover (Y2), and the number of workers (Y3). The results of analysis about correlation can be seen in Table 1.

Table 1. the results of Rank Spearman correlation

			Y1	Y2	Y3
Spearman's rho	XA	Correlation Coefficient	-0.378	0.078	-0.266
	XB	Correlation Coefficient	0.201	0.935	0.687
	XC	Correlation Coefficient	-0.115	-0.290	-0.390

Education

The results of correlation analysis between education (XA) and the existing business (Y1) showed the inverse correlation because it was negative (-0.378). The correlation value between education (XA) and turnover each year (Y2) showed positive relationship (0.078), but it was not significant (De Vaus 2002). The analysis of correlation between education (XA) and the number workers (Y3) also showed an inverse correlation because it was negative (-0.266). Based on the results it is found out that the higher the education of the business doers, the lower the existing business and the smaller the number of the existing workers. In the meantime for the turnover obtained, the higher the education of the business doers, the higher the turnover each year. The results can mean that if the education of business doers is higher, the business level will also become higher. The higher the education of the business doers, the higher the technical and managerial capabilities. This will affect the technological advances of using machines, and thus it will cause the number of workers become smaller, but the turnover obtained will become higher.

Based on the previous results and field conditions, education of business doers were dominated by senior high school bachelor degree level. This is probably because in this education level, the businessman were quite satisfied with micro, small, and medium enterprises. The results of interview with one of the business doers that dominated banana cracker market share in Bandar Lampung City and whose educational level was a bachelor degree showed that they always wanted to improve the desire and capability to access in order to increase business turnover. This would certainly affect their business progress significantly and improve the business level to become a big-scale business (with a turnover asset criteria set by the 2008 Regulation No 20).

Asset

The results of analysis of correlation between asset (XB) and existing business (Y1) showed that there was a positive relationship with a value of 0.201. This relationship had a weak bond. The correlation value between asset (XB) and turnover (Y2) was 0.935, which showed that the relation was almost perfect. This showed that asset was closely related to turnover; the higher the asset for business the more positive the turnover obtained each year. The correlation value between asset (XB) and the number of workers (Y3) was 0.687, which showed that there was a strong bond. This showed that asset owned would become a powerful entity for business to attract the buyers' attention so that the turnover would become high, and thus increase the capability to employ people and to pay qualified human resources and the capability to improve competitiveness with other businesses.

Business Status

The results of the analysis showed that the correlation between business status (Xc) and existing business (Y1) had an inverse relationship or negative (-0.115). The correlation value between business status (XC) and turnover (Y2) was -0.290. This value showed that the relation between business status and turnover was inverted. The correlation value between business status (XC) and the number of workers (Y3) also showed a negative value, that is -0.390. The same thing was also showed by the three dependent variables. The results could be interpreted that the relationship of business status (XC) as a producer did not have a positive impact on the existing business, turnover and the number of workers they owned.

From the business profile appearing in the field it can be seen that there was a business of a trader, but he had an existing business, turnover, and a number of workers that were bigger than those of a producer. This is because in the business activities, business status did not affect the decision to buy the product. From the research result of the consumers it is seen that consumers did not pay much attention on whether the banana chips they bought were from a producer or from a trader. Based on the analysis result of the previous stage it was known that the things affecting the decision to buy were good service, reachable market, and qualified product.

Condition of UMKM and the Effect of Human Resources on Competitiveness Improvement

The analysis used a structural equation modeling method with a partial least square approach. The analysis in this stage was carried out by identifying the model and evaluating the constructed structure. The final results explained the big effect of human resources as an exogenous latent variable (X) on UMKM obstacles and innovation that becomes an endogenous latent variable (Y1 and Y2).

Identifying the constructed model in the SEM

The constructed model was identified with a convergent validity. Latent and sub-latent variables were considered as a reflexive model by looking at the loading factor value and t-statistic value. The loading factor value that was determined was lower than 0.5 and the t-statistic value was more than 1.96. Another way of looking at it, whether the indicator on the construct was valid or not, can be seen from the cross loading value; if the cross loading value on the measured variable was bigger compared to other variables, then the indicator was said to be valid to measure its variables. The construct built can be seen in Figure 2.

