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ENTREPRENEURIAL UNIVERSITIES' OBLIGATIONS
TO SOCIETY: A CASE STUDY OF THE MINDANAO
STATE UNIVERSITY IN THE PHILIPPINES

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ABSTRACT

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This study is concentrated in determining how higher education institutions, particularly the case of entrepreneurial universities in a developing nation, address the social and economic expectations of the society based on a regional setting. To understand this context, a public university in the Philippines was chosen as a case study to represent the higher education institutions in the Northern Mindanao region. The term "entrepreneurial university" was used all throughout this research to emphasize the commerce-related undertakings executed by the case.

Data collection was done through questionnaire dissemination and analysis of the Higher Education Modernization Act of 1997. Representatives from the University's central administration, faculty and local government shared their insights on the issues related to the scope of entrepreneurial obligations, the mechanisms in promoting higher education institutions' involvement in the region and how the case study's institutional environment depict the elements of entrepreneurialism as obligations to regional development. In the theoretical framework for this study, the institutional theory attempted to explain how the demands of the people and society confront higher education institutions by means of academic related obligations, community related obligations, and most importantly, the expected response to regional development obligations. Findings were able to prove that choosing the entrepreneurial path is not only an issue of institutional survival but also going towards the direction of extending better higher education services to the community and the region.

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ABBREVIATIONS

ADB	Asian Development Bank
CHED	Commission on Higher Education
CSR	Corporate Social Responsibility
DepEd	Department of Education Culture and Sports
DR	Department of Research
DOST	Department of Science and Technology
DOST-ESEP	Department of Science and Technology- Engineering Science Education Project
DOST-PCASTRD	Department of Science and Technology- Philippine Council for Advanced Science and Technical Research
GAA	General Appropriation Act
HE	higher education
HEIs	higher education institutions
ICT	information and communication technologies
ICTC	Information and Communication Technology Center
IGP	Income Generating Projects
IT	information technology
MSU	Mindanao State University
MSU-IIT	Mindanao State University- Iligan Institute of Technology
MTEF	Medium Term Expenditure Framework
PhD	Doctor of Philosophy
R.A.	Republic Act
SUCs	State Universities and Colleges
TAPU	Technology Application and Promotion Unit
US/USA	United States of America

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1 INTRODUCTION

1.1 Background of the Study

As the financial crisis affected Southeast Asian countries in 1997, higher education (HE) became an instrument in moving forward economies to spur growth. The situation had also encouraged political leaders to implement strategies in advancing people's skills by modernizing universities based on the current demands of the labor market and globalization in general. At this point, the functions of HE are being redefined to correspond to the fundamental needs of the society that make universities aware or sometimes forced to conform to the changing patterns. Reform initiatives that had occurred in Southeast Asia for the past decades reflected as well on the ideological shifts leading to the demands for efficiency, performativity and measurability in education enterprises (Lee, 2008: 75).

While diverse problems, demands and resources from every institution in modern society are brought to the university's calling, an automatic response is expected to help improve business practices, public policies and even family life (Krücken et al., 2007: 22). Confronted by these emerging tasks, globalization also drives universities in the route of corporate formation, a business-type university management, and an incentive scheme that relies on market competition. Aside from the concepts of "new management" and "academic capitalism," coming up under the influence of transformation happening within the university environment, the entrepreneurial university approach describes the new type of university formed as an outcome of extra-academic environment changes (Lache, 2006: 25).

"Entrepreneurial university" has been used more and more frequently but its connotation is not always very clear. This term, according to Burton Clark's book *Creating Entrepreneurial Universities: Organizational Pathways of Transformation* refers to a university, which has in various instances modernized its strategies, management and organizational culture (Clark, 1998). However, entrepreneurial universities are also used to describe HEIs that portrayed a significant role in innovation and economic growth (Gulbrandsen & Slipersæter, 2007: 116). This situation is similar to countries (i.e. Singapore and US) with strong national innovation system that are backed up by their universities for ICT policy formulation and implementation, technical support and full assistance to business start-ups.

The Philippines as a developing nation has been targeting the way foreign universities adopt flexibility to innovation that could help foster economic development. Primary concern was built on how the entrepreneurial trend made an impact on successful HEIs by taking advantage of the opportunities to support academic excellence and at the same time fulfill the task of improving the welfare of their respective regions. The country's Medium Term

Development Plan from year 2004-2010 mentioned two points pertaining to the role of HE and vocational training. Such tasks demand concentration on access and creation of jobs. According to Lauridsen and Kindtler (2006: 15), major innovation of university programs are now involving thorough understanding of the corporate world and its competence needs including both hard and soft skills, in order to ensure corporate relevance and the employability of graduates.

Having a population of more than 88 million with 17 regions¹ from the islands of Luzon, Visayas and Mindanao, there is demand for improvement in the quality of education in the Philippines. The Asian Development Bank (ADB) stressed the shortage of skilled workforce in the Asia Pacific region and it has been a major bottleneck in economic and social development. Though ADB expects HE to boom in the next five to ten years, the expansion will persist to show irregularity, bringing out more institutions of lower quality. Other than this, with the recent developments in the international job market and the rapid dissemination of knowledge, universities are facing the challenge of striking the balance between their national and regional obligations and constructing a more international environment (Kristensen, 1999: 36).

1.2 Higher Education in the Philippines

The Department of Education, Culture and Sports (DepEd) had started to concentrate on primary and secondary education after forming the Commission on Higher Education (CHED) in 1994. Creating a new government agency for HE was a result of a five-year review of the Philippine educational system. CHED since then became responsible of administering the country's overall HE activities while the Technical and Vocational Skills Development Authority (TESDA), an agency connected to the Department of Labor was also created in the same year to oversee the post-secondary technical and vocational education (Biglete, 2003).

