

## **BIBLIOGRAPHY**

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## **ABSTRACT**

The study determined the type of the innovation adopted by MSMEs in the last three years and the person/s responsible for the introduction of the innovation; activities associated with the innovation and the information sources, it also determined the effects of innovation and the factors affecting the decision of MSMEs not to innovate.

Thirty (30) MSMEs in La Trinidad were chosen as respondents, 15 were in the manufacturing and 15 in the service sectors.

The result showed that for the past three years, MSMEs in La Trinidad engaged in various innovation activities. The innovations were in the areas of product, process, organization and marketing. The major developer of product and process innovation was the owner and manager of the enterprise. Majority of the innovation activities were searching for new ideas and developing it into a product or service in the market. The strongest source of information was the enterprise group. The strongest impact from the innovations made was the improved quality of products or services. Lack of capital was the greatest factor that affected the MSME's decision to innovate.

It is recommended that the MSMEs should continue to innovate and the government should help the MSMEs in their innovation activities. Avenues where the different enterprises can meet and share ideas should be encourage. Other institutions such as universities and civic societies should involve the MSMEs in activities that promote development of innovations.



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## INTRODUCTION

### Rationale

The globalization of product and service markets is accelerating. European companies- in particular SMEs- face increasing competition not only for sale, but also for technical know-how and skills. In this environment, competitiveness at the company level depends crucially on the speed with which new products can be brought to the market place and new cost-saving improvements made. Similarly, the creation of wealth and employment depends to a very large extent on the speed with which scientific and technological breakthroughs are converted into practical and attractive solution (European Commission, 2011).

The plethora of new materials, new product, new financial networks, coupled with joint venture possibilities, affect the way MSMEs do business globally. The number of articles, books, symposia, written on the role of the MSMEs in developing change and innovation is overwhelming (Solomon, Winslow, Tarabishy, 2004).

Innovation requires much more than ability to turn a new idea into a working product. Efficient flows of technology are not enough- ready supplies of finance and of business skills are also needed. There must be accessible protection for intellectual property, and adequate incentives for entrepreneurial drive (European Commission, 2011).

Critical to such culture of innovation are the micro, small and medium-sized enterprises (MSMEs) which have in recent years proved themselves to be the engines of economic growth (European Commission, 2011).



MSMEs are considered the engine of economic growth in most ASIAN economies by virtue of their sheer number and significant economic and social contributions. The role of MSMEs in industrial development in Asia is more pronounced than in the west. In such countries like Japan, Taiwan, South Korea and China, MSMEs are the backbone of the industrial and manufacturing sectors. Their number and contribution to total employment in these economies are well over 95% and 70%, respectively. Likewise in the ASEAN economies, MSMEs generally account for over 90% of establishments, between 20-40% of the total domestic output, and employs between 75-90% of the domestic workforce (ASEAN Policy Blueprint, 2003).

In the Philippines, MSMEs, account for 99 percent of all business establishments and 60 percent of the exporting firms in the Philippines. MSMEs currently employ about 55 percent of the Philippine labor force and contribute 30 percent to total domestic volume sales. The Philippines is a highly entrepreneurial country. Micro, small and medium size enterprises account for the largest share of the Philippines entrepreneurs (International Entrepreneurship, 2011).

Thus, MSMEs and innovation is important to economic growth for it is one of the key factors that help MSME survival in the business arena. Innovation and the factors affecting innovation of the MSMEs is the key for their ability to maintain their position and stay in the market.

### Importance of the Study

MSMEs and their innovation bring a lot of benefit to a nation. MSMEs are important to economic development as well. Their innovativeness also brings to consumers useful goods and services for day to day living. With their innovation the



needs and wants of consumers are satisfied. The result of the study will help MSMEs in understanding the role of innovation in the firm. The findings of the study will also give entrepreneurs/ business people an idea on what are the important factors to consider for the success of innovation. Also, the result would give information to the policymakers to know where they could play an important role in the improvement and success of MSME innovation.

The result will also serve as a reference for future researchers.

### Statement of the Problem

1. What type of innovation did the MSMEs introduce for the past three years (2009-2011)?
2. Who developed the innovations in the MSMEs?
3. What innovation activities did the MSMEs involve in?
4. What are information sources for the innovation activities?
5. What are the effects of innovation to the MSMEs?
6. What are the factors affecting the decision of MSMEs not to innovate?

### Objective of the Study

1. To identify the type of innovation adopted by MSMEs in the last three years (2009-2011);
2. To identify the person/s responsible for the introduced innovation;
3. To identify the activities associated with the innovation;
4. To identify the information sources of innovation in MSMEs;
5. To identify the effects of innovation to the MSMEs, and
6. To identify the factors that affects the decision of MSMEs not to innovate.



### Scope and Delimitation

The study focused on the MSMEs in the La Trinidad area. This study focused only on the type of innovation the MSMEs perform specifically process, product innovation, organizational and marketing innovation. The study was limited in the innovation of MSMEs on the past three years only (2009-2011).



## REVIEW OF LITERATURE

### MSMEs

MSMEs is an abbreviation of Micro, Small, Medium enterprises.

### Classification of MSMEs

MSMEs may be classified by number of employees and/or by the total assets.

Specifically, the DTI classifies MSMEs as follows:

<u>Size of the firm</u>	<u>Total assets</u>	<u>Number of employees</u>
Micro	3,000,000 and below	1-9
Small	3,000,001-15,000,000	10-99
Medium	15,000,001-100,000,000	100-199

As of 2009, there are 780,437 business enterprises operating in the Philippines. Of these, 99.6% (777,357) are micro, small and medium enterprises (MSMEs) and the remaining 0.4% (3,080) are larger enterprises. Of the total number of MSMEs, 91.4% (710,822) are micro enterprises, 8.2% (63,529) are small enterprises, and 0.4% (3,006) are medium enterprises (Department of Trade and Industry, 2008).