Obstacle as an Endogenous Latent Variable (Y1)

This variable was seen as a reflexive model on 12 sub latent variables that consisted of 1-38. The sub latent variables that were reflexive were as follows: marketing (Y1.1), capital (Y1.2), appropriate technology (Y1.3), raw materials (Y1.4), human resources (Y1.5), administrative and financial management (Y1.6), location (Y1.7), partnership (Y1.8), product efficiency (Y1.9), tight competition (Y1.10), promotion (Y1.11) and waste management (Y1.12). The initial algorithm PLS results were reanalyzed with bootstrapping to see the t-statistic value below 1.96. The loading factor value and t-statistic value from 38 indicators that measure the obstacles (Y1) were known to have 13 indicators that did not meet the minimum value so that they were eliminated in the construct for further analysis. Besides, capital sub latent (Y1.2), appropriate technology (Y1.3) and waste management (Y1.12) were also eliminated from the construct because all the indicators were not valid to measure the UMKM obstacles.
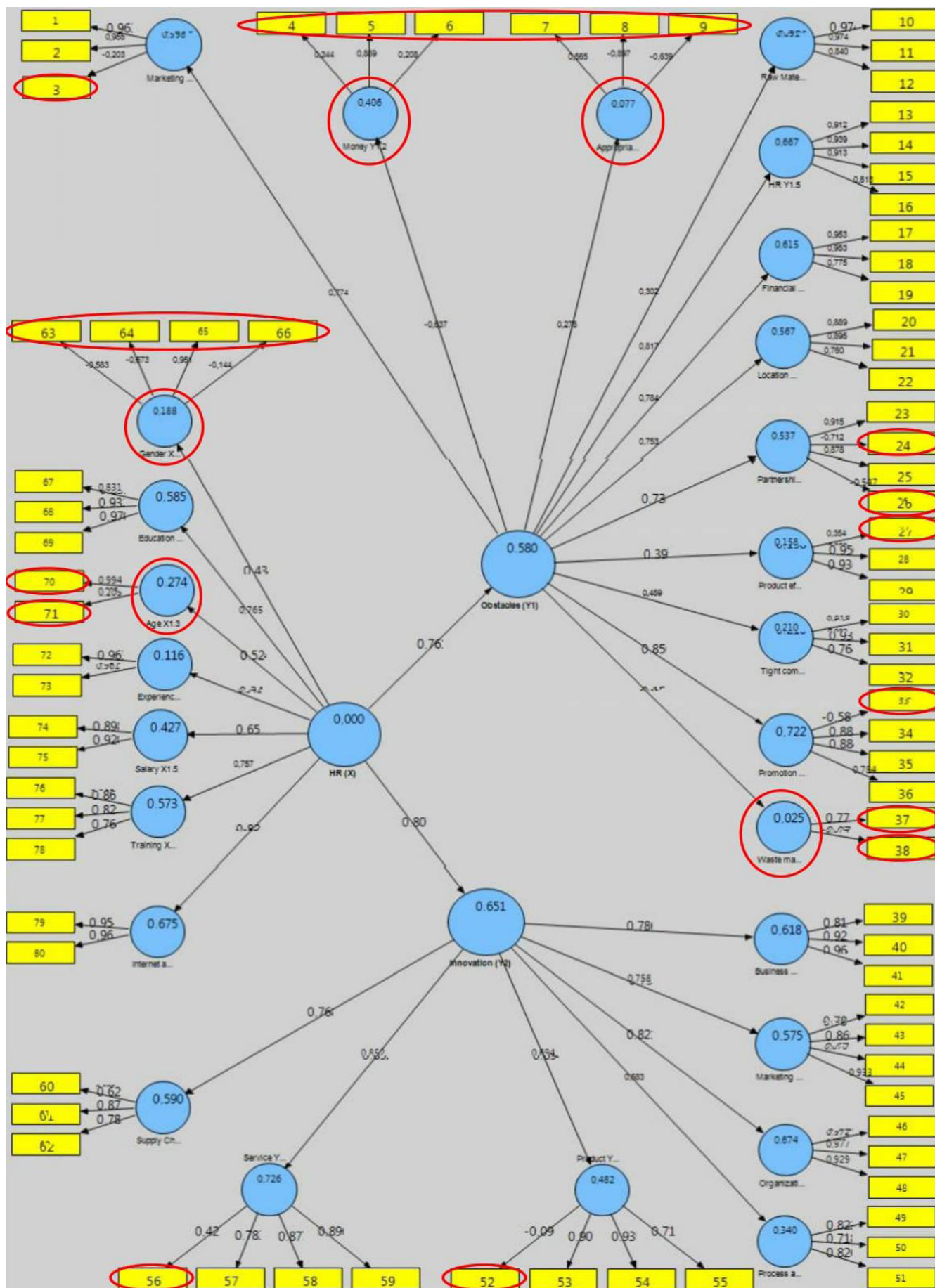
Figure 2. The construct model of the variable and indicator in SEM