In the Philippines, HEIs refer to colleges and universities classified as public (government) or private (non-government) institutions recognized by CHED. At present, there are 2,060 HEIs geographically distributed in the country. The Public HEIs comprises of: (a) 110 state universities and colleges (SUCs) main campuses with 334 satellite campuses; (b) 77 local universities and colleges (LUCs); (c) 10 other government schools (OGS); (d) 1 CHED Supervised Institution (CSI) and; (e) 5 special HEIs.² Data below represents the number of HEIs in the Philippines according to region and sector:³

¹ According to the National Statistics Office, the Philippines' population has increased from 88.57 million in August 2007 to an estimated 90.46 million in 2008. Meanwhile, the National Statistical Coordination Board stated that as of September 2008, the former 13 regions of the country now include the National Capital Region, Cordillera Administrative Region, MIMAROPA, and the Autonomous Region in Muslim Mindanao.

² OGS are public secondary and post-secondary institutions, commonly a technical-vocational school offering HE programs. CSI is under the category of a non-chartered public post-secondary institution recognized by law,

Table 1. Distribution of Higher Education Institutions by Region and Sector

Region	Public	Private	Total
I-Ilocos Region	29	85	114
II-Cagayan Valley	22	48	70
III-Central Luzon	51	163	214
IVA-CALABARZON	71	203	274
IVB-MIMAROPA	46	35	81
V-Bicol Region	45	97	142
VI-Western Visayas	64	72	136
VII-Central Visayas	31	111	142
VIII-Eastern Visayas	40	55	95
IX-Zamboanga Peninsula	12	48	60
X-Northern Mindanao	18	65	83
XI- Davao Region	16	75	91
XII- SOCCSARKGEN	10	68	78
XIII-CARAGA	14	43	57
Cordillera Administrative Region	19	31	50
Autonomous Region in Muslim Mindanao	16	48	64
National Capital Region	33	276	309

Source: CHED, 2008

The structure of HE is similar to the American system, using English as medium of instruction. Completion of formal education includes six years of primary education and four years of secondary education. Tertiary education normally takes four years with the exception of some courses in engineering and other science courses (five years), law and medicine (eight years). Private HEIs dominate the system and they are categorized as sectarian and non-sectarian institutions. The nature of sectarian institutions is typically non-stock, non-profit organization, owned and run by religious orders. On the other hand, non-sectarian institutions could be individual or corporate-owned and are not affiliated to any religious organization. Majority of them are stock, few are not for profit corporations and some are operating as foundations.

In the aspect of institutional governance, HEIs create and maintain their own internal organization. Thus, the framework adopted is mainly separated into policy formulation and policy implementation areas. The Governing Board handles the implementation and endorsement of all policies, rules and standards in the institution. At the same time, the President executes the policies and directs the operational tasks. The individual charters guarantee the SUCs autonomy, allowing them to open curricula and institutional programs,

supervised and financially supported by the government. Lastly, Special HEIs are managed by the government agency that created them and specialize in fields such military science and national defense.

³ The regions of CALABARZON, MIMAROPA, SOCCSARGEN and CARAGA are using acronyms derived from the names of the provinces composing them.

and award their own degrees. On July 22, 1997, a signed legislation was made endorsing the HE Modernization Act of 1997 (see Chapter 5). With this new set-up, it permits CHED to exercise influence and give proper regulations on the quality and formation of the academic programs as well as on the internal functions of the SUCs.

The private HEIs experience some degree of autonomy only when their programs have attained Level III accreditation. At this stage, they are considered deregulated and can instigate reforms in their curricular offerings without getting approval from CHED. In some cases, private schools have to obtain for permit from CHED to initiate a course. Recognition of programs is granted if the institutions have fulfilled the minimum requirements set by CHED.

1.3 Rationale of the Study

This study intends to provide some recommendations that will fit the situation of Philippine universities not only on the general aspect of entrepreneurial activities but also its relation to the society and nation's progress. To date, few studies have been done that mainly focused on entrepreneurial universities in the Philippines. Since the word "entrepreneurial" is not commonly used by HEIs in the country because of their nature as non-profit organizations, it will further help in clarifying some aspects of university transformation and in understanding other collegial approaches to entrepreneurialism (Clark, 2004).

To conduct a study about one of the regions from the island of Mindanao will give added inspiration for other researchers who have much curiosity on the eagerness of local government and universities to aspire for development considering the fact that some of the provinces are affected by on-going Islamic insurgency. It was very enlightening to know the goals of some universities in Mindanao as they strive not only for excellence but also for unity and harmony between Christians and Muslims. Through this, it made the author realized that as a Filipino citizen, this study could be a personal contribution to promote peace and cooperation towards regional development and for a greater Mindanao.

1.4 Research Problem and Questions

The main problem for this study is: How do HEIs (entrepreneurial universities) meet the economic and social expectations of a globalized society, particularly in the case of the Mindanao State University in the Philippines?

Indicated below are the research questions that will guide in addressing the main problem:

1. What is the scope of entrepreneurial university obligations to society particularly in the country's case?

2. What are the mechanisms in promoting HEIs regional involvement in Northern Mindanao?
3. How does the case study's institutional environment depict the elements of entrepreneurialism as obligations to regional development?

1.5 Objectives and Significance of the Study

One of the aims of this study is to understand the scope and mechanisms of entrepreneurial obligations that impact the role of universities in the Philippines. Since the entrepreneurial model for HE differs according to a country's setting and approaches, examining further the related policies will help determine the obligations to be satisfied by HEIs, particularly the demands expressed by their respective regions. Having a limited number of researches conducted about entrepreneurial universities and regional development in the Philippines, the researcher is looking forward to gather more information pertaining to the actual situation of these institutions and clarify details on the notion that other countries have on the efforts being done by developing nations in attaining their regional goals.