Majority of the MSMEs in operation in 2009 can be found in the National Capital Region (NCR) with 210,648 business establishments; Region 4-A (CALABARZON) with 114,676; Region 3 (Central Luzon) with 79,445; Region 7 (Central Visayas) with 45,427; and Region 6 (Western Visayas) with 45,382. These top five (5) locations accounted for about 63.7% of the total number of MSME establishments in the country (Department of Trade and Industry, 2008).





MSMEs generated a total of 3,595,641 jobs in 2009 versus 2,094,298 for the large enterprises. This indicates that MSMEs contributed almost 63.2% of the total jobs generated by all types of business establishments that year. Of these, 30.4% or 1,731,082 jobs were generated by micro enterprises; 25.5% or 1,449,033 by small enterprises; and 7.3% or 415,526 by medium enterprises. By industry sector, MSMEs in the wholesale and retail trade generated the most number of jobs with 1,250,453 in 2009 followed by MSMEs in manufacturing, 637,524; hotels and restaurants, 482,357; real estate, renting and business activities, 284,406; and education 225,016 (Department of Trade and Industry, 2008).

### Innovation

In business and economics, innovation is the catalyst to growth. With rapid advancement in transportation and communication over the past few decades, the world concepts of factor endowments and comparative advantages which focused on an area's unique inputs are outmoded for today's global economy. Now as Harvard economist Michael Porter points out competitive advantage, or the productive use of any inputs, which requires continual innovation, is paramount for any specialized firm to succeed. The entrepreneurs should continuously look for new ways or new changes, so that their enterprises run steadily (Tuominen and Toivonen, 2007).

The term innovation is first used by Schumpeter (1939). He applied it as a tried or managed innovation. Innovation is a process to change opportunity and convert it to marketable ideas. The foundation of innovation is based upon ideas and its people who develop, carry, react and modify ideas (Van De Ven, 1989). Innovation ideas are likely to originate from the creativity of external and internal people.



Tidd, Bessant and Pavitt (2005) presented the following types of innovation (4's of innovation) namely: Product Innovation- changes in the things (products/ services) which an organization offers; Process Innovation- changes in the ways in which they are created and delivered; Position Innovation- changes in the context in which the product/ service are introduced and Paradigm Innovation- where major shifts in thinking cause change.

Machfoedz (2002) also divided product innovation into four kinds namely (cited by the International Journal of Business and Social Science, 2011); Discovery of product creation that is new services or process that have been made before; Product Development- new services or process that have been available; Product Duplication- copying new services or process that have been available; Synthesis is a concept combination and the existing factors to be a new formula. The International Journal of Business and Social Science (2011) stated that innovation is often considered a competitive advantage in terms of both products (e.g. new designs) and people (e.g. employee recruitment). Thus innovation in the entrepreneurial firm is viewed as a multi-stage process, with different individual behaviour at each stage. Since innovation is actually characterized by discontinuous activities rather than discrete, sequential stages (Schroeder *et al*, 1994). The expectation is for the innovative activities to improve their competitiveness through improved quality, lower production costs, and enhanced marketing performance. Government standards and regulation and environment concerns are not important drivers of innovation activities, standards, lack of skilled personnel, and lack of opportunities for cooperation with other companies (Cororaton, 2005).



### Sources of Innovation

According to Drucker (1985) the general sources of innovations are different changes in industry structure, in market structure, in local and global demographics, in human perception, mood and meaning, in the amount of already available scientific knowledge, etc. In the simplest linear model of innovation the traditionally recognized source is manufacturer innovation. This is where an agent (person or business) innovates in order to sell innovation. Another source of innovation, only now becoming widely recognized, is end-user innovation. This is where an agent (person or company) develops an innovation for their own (personal or in-house) use because existing products do not meet their needs.

### Source of Developed Innovation

According to De Ridder (2007), the IBM's on top sources of new ideas and innovation are as follows: 1) Employees; 2) Business partners; 3) Customers directly; 4) Consultants; 5) Competitors; 6) Associations; 7) Internal Sales and Services Unites; 8) Internal R&D; 9) Academia; 10) Think-tanks; and 11) Labs and/or institution.

### Effects of Innovation on Firm performance

The ultimate goal of innovative effort is to improve firm performance, i.e. increase profitability and growth. Scope and size of performance enhancing effects of innovation at the level of the innovating firm depend on the type of innovative activity and the degree to which innovation outputs (new products, new processes) are successfully implemented and succeed at the market (Peters, 2008). In general, one would expect a positive effect of any successful innovation activity on firm



performance. However, distinguishing between product and process innovation is critical. Product innovation alter a firm's product portfolio and will typically lead an upward shift of a firm's demand curve as a result of some new quality features of the innovative product that distinguishes it from the firm's old products. The effects of this shift on profitability and growth will depend on the degree of novelty compared to the products supplied to the market by other firms, the willingness to pay by potential customers (i.e. price elasticity of demand), and the reaction of a firm's competitors (Jaumandreu, 2003). In case product innovations are not new to the market and imitate new products of competitors, profitability effects are likely to be low while growth effects may be substantial if the imitation can successfully compete against the original innovation and gain market shares. Process innovations typically allow for a more efficient production and reduce a firm's unit costs. Effects on profitability and growth will basically depend on two factors: First, a firm may either be the first in its market to achieve efficiency gains from this type of innovation or it may have adopted a new production technology which has been implemented by competitors before. Secondly, a firm may use productivity advantages to either lower the price and gain market shares (which will most likely spur growth) or increase its profit margin by accepting the current market price. Whether improved competitiveness of innovations translates into higher profitability and/or higher growth (in terms of output and labor demand) largely depends on the market structure effects of innovations. In case innovators can successfully alter market structure towards a lower level of competition (i.e. push competitors out of market) and gain lower price elasticity for their innovative product, they may raise prices and decrease output, resulting in low or negative growth despite having gained market shares (Peters,