Innovation as an Endogenous Latent Variable (Y2)

This variable was seen as a reflexive model on seven sub latent variables that consist of indicator 39-62. The sub latent variables that are reflexive are as follows: business model (Y2.1), marketing (Y2.2), organization (Y2.3), process and technology (Y2.4), product (Y2.5), service (Y2.6), and demand chain (Y2.7). Based on the loading factor value and t-statistic value, it was known that from indicator 39-62 that measured innovation (Y2) there were two indicators that did not meet the minimum value so that they were eliminated in the construct for further analysis.

Human Resource as an Exogenous Latent Variable (X)

This variable was seen as a reflexive model to seven sub latent variables that consist of indicators 63-80. The sub latent variables that were reflexive were as follows: sex (X1.1), education (X1.2), age (X1.3), experience (X1.4), amount of salary (X1.5), training (X1.6), and ability to access information/internet (X1.7). Based on the loading factor value and t-statistic value it was known that out of indicators 63-80 that measured human resources (X1) there were six indicators that did not meet the minimum value so that they were eliminated in the construct for further analysis. Besides, in the results of bootstrapping analysis sub latent sex (X1.1) and age (X1.3) were also eliminated from the construct because they were not valid to measure the effect of human resource variable (X). According to Syarif (2015a), sex and age did not affect the ability of the UMKM workers. Another way of looking at validity of the built construct was by looking at the cross loading value. The cross loading value showed that the correlation values of the indicator variables with related latent variables were bigger than other latent variables, so that they were considered valid to measure the latent variables.

Results of Construct Evaluation and Analysis of the Exogenous-Endogenous Variable Effects

This stage was carried out by evaluating the structural models based on the outer model value, finding out how big the influence of human resource variable is to tackle the UMKM's obstacles and carrying out innovation in order to increase competitiveness. The results of analysis showed that the average variance extract (AVE) value and communality (C) value meet the requirement (more than 0.5) which means that the construct was valid. The composite reliability (CR) value and the cronbachs alpha (CA) value met the standard of construct evaluation (more than 0.6) which means that the indicator value was reliable (Ghozali, 2008). The R-Square value was used to see how big the endogenous variable could be explained by endogenous variable, or how the relation between variables was. The R-Square value was used to determine the influence of exogenous variable, whether it was very weak (below 0.25), weak (0.25–0.50), quite strong (0.50–0.75), or strong (above 0.75). The outer model value that was used to evaluate the construct is presented in Table 2.

The next stage was to find out the effect of influence between latent and sub latent variables and to find out the influencing level of exogenous latent variable on endogenous latent variable. The influencing analysis can be seen from the path coefficient values in Table 3 and Table 4.