Some important aspects highlighted in this study could also benefit the institution involved particularly in developing strategies that will support their current activities. Lastly, the outcome shall lead to recommendations suitable to the context of the Philippines in prioritizing the links between HE and government towards a progressive economy.

1.6 Limitations of the Study

Although private institutions dominate the Philippines' educational system, this study covered a public state university and the findings does not intend to characterize the obligations of all entrepreneurial universities or connect the topic's relevance to other activities done by HEIs in developing nations for achieving regional development. The author is also aware of the need to evaluate the impact of HE on the sectors it interacts with (Batterbury & Hill, 2004: 41) because it helps in fully illustrating the real situation encountered by universities in the region or locality. From the outcome of this study, it was realized that evaluating such impact requires analysis at a number of levels (ibid):

- The individual: life choices, increase in self confidence and direction, increase in quality of life through greater educational achievement, etc.;
- Society: higher levels of politicization, increase in critical questioning of and within the public sector, greater degree of labor force mobility impacting on the demographic composition of communities;

- The economy: increase in expenditure in a region and intra-regional distribution of wealth and prosperity through the economic pull of areas with HE attracting external revenues and expenditure, etc.

The elements included in the above-mentioned levels were not given priority during research process because not all relevant information were able to gather from resource persons who could identify other reasons that push universities to portray obligatory roles to society. For instance, the author failed to tap the side of other stakeholders such as student/alumni, industries and government agencies. Entrepreneurial undertakings could have been explained in different angles and situations if more participants were able to contribute in this study.

Another limitation is on HE policies in the Philippines that directly describe the role of universities in supporting regional development. At some point, the HE Modernization Act of 1997 may be interpreted in various ways. For this study, it was perceived as part of the changes influencing the functions of public HEIs in the country in order to meet societal expectations and achieve economic growth. The approach of this study may or may not have similarities from what other countries claim as “corporatization”⁴ or “privatization.”⁵

1.7 Organization of the Study

This study is divided into seven chapters covered by topics in the following structure:

Chapter 1 presents the background of the study and the system of HE in the Philippines. The motivation and rationale, research problem and questions, objectives and significance, limitations and the organization of the study are included in this part. Chapter 2 describes the methodology used in data gathering, along with the validity, reliability and complexities encountered while conducting this research. Chapter 3 tackles the Institutional Theory as a theoretical framework used in determining the obligations of entrepreneurial universities to regional development. A conceptual framework has been formulated that guides the operationalization of this study. Chapter 4 covers the relevant literatures on the changing functions and idea of HEIs, problems faced by HEIs in developing nations, concepts and approaches describing entrepreneurial universities and HE’s link to regional development.

⁴ The underlying principle behind “corporatization of higher education” is that by adopting the structure and practices of the corporate world, HE will be able to meet the challenges of: (1) serving a wide range of students; (2) escalating costs; (3) dealing with questions on the occupational status and role of faculty; and (4) institutional governance (Lamal, 2001). Meanwhile, Birnbaum stated that the move to corporatization is an attempt for HE’s adoption of fads from business and government. Through this, the idea of HE as a social institution has been displaced by HE as an industry (Birnbaum, 2000: 226 in Lamal, 2001).

⁵ Geiger defined “privatization” as the net addition of private resources for HE or the substitute of private resources for public ones. At the international level, this phenomenon would seem to have the following components: (1) growth in the relative share of privately controlled institutions; (2) burden of financing HE from government to student and; (3) attempt to rely on gifts and or through mutually advantageous arrangements with industry (Geiger, 1988: 7).

Chapter 5 reveals the findings of the study by providing the background of the case and analyzing the results furnished by respondents and other collected tools. Chapter 6 offers a discussion on the issues linked to the demands and scope of entrepreneurial obligations as exemplified by the case. Finally, Chapter 7 will conclude this study by acknowledging the issues in connection with the theoretical framework and conceptual framework. Furthermore, this chapter aims to provide recommendations stating the future direction of this research.

2 RESEARCH METHODOLOGY

2.1 Research Design

This research is concentrating on qualitative method in the form of a single case study. Researcher Robert K. Yin defines the case study research method as an empirical inquiry that probes a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which various sources of evidence are used (Yin, 1984: 23). Case studies offer various standpoints because the researcher considers not just the voice and perspective of the actors, but also of the relevant groups of actors and the interface between them. This one aspect is a salient point in the characteristic that case studies possess (Feagin, Orum & Sjoberg, 1991 in Tellis, 1997). For its relevance in the field of education, Merriam (1998: 27) defined qualitative case study as an intensive, holistic description and analysis of a single instance, phenomenon or social unit. She also added that if a researcher's curiosity in a certain phenomena were not intrinsically bounded, it would not be a valid reason to be accepted as a case. Testing the scope of the topic considers how restricted the data collection would be, particularly if there is a fixed number of people participating in the study or fixed amount of time for observations (ibid).

The author's main consideration for choosing a single case is due to the limited amount of time to cover the wider scope of entrepreneurial university activities and regional development's link to HE. Single cases may be used to confirm or challenge a theory, or to represent a unique or extreme case (Yin, 1994 in Tellis, 1997). Yin also treated it as an ideal approach for revelatory cases where an observer may have access to a phenomenon that was previously inaccessible. For the author, a single case study's suitability for this research may offer detailed information on how universities (as represented by MSU-IIT in the Philippines) in developing nations can cope to the present demands of globalization and changing facets of HE. Nevertheless, as stated on the limitations of this study, the findings do not infer that every situation is automatically valid in the case of other HEIs.