2008). Innovation activities associated with in-house R&D activities imply higher potentials for positive growth and profitability effects than innovation activities that focus on the adoption of ideas and technologies developed by others (Brouwer *et al.*, 1993). Research and Development by definition aims at generating new knowledge and new applications of technologies, which is likely to generate a certain degree of novelty. A particular driver for high performance effects are granted patents on innovations since these give innovators exclusive rights to commercialize a new technology for a certain period of time (Griliches, 1995). Firms with international innovation activities may experience different performance effects of innovation compared to firms with only domestic innovation. On the one hand, sourcing knowledge on a global scale, making use of comparative advantages of different locations and opening up world markets are likely to result in more effective innovation activities, a more efficient production and higher sales of new products. On the other hand, international innovation activities are likely to be associated with higher cost, higher uncertainty and higher failure rate since firms will have to deal with, and carry higher transaction costs. What is more, obtaining market power through innovation will be much more difficult when acting in a larger number of markets, especially when we look at MSMEs. One may thus assume lower effects from international innovation activities on profitability but higher ones on growth since MSMEs may be less able to transfer innovations in a situation of lower price elasticity and while pushing out competitors. This may transfer higher competitiveness over to other firms allowing them to gain market shares and increasing the level of their economic activities.



### Innovation Activities

A common feature of an innovation is that it must have been implemented. A new or improved product is implemented when it is introduced on the market. New process, marketing methods or organizational methods are implemented when they are brought into actual use in the firm's operation (European Commission, 2011).

Innovation activities vary greatly in their nature from firm to firm. Some firms engage in well-defined innovation projects, such as development and introduction of a new product, whereas others primarily make continuous improvements to their products, processes and operations. Both types of firms can be innovative: an innovation can consist of the implementation of a single significant change, or of series of smaller incremental changes that together constitute a significant change (European Commission, 2011).

Innovation comprises a number of activities that are not included in R&D, such as later phase of development for preproduction, production and distribution, development activities with a lesser degree of novelty, support activities such as trainings and market preparation, and development and implementation activities for innovations such as marketing methods which are not products or process innovations. Innovation activities may also include acquisition of external knowledge or capital goods that is not part of R&D (European Commission, 2011).

Innovations activities are all scientific, technological, organizational, financial and commercial steps which actually, or are intended to lead to the implementation of innovations. Some innovation activities are themselves innovative; others are not novel; activities but necessary for the implementation of innovations. Innovation activities also



include R&D that is not directly related to the development of a specific innovation (Glossary of Statistical Terms, 2005).

During the given period, a firm's innovation activities may be of three kinds: 1). Successful of having resulted in the implementation of a new innovation (though not necessarily commercially successful); 2) Ongoing work in progress, which has not yet resulted in the implementation of an innovation; and 3). Abandoned before the implementation of an innovation (Glossary of Statistical Terms, 2005).



## METHODOLOGY

### Locale and Time of the Study

The study location was in La Trinidad, Benguet. The time of the study was December, 2011 to January, 2012.

### Respondents

The respondents were MSMEs as represented by their owner-entrepreneurs or managers.

Based on the data obtained from the Municipal Hall of La Trinidad the following numbers of business establishments exist as of 2011:

<u>Type of Business Establishment</u>	<u>Total Number</u>
Manufacturing	61
Services	773
Total Number	834

A total of 30 MSMEs was obtained by random sampling representing 4% of total number of business establishments in La Trinidad. An equal proportion was obtained as a sample from each subsector, namely manufacturing and service.

### Data Gathered

The data gathered was type of innovation MSMEs perform, person responsible for the innovation and sources of information about the innovation, innovation activities and effects of innovation to the MSMEs.





### Data Gathering Procedure

Data was gathered using a questionnaire that was developed using the model of the Fourth Community Innovation Survey, 2004.

### Data Analysis

The data gathered was analyzed using frequency and percentage.



## RESULTS AND DISCUSSION

### Classification of Respondents

The enterprises can be classified as micro, small and medium enterprises based on their total assets and/or number of employee's. As standards set by the Department of Trade and Industry an enterprise can be classified as micro if it has a total asset of Php3,000,000 and below and employing 1-9 individuals. Small enterprises have Php3,000,001 to 15,000,000 total assets and 10-99 employees. Medium enterprises have Php15,000,001 to 100,000,000 total asset and 100-199 employees.

As shown in Table 1, majority (63.33%) of the respondents are micro enterprises, 26.67 % are small enterprises. The lowest classification of respondents is medium enterprises (10%).

### Business Profile

Table 2 shows that majority (23.33%) of the micro and small enterprises are in their 2-10 years in business. The results also show that the smaller sized enterprises are in their early years of operation while the medium enterprises have been longer in operation.

Table1. Distribution of Respondents According to Scale Classification

PARTICULARS	FREQUENCY	PERCENTAGE (%)
Micro	19	63.33
Small	8	26.67
Medium	3	10



Table 2. Distribution of Respondents based on their Number of Years in Business.

PARTICULARS	MICRO (N=19)		SMALL (N=8)		MEDIUM (N=3)	
	F	%	F	%	F	%
1 and below	4	21.05			1	33.33
2-10	7	23.33	3	15.79		
11-20	4	21.05	2	25		
21-30	1	5.26				
31-40	1	5.26				
41 and above			1	12.5	2	66.67

### Product Innovation by Enterprise Scale

Product Innovation is the market introduction of new goods or services or a significantly improved goods or services. The innovation (new or improved) must be new to the enterprise, but it does not need to be new to the sector or market.

Generally enterprises were product innovative for the past three years (2009-2011). As shown in Table 3, all of the respondents had introduced product innovations which were already available in the market. There were 46. 35% product innovation introduced that were new to the market. Majority of the new products were introduced by the medium enterprises (66.67%) followed by the micro enterprises (46.67%) and small enterprises (25%).

### Process Innovation by Enterprise Scale

A process innovation is the implementation of a new or significant improved production process, distribution method of support activity for your goods or services.



Table 4 shows that a total of 80% of the respondents had done new or improved way of manufacturing or producing goods or services. Around 70% had done new or significantly improved supporting activities for the process. Finally, 63.33% had new or improved way of acquiring raw materials delivery, distribution of the products. Percentage-wise the medium enterprises were more process innovative compared to the small enterprises.