In Table 3 it can be seen that all t-statistic values are bigger than 1.96 which means that all sub latent variables influence their latent variables, and how big the influence it can be seen from the original sample value. Based on the original sample value it can be seen which prioritized obstacles the UMKM of banana chips must deal with nowadays. They are human resources (0.820), promotion (0.807), financial and administrative management (0.790), location (0.761), marketing (0.753), partnership (0.698), tight competition (0.458), product efficiency (0.400), and raw materials (0.297). Innovation priorities that are technically possible to be carried out according to the UMKM human resource capacity nowadays are innovation service (0.830), organization (0.822), business model (0.786), demand chain (0.768), marketing (0.755), product (0.682), and process and technology (0.587). The prioritized factors that can influence the human resource capability are ability to access information and internet (0.821), training (0.764), education (0.756), amount of salary (0.663) and experience (0.361).

From Table 4, the path coefficient value of exogenous-endogenous variables, it can be seen that the exogenous variable of human resources (X) influenced the handling of UMKM obstacles as much as 0.761 and influenced the success of innovation implementation as much as 0.806 in order to increase competitiveness.

Table 2. The outer model value of the latent and sub latent variables

	AVE	C	Note	CR	CA	Ket.	R-Square	Note
Obstacles (Y1)				0.828	0.765	Reliable	0.579	Quite strong
Marketing Y1.1	0.942	0.942	Valid	0.970	0.939	Reliable	0.567	Quite strong
Raw materials Y1.4	0.868	0.868	Valid	0.951	0.922	Reliable	0.088	Weak
HR Y1.5	0.731	0.731	Valid	0.914	0.868	Reliable	0.672	Quite strong
Financial and administrative management Y1.6	0.806	0.806	Valid	0.925	0.874	Reliable	0.625	Quite strong
Location Y1.7	0.723	0.723	Valid	0.886	0.805	Reliable	0.579	Quite strong
Partnership Y1.8	0.874	0.874	Valid	0.933	0.855	Reliable	0.487	Weak
Product efficiency Y1.9	0.905	0.905	Valid	0.950	0.896	Reliable	0.160	Very strong
Tight competition Y1.10	0.765	0.765	Valid	0.906	0.866	Reliable	0.210	Very strong
Promotion Y1.11	0.769	0.769	Valid	0.909	0.849	Reliable	0.650	Quite strong
Innovation (Y2)				0.931	0.919	Reliable	0.649	Quite strong
Business model Y2.1	0.813	0.813	Valid	0.929	0.883	Reliable	0.618	Quite strong
Marketing Y2.2	0.675	0.675	Valid	0.970	0.834	Reliable	0.571	Quite strong
Organization Y2.3	0.921	0.921	Valid	0.972	0.957	Reliable	0.676	Quite strong
Process and technology Y2.4	0.625	0.625	Valid	0.833	0.703	Reliable	0.344	Weak
Product Y2.5	0.742	0.742	Valid	0.895	0.821	Reliable	0.465	Weak
Service Y2.6	0.755	0.755	Valid	0.902	0.837	Reliable	0.690	Quite strong
Demand chain Y2.7	0.588	0.588	Valid	0.808	0.677	Reliable	0.590	Quite strong
HR (X)				0.839	0.807	Reliable		
Education X1.2	0.834	0.834	Valid	0.937	0.899	Reliable	0.571	Quite strong
Experience X1.4	0.925	0.925	Valid	0.961	0.919	Reliable	0.130	Very weak
Amount of salary X1.5	0.827	0.827	Valid	0.905	0.791	Reliable	0.440	Weak
Training X1.6	0.674	0.674	Valid	0.861	0.769	Reliable	0.584	Quite strong
Internet access ability X1.7	0.919	0.919	Valid	0.958	0.912	Reliable	0.674	Quite strong