Among the ten campuses of Mindanao State University System, MSU-IIT was chosen to represent HEIs located in Region X, Northern Mindanao. Purposive sampling is applicable as a strategy when a researcher wants to learn something and come to understand something about certain select cases without needing to generalize to all such cases (Patton, 1980: 100). Another strategy for selecting purposeful samples is to look for critical cases. Critical cases are those that can make a point quite dramatically or are, for some reason, particularly important in the scheme of things (ibid. p. 102). The island of Mindanao has six administrative regions and some provinces in the southwest are semi-autonomous Muslim areas affected by insurgency. In this study, a critical case strategy was used in order to avoid a politically

sensitive site or unit of analysis. This is an additional sampling strategy for trying to amplify the usefulness and utilization of information where resources permit the study of only a limited number of cases (ibid. p. 103).

Another basis for choosing the case study can be related to Catherine Batac's research on University and Industry Relations. In her study, she cited Burton Clark's (1983) discussion on "Authority" wherein he enumerates six levels of authority. From bottom to top, the first level is the *department*, the second level is the *faculty* and the third is the *university*. The fourth level is the *multi-campus* academic administration. The state, provincial, or *municipal government* itself belongs to the fifth level. Lastly, the sixth and the utmost level is the *national government* (Clark, 1983: 108-110 in Batac, 2007: 8). Although not all six levels were included in this study, three sets of questions were also prepared (ibid) since the author would like to gather three different perspectives coming from: a) the municipal government; b) University's central administration and; c) the faculty. The following people were contacted to participate: the Chancellor, Professor Marcelo Salazar, the Dean, Professor Jerson Orejudos and Assistant Dean, Professor Cristina Duyaguít from the School of Graduate Studies and the Mayor of Iligan City, Hon. Lawrence Cruz. In addition to these respondents, the Assistant Dean referred two Program Coordinators, Professor Sulpecia Ponce and Professor Ruben Amparado Jr. to answer the key issues raised in the questionnaire. During the initial phase, inquiries were also sent to two faculty members from the College of Business Administration for the possibility of getting them as additional respondents for this study. Unfortunately, they did not continue answering the questionnaires and had only given basic details of their individual and departmental activities. The basic information received from them will be part of the empirical analysis on faculty commitment (Chapter 5).

2.2 Data Collection

The qualitative approaches used in this study are questionnaires, document reviews and review of related literature. The details below will further elaborate the data collection methods used.

2.2.1 Questionnaire

Dissemination of questionnaire has been administered because of the limited time to go back to the Philippines for fieldwork. Open-ended questions were prepared for this research in order to come up with ideas based on the responses of the participants (Gendall et al., 1996: 1). Using open-ended questions has a purpose of enabling the researcher to understand and capture the points of view of other people without predetermining those points of view through prior selection of questionnaire categories (ibid).

In his book, Patton (1980: 28) explained that direct quotations are a basic of raw data in qualitative measurement because it reveals the respondents' level of emotion, the way which they have organized their world, their thoughts about what is happening, their experiences, and their basic perceptions. However, severe limitations can be seen in open-ended data gathered from questionnaires. These limitations are related to the exhibited writing skills of respondents, the impossibility of questioning or extending responses, and the effort required of the person completing the questionnaire (ibid. p. 29).

In doing research, complexities appear even on the actual process of data gathering. For this study, piloting the questionnaire was done in one faculty member of MSU-IIT and another faculty member outside the case study. The initial outcome has presented pertinent details that helped the author to improve the contents of the questionnaire and consider more resource persons who could give valuable insights on the obligations of entrepreneurial universities to regional development.

2.2.2 Document Reviews

The study used different documents to support the details given by the participants during questionnaire dissemination and other data gathered within the coverage of this topic. To understand the contents and dimensions of university entrepreneurialism, the Philippines' HE Modernization Act of 1997 has been reviewed. Electronic documents available at MSU-IIT website such as the 2007 Annual Report and Student Handbook were also collected to analyze the focal points related to the responses.

2.2.3 Review of Related Literature

A separate chapter (Chapter 4) has been allotted for the review of related literature to discuss the core elements that encourages HEIs to engage in entrepreneurial activities and how the whole process becomes an obligation to fulfill towards regional development. The review of related literature has guided the author in creating a strong conceptual framework to elaborate the goals of this research based on the ideas, models and theories drawn from other researchers. Referring to previous studies and literatures will help in pointing out the exact nature of the contribution (Merriam, 1998: 51) that a researcher intends to do in the current study.

2.3 Data Analysis, Validity and Reliability

The theory involved in this study is not enough to supply everything and the other means to analyze this research is through organizing the literature and the concepts emphasized by the participants during the distribution of questionnaires. Content analysis was also done to assess other concepts and examples linked to the study of entrepreneurial universities and

regional development. In his book, Nieuwenhuis (2006) mentioned the importance of content analysis as it helps a researcher to look at data from different perspectives and identify keys in the text that will aid in understanding and interpreting the raw data.

Assessing the validity and reliability for this type of qualitative study involves examining its component parts (Merriam, 1998: 199). During the stage of conceptualization, the author was already particular if the future findings will match what is happening in reality (ibid. p. 201) specifically on the aspect that university entrepreneurial trends experienced by other nations may be assumed successful when applied to the Philippines' case. The risk of relying on assumptions is one of the reasons why every detail concerns a researcher because there is always a need to measure the degree of congruence between observations and established theoretical ideas (Bryman, 2001).