### Product Innovation by Industry Sector

Table 6 shows the distribution of product innovation by industry sector. More enterprises in the manufacturing sector compared to the service sector introduced new or improved products or services which was new to the market. Irrespective of the sector, all the enterprises came up with product or service innovation that were new or improved but were already available in the market.

According to enterprise scale, in both manufacturing and service sectors, there were more micro enterprises that introduced new products in the market compared to the small and medium enterprises.

Table 3. Distribution by Enterprise Scale as to whether Product Innovation was introduced during 2009-2011

PARTICULARS	MICRO		SMALL		MEDIUM		TOTAL	
	F	%	F	%	F	%	F	%
New or improved products are new to the market.	9	47.37	2	25	2	66.67	13	46.35
New or improved products is already available in the market	19	100	8	100	3	100	30	100



Table 4. Distribution by Enterprise Scale as to whether Process Innovation was introduced during 2009-2011

PARTICULARS	MICRO (N=19)		SMALL (N=8)		MEDIUM (N=3)		TOTAL (N=30)	
	F	%	F	%	F	%	F	%
New or improved way of manufacturing or producing goods or services	15	78.95	6	75	3	100	24	84.65
New or improved way or acquiring raw materials, delivery, distribution of products	12	63.16	4	50	3	100	19	71.05
New or significantly improved supporting activities for processes	13	68.42	5	62.5	3	100	21	76.97

#### Process innovation by Industry Sector

Table 7 shows that in terms of process innovation, there is a greater majority (86.7% versus 60%) of the enterprises in the service sector who innovated by introducing new or significantly improved support activities for their processes. There is a slightly greater percentage, however, of enterprises in manufacturing compared to the service sector which introduced new or improved ways of acquiring raw materials, delivery and distribution of products.

By enterprise scale, there were more micro enterprises in manufacturing relative to the service sector that introduced a new or improved way of manufacturing or providing goods or services, and in introducing new or improved way of acquiring raw materials, delivery, distribution of products. On the other hand, the micro and small



enterprises under the service sector outnumbered the micro and small enterprises in the manufacturing sector in terms of introducing new or significantly improved supporting activities for the processes.

Table 5. Distribution as to whether an Organization and marketing innovation was introduced during 2009-2011

PARTICULARS	MICRO (N=19)		SMALL (N=8)		MEDIUM (N=3)		TOTAL (N=30)	
	F	%	F	%	F	%	F	%
New or improved knowledge management systems to better use or exchange information, knowledge and skills within the enterprise	15	78.95	7	87.5	3	100	25	83.33
Changes in the management structure or integrating different departments or activities	12	63.16	6	75	3	100	21	70
New or significant changes in relations with other firms or public institutions	16	84.21	6	75	3	100	25	83.33
Changes to the design or packaging of a good	10	52.63	7	87.5	3	100	20	66.67
New or significantly changed sales or distribution methods	10	52.63	6	75	3	100	19	63.33



### Organization and Marketing Innovation by Industry Sector

As to organization and marketing innovation by industry sector (Table 8), there is just a slightly greater percentage of service enterprises compared to the manufacturing who introduced changes in the management structure or integrated different departments or activities, and introduced new or significantly changed sales or distribution methods.

By enterprise scale, the small enterprises in the service sector outnumbered the small enterprises in the manufacturing sector as to introducing organization and marketing innovation in all areas identified. On the other hand, the micro enterprises in manufacturing compared to the micro enterprises in the service sector were clearly greater in percentage as to introducing new or improved knowledge management systems to better use or exchange information, knowledge and skills within the enterprise, new or significant changes in relations with other firms or public institutions, and changes to the design or packaging of a good.



### Developer of Product Innovation

There are various developers of new ideas by the MSMEs. This is shown in Table 9. A developer of an innovation maybe defined as one who originates the idea and further elaborates it with some suggested specifications. The owner or manager (76.67%) is the major developer of the product innovation followed by the customers (23.33%). Since the owner or manager is the one who started the enterprise, the owner or manager is carries the burden for any product improvements. The customers were a developer of innovation through their suggestion about product improvement. Customers nowadays are more vocal in their ideas, specification and criteria on what the product or service should look like. The employees (20%), research and development (16.67%) and business partners (10%) were also important developers of ideas for innovation.

For medium enterprises the owner and employees were the only developers of product innovation. It is interesting that the small and micro enterprises generated product innovation through some kind of research and development activity done. This is probably done at the level of small experimentations. It can be seen from the Table 9 that the micro enterprises have more developers of innovation than the small and medium enterprises.

### Developer of Process Innovation

Table 10 shows that just like in Product innovation, the owner or manager (73.33%) was the major developer of the process innovation. The employees (20%) through their own initiatives of finding new or better ways of doing things are the second biggest developer for process innovations. Indications of research and development activity are mentioned which may refer to trial and error activities in doing things. In





terms of process innovations, the micro enterprises have also a wide range of developers compared to the small and medium enterprises.

Table 9. Distribution as to who developed the introduced product innovation

PARTICULARS	MICRO		SMALL		MEDIUM		TOTAL	
	F	%	F	%	F	%	F	%
The owner manager	13	68.42	7	87.5	3	100	23	76.67
Employee	4	21.05	1	12.5	1	33.33	6	20
Business partner	3	15.79	0	0	0	0	3	10
Customers directly	4	21.05	3	37.5	0	0	4	13.33
Consultant	0	0	0	0	0	0	0	0
Competitors	1	5.26	0	0	0	0	1	3.33
Associations	0	0	0	0	0	0	0	0
Internal sales & service	1	5.26	0	0	0	0	1	3.33
Research and Development	4	21.05	1	12.5	0	0	4	13.33
Schools	0	0	0	0	0	0	0	0
Labs and/ or other institutions	1	5.26	0	0	0	0	1	3.33
Suppliers	2	10.53	0	0	0	0	2	6.67
Friend of owner	1	5.26	0	0	0	0	1	3.33