Table 3. The path coefficient values of latent and sub latent variables

Latent => Sub Latent	Original sample	T-statistic
Obstacle Y1 => Marketing Y1.1	0.753	16.288
Obstacle Y1 => Raw materials Y1.4	0.297	3.168
Obstacle Y1 => HR Y1.5	0.820	22.366
Obstacle Y1 => Financial management Y1.6	0.790	15.473
Obstacle Y1 => Location Y1.7	0.761	16.235
Obstacle Y1 => Partnership Y1.8	0.698	14.239
Obstacle Y1 => Product efficiency Y1.9	0.400	4.016
Obstacle Y1 => Tight competition Y1.10	0.458	7.959
Obstacle Y1 => Promotion Y1.11	0.807	19.141
Innovation Y2 => Business model Y2.1	0.786	17.121
Innovation Y2 => Marketing Y2.2	0.755	15.037
Innovation Y2 => Organization Y2.3	0.822	31.191
Innovation Y2 => Process and technology Y2.4	0.587	6.831
Innovation Y2 => Product Y2.5	0.682	12.229
Innovation Y2 => Service Y2.6	0.830	22.176
Innovation Y2 => Demand chain Y2.7	0.768	17.253
HR X1 => Education X1.1	0.756	14.881
HR X1 => Experience X1.4	0.361	4.831
HR X1 => Amount of salary X1.5	0.663	7.167
HR X1 => Training X1.6	0.764	18.501
HR X1 => ability to access information and internet X1.7	0.821	23.680

Tabel 4. The path coefficient value of exogenous-endogenous variables

Latent => Latent	Original Sample	Mean	STDEV	STERR	T-statistic
HR X => Obstacle Y1	0.761	0.754	0.064	0.064	11.967
HR X => Innovation Y2	0.806	0.801	0.048	0.048	16.876

Model of Innovation Strategy

The structured strategy assumption must fulfill the criteria that has significant impacts and makes it possible to be carried out technically according to the UMKM capabilities. The strategy assumptions are then discussed by experts together to formulate a hierarchy that can be analyzed according to its appropriateness and importance so that an appropriate strategy can be obtained in order to increase competitiveness. The hierarchy and the results of analysis can be seen in Figure 2. The results of the analysis showed that business doers are actors that have an influencing role with a value of 0.7183 compared to related government instances (0.1896) and academicians/researchers (0.0922). In the management of micro, small, and medium enterprises nowadays the decision and policy merely belong to business owners. This can be said as a reason that a business doer is a very influencing actor in his business development. The formation of innovation strategies are based on three main criteria. They have been obtained from the survey results of UMKM condition that has high competitiveness and business mapping based on Laws No 20, 2008 and the definition of Statistic Center Bureau. The criteria are business existence (in year unit), turnover (per year), and human resources. The results of the analysis showed that the turnover is the prioritized criteria with turnover analysis value of 0.4385 bigger than business existence (0.3286) and human resources (0.2329).

Innovation becomes a sub-criteria in the formulation of innovation strategy for increasing competitiveness. Innovations that are analyzed are innovation service, organization, business model, demand chain, marketing, product, process and technology. The results of the analysis showed that innovation marketing becomes the main prioritized innovation in order to increase competitiveness. This is in line with the results of the consumers' survey in that consumers expect that product marketing must be expanded and the business doers' survey about applicable innovations. The results of marketing innovation analysis were 0.2158 bigger than product innovation (0.2075), service (0.1372), business model (0.1288), process and technology (0.1149), organization (0.0985), and demand chain (0.0973).

Some alternatives are chosen based on the results of the analysis of the previous stages and they have different priorities. To encourage business doers to participate actively in a product exhibition and seminar on entrepreneurship becomes the main strategy model compared to other strategy alternatives (presented in Figure 4). According to Syarif (2015b), an exhibition has a reliability to give inspiration to make a product of high prospect and to introduce the product so that it can give positive impacts on increasing the number of sales. The benefit of attending a seminar is, among others, to increase knowledge of product processing, to build a networking, and to get current information about how to develop banana cracker product as expected by consumers.