In this type of study, internal validity can be guaranteed through a range of approaches, for example by using methodological triangulation (various sources of evidence, reviews given by different researchers, and multiple methods), "member checks,"⁶ long term observation and participatory modes of research (Kivistö, 2007: 134). Another study related to conducting qualitative research stated that reliability and validity should be redefined as trustworthiness, rigor and quality. It is also through this relationship that the way to attain validity and reliability of a research get affected from the researcher's viewpoints, which are to eliminate bias and increase the researcher's truthfulness of a proposition about a phenomenon (Golafshani, 2003: 604). To be more specific, inquiry audit was suggested as a technique that would probably enhance the reliability of qualitative research (Lincoln & Guba, 1985 in Golafshani, 2003: 601).

Face-to-face interview with the participants may have a different effect on data interpretation compared to distributing questionnaires via electronic mail. Consequently, despite the fact that there is no direct interaction between the author and the participants of this study, further elaboration on issues were requested through follow-up mails and calls. As an advantage, some details in the responses are available to the public and therefore, the information they contain can be verified (Kivistö, 2007: 134) as well.

The next section will explain the challenges encountered by the researcher pertaining to the data gathering process. Some complexities paved way to set limitations in touching other relevant topics on entrepreneurial universities and regional development.

⁶ As cited from Kivistö (2007: 134), "member checks" refer to the data and interpretations that are given back to the original sources and asking them if the results were credible.

2.4 Challenges in the Data Gathering Process

Board Resolution approving entrepreneurial activities was requested by the author in order to compare and validate the empirical findings against the responses provided by MSU-IIT administration and faculty. Unfortunately, only University employees are capable of accessing this document and the permission to obtain a copy from the MSU-IIT Docs⁷ was not answered by the person in-charge. Another challenge is getting the exact contact details of government agencies in Region X and this resulted to failure of not being able to tap the side of other regional stakeholders. Permission to disseminate questionnaires was submitted to Global Steel Philippines Inc., Chamber of Commerce in Iligan City as well as government agencies particularly CHED and DOST but none of them expressed their interest to participate. Waiting time for each participant's reply was also difficult because questionnaires were distributed in February. During that period, HEIs in the Philippines are busy preparing for exams and commencement exercises. Aside from this, some of the respondents were also traveling and attending to work-related activities outside Iligan City.

⁷ MSU-IIT's online repository of documents

3 THEORETICAL FRAMEWORK

Institutional theory extends a very broad concept of 'institution'. In his book, North describes that "institutions are the rules of the game in a society, or more formally, institutions are the restrictions that shape human interaction." Within these institutions include any form of constraint that human beings prepare to shape human interaction. Institutions can be categorized as either formal - such as political rules, economic rules and contracts - or informal - such as codes of conduct, attitudes, values, norms of behavior, and conventions, or rather the culture of a determined society. In line with this, North attempts to explain how institutions and institutional context impinge on economic and social development (North, 1990: 3 in Cano et al., 2006: 5).

The basic function of institutions in a society is to lessen uncertainty by establishing a stable structure to human interaction. To go deeper into this framework, North did not only try to explicate how the institutions and their institutional transformations concern the economic and social development. Thus, he gave a tacit analysis of the economic change based on a triple axes: beliefs, institutions, and economy. In this angle, understanding how an economy works should include knowing the political, social and cultural factors that establish their institutional dynamics. One-way of achieving this is through studying the beliefs systems and decision process (ibid).

In relation to entrepreneurial universities, institutional theory explains how change will develop as a process in portraying obligatory roles to society. The transformation in HE systems has expanded through the years and it is recognize that although institutions serve both to effectively drive change and to shape the nature of change across levels and contexts, they also themselves change in character and potency over time (Dacin et al., 2002: 45). This theory will offer added substance to emphasize the role of Philippine universities in addressing the expectations of a globalized society based on a regional setting. As one of the central themes of institutional theory, it was considered that the environments furnish the blueprints and building blocks of local structures and it has been explored both generally and in the context of HE at the levels of persons, organizations, and societies. Meyer and colleagues claimed (Meyer et al., 2005: 5) that these analytical levels are highly institutionalized according to the set of cultural assumptions and organizational rules that comprise the framework of modern societies.

There are unique ways in which institutions change and experience how to be deinstitutionalized or reinstitutionalized⁸. The demands expected from HEIs leave a

⁸ Jepperson (1991: 152) defined deinstitutionalization as the one that signifies an exit from institutionalization, toward reproduction through intermittent action or non-reproductive patterns or social entropy. In contrast,

corresponding question- how do institutions in general are also expected to operate? This particular scenario plunks every institution within the requirement to embody “programmed actions” (Berger & Luckmann, 1967 in Jepperson 1991: 147) or simply deal with “common responses to situations” (Mead, 1972: 263 in Jepperson 1991: 147). When not successfully carried out, institutions may possibly develop contradictions with their environments, with other institutions, or with elementary social behavior (ibid. p. 152).

In the study conducted by Brint and Karabel (1991: 337), they have cited the American Community Colleges as an example of successful transformation of HEIs during 1960 and 1980. It was believed that most of the explanations they have gathered about its transformation were influenced by consumer choice; the fact that students at that time wanted vocational training because of its increasing demand compared to liberal arts courses. The other reason was related to business denomination- the idea that business greatly provided an urged for them to transform due to the increasing need for semi-professional and technical labor. Although the authors think that the details are insufficient to prove the real purpose of transformation, the study they have conducted depicts how institutional theory bears on the community college case and how at the same time, the community college case bears on the institutional theory (ibid. p. 338). The associated concepts will supply important issues and examples on how this theory accentuate the worldwide commitment of countries to aggressive doctrines of both socio-economic progress and individual development and to the expanding ideologies that education is a key to this progress (Meyer & Schofer, 2007: 52).