Table 10. Distribution as to who developed the introduced process innovation

PARTICULARS	MICRO		SMALL		MEDIUM		TOTAL	
	F	%	F	%	F	%	F	%
The owner manager	13	68.42	6	75	3	100	22	73.33
Employees	2	10.53	2	25	2	66.67	6	20
Business Partner	2	10.53	0	0	0	0	2	6.67
Customers directly	2	10.53	1	12.5	0	0	3	10
Consultant	0	0	0	0	0	0	0	0
Competitors	1	5.26	0	0	0	0	1	3.33
Associations	0		0	0	0	0	0	0
Internal sales	1	5.26	0	0	0	0	1	3.33
Research and Development	4	21.05	1	12.5	1	33.33	6	20
Labs and/ or other institutions	1	5.26	0	0	0	0	1	3.33
Suppliers	2	10.53	0	0	0	0	2	6.67
Friends of owner	1	5.26	0	0	0	0	1	3.33

### Innovation Activities

Table 11 shows that the MSMEs have engaged in various innovation activities from 2009-2011. Majority (83.33%) were involved in searching for new ideas ; developing it into a product or service, and for other preparation to finish the introduced the new or improved product or service in the market. Around 73.33 % had introduced to the market a new or improved product. 70% had undergone training and 70% got ideas and knowledge from other businesses.



Table 11. Distribution as innovation activities the MSME's involved during 2009-2011

PARTICULARS	MICRO (N=19)		SMALL (N=8)		MEDIUM (N=3)		TOTAL (N=30)	
	F	%	F	%	F	%	F	%
Searching for new ideas and develop it into a product or service	15	78.95	7	87.5	3	100	25	83.33
Other do the searching of ideas and developing of the product or services for the business	10	52.63	4	50	2	66.7	16	53.33
Acquisition of machinery, equipment and software	14	73.68	4	50	2	66.7	20	66.67
Getting ideas, knowledge from other business	12	63.16	8	100	1	33.3	21	70.00
Training	13	68.42	5	62.5	3	100	21	70.00
Introducing to the market the new or improved products or services	14	73.68	5	62.5	3	100	22	73.33
Other preparation to finish the introduction of the new or improved products or service in the market	14	73.68	8	100	3	100	25	83.33

### Information Sources

Table 12 shows the different sources of information on the innovation activities undertaken by the MSMEs, and the degree of importance of this different source to the enterprises.

Overall, the most important source of information for innovation was within the enterprise group with 70%, followed by clients or customers with 60%, and suppliers of



equipment, materials, components or software (43.33%), and competitors or other enterprises in the sector (43.33%).

Universities and schools (43.33%), government (36.67%) and the industry association were considered as the top three less important sources of information.

Unlike the micro and medium enterprises, specifically all the small enterprises found as of high importance the sourcing of information from competitors and other enterprises in the sector.

### Effects of Process and Product Innovation

Table 13 shows the effects of the process and product innovation and the degree of these observed effects to the MSMEs.

The strongest impact from product and process innovation was improved quality of products or services with 66.67%. Next ranked highest was improved flexibility in providing the product or service, and meeting the regulatory requirement at 63.33% respectively; and increased classification of product or service with 60%.

MSMEs considered reduced labor cost per unit output (23.33%), reduced materials and energy per unit output (20%) and entered new markets or increased sales (10%) as the three lowest effects under the category a high degree of importance.

All medium enterprises considered of high importance the following effects of innovation: Entered new markets or increased sales; Improved quality of goods or services; Improved flexibility of providing products or services; and Increased volume of production.



### Effects of Organization and Marketing Innovation

Table 14 shows the effects of organization and marketing innovation and its observed effects. MSMEs had observed that the greatest effects of organization and marketing innovation were on the improved quality of goods or services with 63.33%, reduced time to respond to customers and suppliers needs (50%), and improved employee satisfaction and reduced employees turnover rate (46.67%).

The effects on reducing cost per unit output was felt as with a high effect by a fewer percentage of the micro enterprises compared to the small and medium enterprises.

### Factors Affecting the Decision not to Innovate

Table 15 shows the different factors affecting the decision of the entrepreneurs whether to innovate or not, and the degree of importance of these factors.

On the whole, the most important factors affecting the decision to innovate were lack of capital with 56.67%, market dominated by larger enterprises with 46.67%, innovation cost too high with 40%, lack of qualified personnel lack on information technology, and lack of information on market, all at 36.67%.

The less important factors that affect the entrepreneur's decision not to innovate were absence of demand (43.33%), existence of prior innovations (33.33%) and uncertainty in demand for the innovative goods and services (30%). Most of these factors were rated as high by less than 50% of the enterprises.

By enterprise scale, about 42.11% of the micro enterprises found lack of capital as of high importance in whether to pursue innovation or not. Of medium importance by more than 40% of the enterprises was the lack of information on technology (43.37%), costs too high (42.11%), and the uncertainty of demand for the innovative products or



services. For the small enterprises, there is a clear majority (50% or higher) who indicated of high importance the following factors: lack of capital (75%), market dominated by larger enterprises (75%), and the lack of information on the technology (50%), For the medium enterprises, the lack of capital was of high importance by all the enterprises, and the lack of finance by 66.67%.