Operational Strategies

Innovation strategy formulation produced some chosen strategies. The strategy that becomes a priority is encouraging business doers to take part actively in the exhibition and seminar activities. Other strategies that also have influence on increasing competitiveness are technical assistance, promotion and online marketing training, provision of machines and appropriate process facilities, group institutional development, and training on business administration and finance. Operational strategies that can be carried out are as follows:

Participation in exhibitions and seminars

The results of interview with one of the banana cracker business owners who has a market share show that his participation in exhibition activities has given him a good impact on his business. In line with Situmorang's research (2015) it showed that exhibition activities have strategic position as a key factor that connects and introduces the product produced by UMKM to the consumers or market.

Technical assistance

The business doers' lack of knowledge to improve business technically becomes one of the important reasons to carry out training. The result of previous analysis, the human resource's skill, becomes one main obstacle that the UMKM faces so that a technical training related to human resource development becomes the foundation why training needs to be carried out.

Training on promotion and online marketing

This training is based on the results of the survey on consumers that stated that consumers expect easiness to reach the product, while the business doers' capability to carry out promotion and online marketing is still low. This strategy was built to give a benefit and appropriate solution. According to Jonathan and Lestari (2015), UKM information system based on web (online) can be used by users or others who want to get a networking with the existing UKM in order to increase the UKM economic potential.

The aids of machines and appropriate processing facilities

This strategy is based on the obstacle of product process efficiency that becomes an obstacle of UMKM nowadays. Some business doers complained the inappropriate aids that they got previously. The previous aids were not felt to pay attention to the nature of banana chips so that the aids could not be used.

Group institutional development

Business groups can give benefits for business. By making a group, it is easy to carry out promotion process and to apply for partnership to the third party. PTPN VII Lampung is a banana cracker UMKM partner that helps with capital, intensification, and deployment in order to build small-scale business in Lampung Province (Armelia dan Damayantie, 2014).
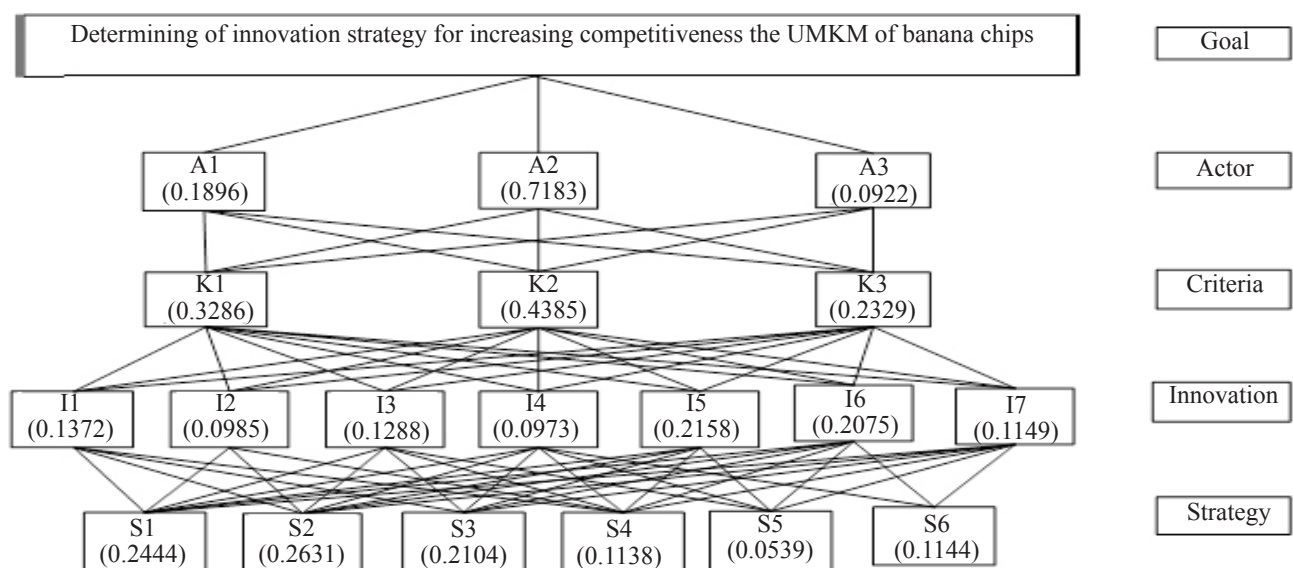
Notes:

A1	:	Related government instances	I5	:	Marketing innovation
A2	:	Business doers	I6	:	Product innovation
A3	:	Academicians/researchers	I7	:	Process and technology innovation
K1	:	Business existence	S1	:	Technical assistance
K2	:	Turnover	S2	:	Participation in exhibition and seminar
K3	:	Human resources	S3	:	Training on promotion and online marketing
I1	:	Service innovation	S4	:	Group institutional development
I2	:	Organization innovation	S5	:	Training on business administration and finance
I3	:	Model business innovation	S6	:	Provision of machines and appropriate process facilities
I4	:	Demand chain innovation			

Figure 3. Hierarchy and the results of AHP analysis in determining the innovation strategies

Training on business administration and finance

This strategy is expected to be able to make it easy for the business doers in their business management, especially in terms of book-keeping and recording. According to Nurseto (2004), management aspects that cover book-keeping and organization influence product characteristics that are produced and the business success.

Managerial Implications

The results of the research can give benefits to the regional Government or related instances and also to the business doers themselves. The results of analysis of consumers' expectation on banana cracker product can be used as a reference by business doers to carry out appropriate innovations that are needed in order to increase competitiveness. The results of condition analysis of micro, small, and medium enterprises on banana chips in Bandar Lampung City showed that the main obstacles that the UMKM faces nowadays are the limited capability of the business doers in managing their business, choosing location, carrying out promotion and marketing their product. These can be used by the local government to determine the type of training and aids that can be carried out in order to support UMKM development of banana cracker product in Bandar Lampung City.

From the AHP method used, it shows that marketing innovation is important to be carried out because it has high relation with the efforts to increase competitiveness according to experts that consist of business doers, academicians, and local officials. Therefore, to encourage business doers to take part actively in entrepreneurship program such as product exhibitions, seminars and technical assistance that is tailored to their needs will give a lot of benefits in developing their skills especially in marketing their product, and this will certainly give significant impacts on the turnover criteria and become a technically appropriate strategy that is feasible to be carried out nowadays.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the data obtained from the research, it can be concluded that the main obstacle that must be dealt with is micro, small, and medium enterprises of banana chips in Bandar Lampung City in order to increase competitiveness that includes human resources, promotion, administrative and financial management, location, and marketing. The results of the analysis on innovation that have the opportunity to be applied according to the UMKM capability and that can influence buyers are innovations on service, organization, business model, demand chain, and marketing. Human resources are said to have an important role in a business development. The results of the analysis in this research also showed that human resources have a significant influence on tackling the obstacles as much as 0.761 and on the innovation implementation as much as 0.806.

Through expertise survey techniques and priorities using the analytic hierarchy process method, an innovation strategy model can be obtained by encouraging the business doers to participate actively in exhibition and seminar activities as a strategic formulation analysis that can give significant impacts on the turnover and make it possible technically to be carried out so that it can improve competitiveness. Besides, other strategies that can also support the increase of competitiveness are technical assistance that is tailored to the needs and training on promotion and online marketing.

Recommendations

The results of the this research can be used as a consideration by the local government to make programs and policies that can play a role in increasing the competitiveness of micro, small, and medium enterprises of banana cracker product in Bandar Lampung City. Studying on the business real condition in the field and matching the business doers' capability to carry out innovations that become outcomes of this research will give some impacts on program suitability and policy so that they will be right on the target, and thus it is useful to support the local economy by producing highly-competitive local products.

REFERENCES

Apriyani M, Hardjomidjojo H, Kadarisman D. 2014. Prospek pengembangan usaha keripik pisang di Bandar Lampung. *Manajemen IKM* 9(1): 89–95.

Ardiana I, Brahmayanti I, Subaedi. 2010. Kompetisi

SDM UKM dan pengaruh terhadap kinerja UKM di Surabaya. *Jurnal Manajemen dan Kewirausahaan* 12 (1): 43–45.