3.1 Identifying Related Concepts

3.1.1 Institutional Environment

Universities are crucial to the pursuit of central societal goals and therefore have subjected to institutional definitions of what is proper educational procedure and practice (Zucker, 1980: 1). In general, organizations are always bordered with certain arrangements and no matter how an organization is structured; it consists of certain mission statements, formal positions and organizational rules (Jones, 2001: 8 in Cai, 2007: 55). The need for an organization to restructure, modernize or privatize are some of the sample terms that this study intends to illustrate, specifically on the institutional environment’s tendency to be easily affected by factors disturbing their traditional undertakings.

Some authors (Meyer & Rowan, 1977: 340; Weick, 1976: 4) had stressed the ability of institutions to become tightly or loosely coupled. In this study, similar situations can be

reinstitutionalization represents exit from one institutionalization, and entry into another institutional form, structured around different principles or rules.

compared on how an entrepreneurial university could strategically address the demands to support regional development through the responses coming from administrators and faculty members. It can be reflected on the way HEIs in general, handle the burden of creating solutions and alternatives to satisfy such demands. Loose coupling may provide opportunities to exercise choice, whether to be guided or not by standards or observed practices. Tight coupling on the other hand, produces other environmental pressures that affect the changing context of education policymaking. Like in the case of USA, federal state governments have been increasingly involved in education through mandates and the implementation of top-down command and control structures. Lawmakers are concentrating on monitoring institutional performance in an effort to craft a more coherent education policy (Fusarelli, 2002: 565).

The HE Modernization Act of 1997 concerning the role of HEIs to act like business firms is an example wherein the mapping of organizational elements and coupling are determined by rational design and institutional compliance (Ogawa & Scribner, 2002: 583). Hence, universities in the country are encouraged to comply according to the plans designed by the government, making them proactive and entrepreneurial in delivering educational services. In addition to environmental pressures for tighter coupling, new institutional actors and greater institutional capacity are likewise present. The focus on entrepreneurial universities and applying institutional theory as a framework will help demonstrate the importance of powerful organizational actors, group interest and instrumental elements (Cai, 2007: 48) in explaining university transformations and even the changing idea and functions of HE. Their roles may specify other related consequences, not only the general guidelines observed by the university administration but also of the shifting patterns of higher learning as a whole (Krücken et al., 2007: 189).

The importance of perceived attitudes of academics and other actors involved in discussing the role of HEIs towards regional development is within the scope of this analysis on institutional environment. Empirical findings of this study will show the positive or negative approaches of academics with regard to their support to localize learning process, contribution to promote teaching and learning and how they depict upon the specific characteristics of a region to aid other educational activities.

HEIs contain elements that make each of them closely resemble one another. Through isomorphism, even in seemingly loosely coupled organization, the goals and activities of organizational actors conform to norms of institutional legitimacy (Rowan & Miskel, 1999; Ogawa et al., 1999 in Fusarelli, 2002: 565, 568). However, there are instances that institutions may adopt formal structures to gain legitimacy with external stakeholders in order to respond to conflicting demands from the environment and decouple administrative

structure from work activity to avoid the detection of inconsistencies, and thus the loss of legitimacy (Meyer & Rowan, 1977 in Ogawa & Scribner, 2002: 579).

3.1.2 Institutional Interests and Opportunity Fields

In exploring the applicability of institutional theory for this study, HE management mainly requires greater steering capacity to intensify the institution at the top and be able to balance its expanded discretion by promoting entrepreneurialism at the level of the operating units (i.e. departments and schools). This move creates institutional interest where fundamental structural situations faced by HEIs could encourage or restrain change. Generating institutional interests offers a clear idea in underscoring the distinctive attributes that an entrepreneurial university may bring to its environment.

According to Meyer (2002: 542), what could be a new found strength at the top must be matched with a newly invigorated spirit of entrepreneurial management at the department level. This also raises some issues on the capability of traditional collegial university governance methods that have been the default method of administration in universities for centuries. He added that although universities continue to use the old ways of governing, they have learned to adjust according to the needs of the present environment and sometimes depend on the managerial capacity of the members facilitating the entrepreneurial activities (ibid).

The manner of building institutional interests involves assessments not only of the power structures constraining activity, but also of the fields of opportunity that remain open. Opportunity fields may be thought of as including both the existence of potential market niches for HEIs and the relative degree of organizational competition in these spaces of opportunity (Brint & Karabel, 1991: 348, 349). In delineating the character of entrepreneurial universities (Clark, 2004) the case of HEIs in developing nations is expected to provide a clear idea that institutions could adapt to changes in their environments and they survive if they fit into niches of the new system. For instance in Sri Lanka, the absence of innovative policy framework suggests a proposal for universities to focus on techno-entrepreneurship and business planning to be integrated in the curriculum (Amaradasa & Wickremasinghe Presentation in 2007). In this manner, the opportunity to revise the curriculum in several universities will help supply an industry's need to introduce new programs that are relevant to the present demands of the job market.

3.1.3 Organizational Assets, Status Pressures and Institutional Identity

After looking on the environmental influences on the determination of institutional interests, other important influences are the evaluation of organizational assets and status pressures

experienced by organizational leaders (Brint & Karabel, 1991: 350). Regional universities in the Philippines did not experience much appeal in terms of the quality of education and facilities compared to other private HEIs and the national university (University of the Philippines). The affordability and convenience of location are the distinctive assets that they have which enabled them to take advantage of the provincial market. Nursing programs had experienced the peak of attracting many students in 2002 and the small colleges located in the remote areas of the Philippines had received positive responses when it comes to the number of enrollees for their nursing courses. Other than the low cost of tuition and locational convenience, the attractiveness of the program to staff is also significant, as they have witnessed the growing demand for health professionals locally and abroad.