Table 6. Distribution of the Product Innovation Done by Industry Sector

PARTICULARS	MANUFACTURING								SERVICE							
	MICRO (N=8)		SMALL (N=5)		MEDIUM (N=2)		TOTAL (N=15)		MICRO (N=10)		SMALL (N=4)		MEDIUM (N=1)		TOTAL (N=15)	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
New or improved products are new to the market.	5	62.5	1	20	2	100	8	53.3	4	40	1	25	0	0	5	33.3
New or improved products is already available in the market	8	100	5	100	2	100	15	100	10	100	4	100	1	100	15	100

\*Multiple Response

Table 7. Distribution of Process Innovation per Industry Sector

PARTICULARS	MANUFACTURING								SERVICE							
	MICRO (N=8)		SMALL (N=5)		MEDIUM (N=2)		TOTAL (N=15)		MICRO (N=10)		SMALL (N=4)		MEDIUM (N=1)		TOTAL (N=15)	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
New or improved way of manufacturing or producing goods or services	8	100	4	80	2	100	12	80	7	70	3	75	1	100	12	80
New or improved way or acquiring raw materials, delivery, distribution of products	7	87.5	2	40	2	100	10	66.7	5	50	3	75	1	100	9	60
New or significantly improved supporting activities for processes	5	62.5	2	40	2	100	9	60	7	70	4	100	1	100	13	86.7

Table 8. Distribution of Organization and Marketing Innovation per Industry Sector

PARTICULARS	MANUFACTURING								SERVICE							
	MICRO (N=8)		SMALL (N=5)		MEDIU M (N=2)		TOTAL (N=15)		MICRO (N=10)		SMALL (N=4)		MEDIUM (N=1)		TOTAL (N=15)	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
New or improved knowledge management systems to better use or exchange information, knowledge and skills within the enterprise	8	100	3	60	2	100	13	86.7	8	80	4	100	1	100	13	86.7
Changes in the management structure or integrating different departments or activities	5	62.5	3	60	2	100	10	66.7	8	80	3	75	1	100	11	73.3
New or significant changes in relations with other firms or public institutions	8	100	2	40	2	100	13	68.7	8	80	4	100	1	100	13	68.7
Changes to the design or packaging of a good	6	75	3	60	2	100	10	66.7	6	60	4	100	1	100	10	66.7
New or significantly changed sales or distribution methods	5	62.5	2	40	2	100	9	60	6	60	4	100	1	100	10	66.7

\*Multiple Response





Table 12. Percent Distribution of the Different Sources of Information on the Innovation Activities

PARTICULARS	MICRO (N=19)				SMALL (N=8)				MEDIUM (N=3)				TOTAL (N=30)			
	H	M	L	NR	H	M	L	NR	H	M	L	NR	H	M	L	NR
Within the enterprise or enterprise group	57.89	15.79	21.05	10.53	100	0	0	0	66.67	33.33	0	0	70	13	13.33	6.67
Suppliers of equipment, materials, components, or software	47.37	21.05	26.32	5.26	38	38	12.5	13	33.33	66.67	0	0	43	30	20	6.67
Clients or customers	52.63	36.84	5.26	5.26	75	25	0	0	66.67	33.33	0	0	60	33	3.33	3.33
Competitors or other enterprises in the sector	31.58	36.84	5.26	5.26	75	25	0	0	33.33	33.33	33.33	0	43	33	6.67	3.33
Consultants, commercial labs, or private Research and Development institute	21.05	31.58	36.84	10.53	13	25	37.5	25	33.33	66.67	0	0	20	33	33.33	13.33
Government	10.53	26.32	36.84	26.32	25	38	37.5	0	33.33	0	33.33	33.33	17	27	36.67	20
Universities or other schools	10.53	21.05	47.37	21.05	13	38	37.5	13	33.33	0	33.33	33.33	13	23	43.33	20
Conferences, trade fairs, exhibitions	26.32	26.32	31.58	15.79	38	25	37.5	0	66.67	33.33	0	0	33	27	30	10
Magazines or books	21.05	21.05	31.58	26.32	0	13	37.5	50	0	66.67	33.33	0	13	23	33.33	30

\*\*Legend: H- High  
M-Medium

L- Low  
NR- Not Relevant



Table 13. Percent Distribution of the Effects of Process and Product Innovation

PARTICULARS	MICRO (N=19)				SMALL (N=8)				MEDIUM (N=3)				TOTAL (N=30)			
	H	M	L	NR	H	M	L	NR	H	M	L	NR	H	M	L	NR
Increased classification of products or services	52.63	42.11	5.26	0	75	25	0	0	66.67	0	33.33	0	60	33	7	0
Entered new markets or increased sales	26.32	57.89	15.79	0	50	50	0	0	100	0	0	0	40	50	10	0
Improved quality of goods or services	52.63	42.11	5.26	0	88	13	0	0	100	0	0	0	66.67	30	3	0
Improved flexibility of providing products or services	52.63	42.11	5.26	0	75	25	0	0	100	0	0	0	63.33	33	3	0
Increased volume of production	21.05	68.42	5.26	5.26	63	38	0	0	100	0	0	0	40	53	3	3
Reduced labor costs per unit output	26.32	31.58	36.84	5.26	25	75	0	0	66.67	33.33	0	0	30	43	23	3
Reduced materials and energy per unit output	31.58	36.84	31.58	0	25	75	0	0	66.67	33.33	0	0	33.33	47	20	0
Reduced environmental impacts or improved health and safety	52.63	31.58	10.53	0	50	50	0	0	100	0	0	0	56.67	33	7	0
Met regulatory requirements	52.63	31.58	10.53	0	75	25	0	0	100	0	0	0	63.33	27	7	0

\*\*Legend: H- High

M-Medium

L- Low

NR- Not Relevan



Table 14. Percentage distribution of effects of Organization and Marketing Innovation

PARTICULARS	MICRO (N=19)				SMALL (N=8)				MEDIUM (N=3)				TOTAL (N=30)			
	H	M	L	NR	H	M	L	NR	H	M	L	NR	H	M	L	NR
Reduced time to respond to customer or supplier needs	47.37	42.11	5.26	0	50	25	25	0	67	33	0	0	50	36.67	10	0
Improved quality of goods or services	63.16	31.58	5.26	0	63	38	0	0	67	33	0	0	63.33	33.33	3.33	0
Reduced cost per unit output	5.26	42.11	21.05	5.26	38	50	13	0	67	33	0	0	20	43.33	16.67	3.33
Improved employee satisfaction and/or reduced rates of employee turnover	42.11	42.11	10.53	5.26	50	50	0	0	67	33	0	0	46.67	43.33	6.67	3.33