Ariani DWN, Ayu SD. 2013. Pengaruh kualitas tenaga kerja, bantuan modal usaha, dan teknologi terhadap produktivitas kerja usaha mikro kecil dan menengah (UMKM) di Jimbaran. *Jurnal Ekonomi Pembangunan* 2(2): 102–107.

Armelia GR, Damayantie A. 2014. Peran PTPN VII dalam pemberdayaan home industri keripik pisang (Studi pada home industri keripik pisang mitra binaan PTPN VII Lampung). *Jurnal Sociologie* 1(4): 336–343.

Chen JC, Jing WH. 2009. Strategic human resource practices and innovation performance the mediating role of knowledge management capacity. *Jurnal Bussiness Research* 62: 104–114. https://doi.org/10.1016/j.jbusres.2007.11.016.

[Diskumkm] Dinas Koperasi dan UMKM Provinsi Lampung. 2015. *Data Monitoring UMKM 2015.* Bandar Lampung: Diskumkm.

Ghozali I. 2008. *Structural Equation Modeling Metode Alternatif dengan Partial Least Square (PLS).* Ed. 2. Semarang: Badan penerbit Undip.

Hwang H, Malhotra NK, Kim Y, Tomiuk MA, dan Hong S. 2010. A comparative study on parameter recovery of three approaches to structural equation modeling. *Jurnal Marketing Research* 67 (1): 699–712. https://doi.org/10.1509/jmkr.47.4.699.

Indriati A, Ma'arif MS, Hermawan A. 2015. Strategi peningkatan kualitas sumber daya manusia untuk menumbuhkan kinerja usaha kecil dan menengah. *Jurnal Aplikasi Manajemen* 13(2): 1–10.

Jonathan W, Lestari S. 2015. Sistem informasi UKM berbasis website pada desa Sumber Jaya. *Jurnal Pengabdian Kepada Masyarakat* 1(1): 1–16.

[Kemenkukm] Kementerian Koperasi dan UKM Republik Indonesia. 2015. *Perkembangan data usaha mikro, kecil, menengah (UMKM) dan usaha besar (UB) tahun 2012 - 2013. Data Monitoring UMKM Indonesia 2015.* Jakarta: Kemenkukm.

Kisengi S, Olweny T. 2014. Influence of education on entrepreneurial behaviour among small and medium enterprise owners in Nairobi cbd, Kenya. *Jurnal Science Research* 3(11): 1481–1483.

Khristianto W. 2008. Peluang dan Tantangan Industri Kreatif di Indonesia. *Jurnal Bisnis dan Manajemen* 5(1): 1411–9366.

Manalu ASB, Sumarwan U, Suroso AI. 2007. Analisis faktor-faktor yang mempengaruhi kepuasan pelanggan online. *Jurnal Manajeman dan Agribisnis* 4(2): 67–80.

Nurseto T. 2004. Strategi menumbuhkan wirausaha kecil menengah yang tangguh. *Jurnal Ekonomi dan Pendidikan* 1(1): 96–105.

Proctor T. 2000. *Strategic Marketing An Introduction.* New York: Routledge. https://doi.org/10.4324/9780203460054.

Situmorang J. 2015. Strategi UMKM dalam menghadapi iklim usaha yang tidak kondusif. *Jurnal INFOKOP* 16(30): 87–101.

Syarif T. 2015a. Kajian pengembangan formalisasi UMKM. *Jurnal Pengkajian KUKM* 4(1): 18–36.

Syarif T. 2015b. Kajian efektifitas model promosi pemasaran produk UMKM. *Jurnal Pengkajian KUKM* 3(1): 1–17.

Wulandari J. 2012. Strategi pengembangan kawasan industri kecil berbasis komoditas unggulan (Studi kasus kawasan sentra industri keripik kota Bandar Lampung). *Jurnal Ilmiah Administrasi Publik dan Pembangunan* 3(1): 421–432.