Status pressures have added to the factor of shaping institutional interests. This situation make HEIs seek for a new identity by creating strategies that would help them rationalize decisions originally made to escape status deprivation (ibid. p. 351). Changing names as a concrete example, gives fresh and motivating phase in the growth and development of HEIs. A university could direct exceptional resources into the academic program and services for students and this could be a pressure for them to carry out initiatives as part of being entrepreneurial. The name change for instance, is just a portion of this strategic initiative to emphasize the process of transformation they are currently undergoing.

In HE, institutional identity may guide and activate interpretations of an issue and motivations that affect the patterns of action over time. According to Yuzhuo Cai (2007: 60, 61), the central ideas could be understood in terms of “reputation, prestige, projected image, and organizational image” or how the institution is perceived as a research institution, a research and teaching institution, a teaching only institution, or application institution. From an institutional perspective (Di Maggio & Powell, 1983; Meyer & Rowan, 1977 in Cai 2007: 62), the process of developing external breadth of identity is associated with organizational conformity to aptness in external environment.

At present, this can be observed within the HE context wherein the appropriateness is related to the university’s function. The condition also extends to entrepreneurial universities, as this study will be concerned on the external development of the institution, particularly on what role a university should portray and what the university should produce (ibid).

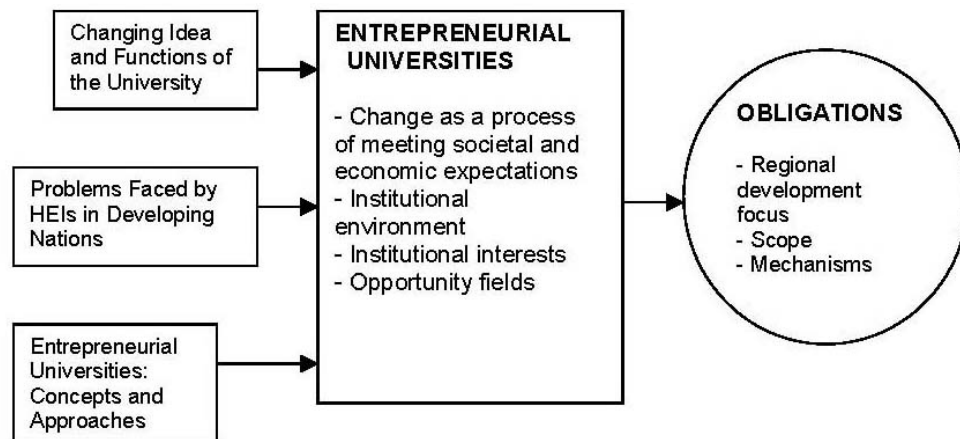
3.2 Conceptual Framework

Since this study attempts to analyze the factors influencing entrepreneurial universities to perform obligatory roles to society, the aspects included in the literature review and the institutional theory will sum up the conceptual framework. In relating the situation of entrepreneurial universities in the Philippines, the obligations to pursuit regional development

initiatives could be highlighted on the way HE perceive the following: (1) changes in the idea and functions of the university; (2) problems faced by HEIs in developing nations; (3) the concepts and approaches associated with entrepreneurial universities. The Institutional Theory tackles the concept of change or transformation as a process encountered by universities in order to meet the economic and societal expectations. Brint and Karabel (1991: 345) explained the origin of institutional interests that preeminently influence the structures of power and spaces of opportunity within the university environment.

The middle box, as represented by entrepreneurial universities will have to undergo the said process by taking into consideration the effects of additional functions demanded from HEIs, other existing problems in developing nations that trigger more demands and how entrepreneurialism is defined within the institution in terms of approaches that would fit their own strategies and actions. Analyzing the case study's response to entrepreneurial undertakings requires assessment of institutional interests because this factor will ascertain the university manager's ability to boost new and existing opportunity fields. The participation of academics and policymakers in this study shall explain further the obligations of HEIs concerning the regional development focus, scope and mechanisms.

Figure 1. Factors Influencing Entrepreneurial Universities to Perform Obligatory Roles to Society



4 LITERATURE REVIEW

4.1 Introduction

There are several factors to be included in analyzing how universities started to perform obligatory roles to society, became entrepreneurial, and served as instruments to attain economic development. From here, the author will start reviewing the changes in the idea and functions of HE, the crisis experienced by HEIs in developing countries and the last part will cover different concepts and approaches related to entrepreneurial university that will bring to light the role of HEIs in regional development.

4.2 Changes in the Idea and Functions of Higher Education

The story of university's expansion has been always attached to the relevance of accommodating people, subject matters, societal interests (Krücken et al., 2007: 22) and several expectations that are lined up according to different priorities. Changes affecting the functions of HE were observed as natural and desirable because the increasing degree of structural differentiation in society shows the suitability of a constant adaptation to changing and multifaceted social needs (Bleiklie, 1998: 302). Even the idea of HE has evolved into broader concepts that came in as a result of promoting its relevance and also of the impact produced by the growing expectations of every citizen on what HE has to offer them.