\*\*Legend: H- High  
M-Medium  
L- Low  
NR- Not Relevant



Table 15. Percent Distribution of the Factors Affecting the Decision to Innovate

PARTICULARS	MICRO(N=19)				SMALL (N=8)				MEDIUM (N=3)				TOTAL (N=30)			
	H	M	L	NR	H	M	L	NR	H	M	L	NR	H	M	L	NR
Lack of capital	42.11	21.05	31.58	5.26	75	13	0	13	100	0	0	0	56.67	16.67	20	6.67
Lack of finance	31.58	36.84	26.32	5.26	38	25	12.5	13	66.67	33.33	0	0	36.67	33.33	20	0
Innovation costs too high	31.58	42.11	26.32	0	63	25	0	13	33.33	33.33	0	0	40	36.67	16.67	0
Lack of qualified personnel	36.84	31.58	31.58	0	38	25	12.5	13	33.33	66.67	0	0	36.67	33.33	23.33	0
Lack of information on technology	31.58	47.37	21.05	0	50	13	25	13	33.33	33.33	33.33	0	36.67	36.67	23.33	0
Lack of information on markets	36.84	31.58	26.32	0	38	38	0	13	0	66.67	33.33	0	33.33	36.67	20	0
Market dominated by established enterprises	36.84	31.58	26.32	0	75	13	0	13	33.33	33.33	33.33	0	46.67	26.67	20	0
Uncertain demand for innovative goods or services	15.79	42.11	36.84	5.26	25	50	12.5	13	0	66.67	33.33	0	16.67	46.67	30	0
No need due to prior innovations	21.05	31.58	42.11	52.63	13	63	12.5	13	0	66.67	33.33	0	16.67	43.33	33.33	0
No need because of no demand for innovations	21.05	26.32	0	0	13	63	12.5	13	0	33.33	66.67	0	16.67	36.67	43.33	0



## **SUMMARY, CONCLUSIONS AND RECOMMENDATION**

### Summary

The study was conducted for the following: 1) to determine the type of innovation adopted by MSMEs in the last three years (2009-2011); 2) to identify the person/s responsible for the introduced innovation; 3) to identify the activities associated with the innovation; 4) to identify the information sources of innovation in MSMEs; 5) to identify the effects of innovation to the MSMEs; and 6) the factors affecting the decision of MSMEs not to innovate. The data were gathered using a survey questionnaire. A total of 30 MSMEs in La Trinidad served as respondents, 15 were in the manufacturing sector and 15 in the service sector.

The majority of the respondents were in business for 2-10 years. The majority (63.33%) of the respondents are micro enterprises.

For the year 2009-2011, MSMEs in La Trinidad engaged in various innovation activities. All the enterprises had done product innovation mostly in the form of introducing new products that were already available in the market. There were also 46.35% of the product innovations that were introduced that were really new to the market; Most of these products were introduced by the medium enterprises (66.67%). The MSMEs also were involved in process innovation where majority (84.65%) of the respondents had done new or an improved way of manufacturing or producing goods or services. All of the activity under process innovation had been done by all the medium enterprises. The MSMEs were more creative in introducing organization and marketing innovations. Specifically, majority (88.82%) of the respondents had introduced new or improved knowledge management system to better use of information. Moreover, the



medium enterprise were more active in this innovation compared to the small and micro enterprises.

More enterprises in the manufacturing sector than the service sector had introduced product innovations that were new to the market. In terms of the process innovation, there is a slightly higher percentage of manufacturing enterprises that introduced new or improved ways of acquiring raw materials, delivery and distribution of products. For the organization and marketing innovation, there is just a slightly greater percentage of service enterprises compared to the manufacturing who introduced changes in the management structure or integrated different departments or activities, and introduced new or significantly changed sales or distribution methods.

The major developers of product innovation in the MSME's were the owner manager of the enterprise, the employees and customers. But for the medium enterprises the customers were not included as a developer of innovation. Process innovations were developed by the owner or manager of the enterprise, employees and through research and development.

Majority (83.33%) of the innovation activities for the year 2009-2011 were searching for new ideas and developing it into a product or service and for other preparations to finish the introduction of the new or improved product or service in the market.

There are many sources of information about the innovation activities of the MSMEs and the strongest source of information was the enterprise group (70%), followed by clients or customers (60%), and suppliers and competitors (43.33%).



Innovation has different effects for the MSMEs. The strongest impact from product and process innovation was improved quality of product or services (66.67%). Next highest in rank was improved flexibility in providing the product or service with 63.33% and increased classification of product or service (60%). For organization and marketing innovation, MSMEs had observed that the effects were improved quality of goods or services (63.33%), reduced time to respond to customer and supplier needs, improved employees satisfaction, and reduced employees turnover rate.

The factors rated with high effects, on innovation decision were lack of capital (56.67%), market dominated by larger enterprises (46.67%), innovation cost too high (40%), lack of qualified personnel, lack on information technology and lack of information on market (36.67 %).

### Conclusion

Based from the results, the following conclusions were derived:

1. MSMEs in La Trinidad introduced product, process, organization and marketing innovations for the past three years (2009-2011).
2. The owner or manager of the enterprises is the main developer of innovation in the MSMEs.
3. There are a lot of activities that the MSMEs involved in for the past three years (2009-2011) which included searching for new ideas and developing it into a product or service, and engaging in other preparations to finish the introduced the new or improved product or service in the market; as the critical ones





4. There are different sources of information for the innovation activities of MSMEs. The major sources of information were within the enterprise group; the clients or customers; and the suppliers and competitors.

5. Product and Process Innovation have a lot of effects for the enterprises namely: improved quality of products or services; improved flexibility in providing the product or service; and increased classification of product or service. For organization and marketing innovations, the greatest effects are improved quality of goods or services; reduced time to response to customers and suppliers needs, and improved employees satisfaction and reduced employees turnover.

6. There are factors affecting decision of the entrepreneurs whether to innovate. The strongest factor that affects the decision of the entrepreneur to innovation were lack of capital; market dominated by larger enterprises; and the high cost of innovation.

### Recommendation

Based on the findings and conclusion the following recommendations are made:

1. The MSMEs should continue to innovate so that their enterprises will continuously enjoy the positive effect of the innovations.

2. The government should also help the MSMEs in their innovation activities. Trainings, bench marking opportunities and financial support should be given to MSMEs to enhance their innovation activities especially the micro enterprises.

3. Enterprises should help each other in coming up with innovations since most find the source of innovation from within the enterprise group. Avenues where the different enterprises can meet and share ideas should be encouraged by the government



or by the industry association. MSMEs especially large scale enterprises, should help one another in acquiring fund for the innovation.

4. Other institutions such as universities and civic societies should involve the MSMEs in activities that promote development of innovations.



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## APPENDIX A



## Letter to the Respondents

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Sir/ Madam,

Greetings!

I am Mary Ann D. Wayet, a student of Benguet State University currently taking up Bachelor of Science in agribusiness major in Enterprise Management. I am now currently conducting a research entitled, “An Assessment of the Innovation of MSMEs in La Trinidad, Benguet.” In connection may I ask a portion of your precious time in answering my questionnaires. Rest assured that the information will be kept confidentially.

Thank you very much.

Respectfully yours,

MARY ANN D. WAYET  
Student

Noted by:

DR. DARLYN D. TAGARINO  
Adviser

## APPENDIX B



## Questionnaire

Respondent # \_\_\_\_\_

## Personal Information

Name: \_\_\_\_\_

Position in the Company: \_\_\_\_\_

## Business Profile

Name of the Enterprise: \_\_\_\_\_

Location of the Enterprise: \_\_\_\_\_

Number of years in Business: \_\_\_\_\_

Number of employees: \_\_\_\_\_

Total Asset in the present: \_\_\_\_\_ 3,000,000 and below

\_\_\_\_\_ 3,000,001-15,000,000

\_\_\_\_\_ 15,000,001-100,000,000

## 1. Product (good or service) innovation/ new or improved product

## 1.1 During 2009 to 2011, did your enterprise introduce:

	Yes	No
New or improved goods.		

## 1.2 Who developed/introduced these product innovations?

Select the most appropriate option only

The owner manager

employees

business partner

customers directly

consultant

competitors

associations

internal sales &amp; service unit

through Research and Development

schools

Labs and/ or other institutions

Others pls specify: \_\_\_\_\_

## 1.3 During 2009-2011; were any of your product and service innovation /new or improved products or service:

	Yes	No
new or improved products or services introduced by your business is new to the market.		
new or improved products or services introduced by your business is already available in the market		

## 2. Process innovation/ new or improved process



2.1 During 2009 to 2011, did your enterprise introduce:

	yes	no
New or improved way of manufacturing or producing goods or services		
New or improved way of acquiring raw materials, delivery, distribution of products		
New or significantly improved supporting activities for your processes, such as maintenance systems, computerization		

2.2 Who developed/ introduced these process innovations/ new or improved process

The owner manager

employees

business partner

customers directly

consultant

competitors

associations

internal sales & service unit

through Research and Development

schools

Labs and/ or other institutions

Others pls specify: \_\_\_\_\_

3. Innovation activities

3.1 During 2009 to 2011, did your enterprise engage in the following innovation activities:

	yes	no
your business is searching for new ideas and develop it into a product or service		
other do the searching of ideas and developing of the product or services for your business		
Acquisition of machinery, equipment and software		
getting ideas, knowledge from other business		
Training		
introducing to the market the new or improved products or services		
other preparation to finish the introduction of the new or improved products or service in the market		

3.2 During the three years 2009 to 2011, did your enterprise receive any public financial support for innovation activities from the government.



	yes	no
Local or regional authorities		
national government		

#### 4. Sources of information

4.1 During 2009 to 2011, how important to your enterprise's innovation activities were each of the following information sources?

	Degree of importance			
	High	Medium	Low	Not used
Within your enterprise or enterprise group				
Suppliers of equipment, materials, components, or software				
Clients or customers				
Competitors or other enterprises in your sector				
Consultants, commercial labs, or private Research and Development institute				
Universities or other schools				
Government or public research institutes				
Conferences, trade fairs, exhibitions				
magazines or books				
Professional and industry associations				

#### 5. Effects of innovation during 2009-2011

5.1 How important were each of the following effects of your product (good or service) and process innovations introduced during 2009 to 2011?

	Degree of observed effect			
	High	Medium	Low	Not relevant
Increased classification of products or services				
Entered new markets or increased sales				
Improved quality of goods or services				
improved flexibility of providing products or services				
increased volume of production				
Reduced labour costs per unit output				
Reduced materials and energy per unit output				
Reduced environmental impacts or improved health and safety				
Met regulatory requirements				

#### 6. Factors affecting innovation activities





6.1 During 2009 to 2011, how important were the following factors for affecting your innovation activities or projects influencing a decision not to innovate?

	Degree of importance			
	High	Medium	Low	Factor not experienced
Lack of capital				
Lack of finance from outside sources				
Innovation costs too high				
Lack of qualified personnel				
Lack of information on technology				
Lack of information on markets				
Market dominated by larger business				
Not sure demand for the new or improved product or service				
No need due to past improvements of products or service				
No need because of no demand for new product or service				

## 7 . Organisational and marketing innovations

7.1 During the three years 2009 to 2011, did your enterprise introduce:

	yes	no
New or improved use of information, knowledge and skills within the business		
Change in management structure and re arrangement of works.		
New or change in relationship with other business and people associated with the business		
Change in the packaging of the product		
New or change in the distribution method		

7.2 If your enterprise introduced an organisational innovation during 2009 to 2011, please rate the effects as applicable:

	Degree of observed effect			
	High	Medium	Low	Not relevant
Reduced time to respond to customer or supplier needs				
Improved quality of your goods or services				
Reduced costs per unit output				
Improved employee satisfaction and/or reduced the frequency in replacing employee's				