During the time of John Newman, he considered that a university education should be "liberal," by which he predominantly stressed that the knowledge imparted should be "its own end." The kind of university education that Newman was also trying to point out placed much substance on intellectual advancement and character formation, enhanced by the cultivation of the mind (Newman, 1976: 103, 118 in Barnett, 1990: 8, 9). As one of the most authentic contributions in his concept of the basic purpose of a liberal education, he explained that "a habit of mind is formed which lasts through life," of which the attributes are freedom, equitableness, moderation, and wisdom (Newman, 1954: 129). These attributes are up to now accentuated on the main function of the university with regard to the treatment of its students, especially in giving them the freedom to choose from a wide variety of courses that would improve their knowledge and skills. In relation to this, the focus is not only on the central idea that the university is a place entrusted to carry out a comprehensive "range of studies" (Kenaw, 2003) but also a venue for students to find themselves in an atmosphere loaded with intellectual tradition.

On the aftermath of world war in 1946, Jaspers' considered the idea of the modern university that embraces four main functions: research, teaching, a professional education, and a particular kind of culture. But still, the essence of the university remained that of a community

of scholars and students seeking knowledge and truth. The usefulness in terms of engagement among the community of scholars should not be the only reason in the pursuit of knowledge. Time and dedication were mentioned as relevant features of its attainment. It was also highlighted that the university is responsible to promote intellectual work that are based on learning techniques; empirical observation, study and research; and an intellectual atmosphere, a human “give and take” that either is or is not there (Fincher, 2000: 2, 3).

As examined by Barnett, Jasper’s view was closely associated with larger visions both about what it meant to be a person in modern society, and about the proper development of the modern society itself (Jaspers, 1965: 51 in Barnett, 1990; Barnett, 2000: 115). His perspective was deeply influenced by his distinctiveness as an existentialist in justifying a specific social institution.

In the study made by Cameron Fincher related to the table below, he expressed that Jaspers was upfront in evaluating the various reasons why institutions may possibly fail to live up with the “idea of a university.” He also left a caveat reminding that all universities are not exempted when this situation happens even they consider themselves as one of the best. Advice was given concerning the vitality of constant reassessment to guarantee the proper functioning of institutional structure on behalf of the ideal it is meant to serve.

Idea	Institution
<ul style="list-style-type: none"> * Knowledge is the pursuit of truth * An imperishable idea of world-wide character: academic freedom * A community of scholars and students engaged in a common task * Truth is acceptable to systematic search * Presupposed the intellectual maturity not just of the mind but of the whole man * The idea without an institution is incomplete and isolated * To live according to this idea means becoming a part of a larger whole * Where the idea remains vitally alive, this results in creative change * Scholarship depends on a relation to the whole and academic disciplines are meaningless apart from their relation to the whole of knowledge 	<ul style="list-style-type: none"> * A chartered or incorporated creature of the state * A place where both state and society have an active interest and make concessions to further the purpose of seeking truth * A school of a very special sort with the freedom to learn and freedom to teach * Research is the foremost concern of the university * Tensions between the living personality of the research- scholar and institutional forms are unavoidable * All corporate bodies tend to maintain an unconscious solidarity against both the excellent and mediocre * The time and place for learning * Liberal learning instead of vocational training * Once a new intellectual direction has been developed, the university will take a possession of it sooner or later

Table 2. Karl Jaspers’ University: Idea and Institution
Source: Fincher, 2000: 5

Analyzing Jaspers' point as well, Barnett (1990: 25) thinks that the idea of HE had started to disappear and it has something to do with the current stage characterized by a sharp change in attitude on the side of the state. While the system is encountering swift and dramatic expansion, it came to have doubts about both the economic value of HE and, in the wake of the drastic changes, its wider social value. There is sudden shift on value-for-money, accountability, planning, efficiency, good management, resource allocation, unit costs, performance indicators and selectivity, and there are reduced opportunities for tenure. Subjects in the curriculum that make a clear contribution to the economy are more preferred; the sciences and technological subjects are supported, even though it is not easy to recruit students and so with the humanities and social science subjects as they make an effort to prove their worth through developing skills-oriented courses.

The various tasks expected from HE are not just ordinary tasks that could be negotiated and done overnight. Scott (2002: 66) recalled in his study that during the 19th century, Walter Bagehot's showed a famous distinction between what he called "dignified" and the "efficient" features of the British Constitution-the former being the clutter of monarchy; and the latter as the turbulence of the emerging party politics. This added to another similar example on the purposes of HE- on the one hand, ringing and high-minded statements of university ideals; on the other, the intricate and shifting engagements between disciplinary cultures, democratic aspirations, labor markets, out of which the real-world university evolves (ibid).

For Castells (2001: 206), it all started when universities have historically played a major role as ideological apparatuses. Majority of roles and activities done by individuals are contracted through social practice, like being a surgeon as guided by medical practice. In his essay, Louis Althusser (1970)⁹ stated that individual characteristics, values, desires and beliefs are inculcated by ideological practice. It includes a range of institutions called ideological state apparatuses such as the religious organizations, the media, the family and most importantly, the university as it facilitates the learning process.

The concentration on research with the support of modern technology provided a great opportunity for most HEIs to cater on industrial and governmental needs. What proves today the most obvious function of the university is the generation of new knowledge. In many countries, it had not yet been fully acknowledged as principal tasks by the political institutions and private firms until the coming of the current technological revolution, when the examples

⁹ Louis Althusser wrote the essay titled "Ideology and Ideological State Apparatuses" in 1970. He also mentioned in his work that the family, church, schools, media and the university are calling individuals in particular ways that prescribe and enforce (1) thinking in specific ways about their identities, relationships with other individuals, and their connections to social institutions; and (2) by acting accordingly. Through this, it was implied that the ideological state apparatuses are quite literally imposing very particular subjectivities upon individuals (Wolff, 2004: 4).

of the decisive influence of American science-oriented universities in the new processes of economic growth (the Silicon Valley syndrome), won the reputation of being useful and productive for the universities of the Information age (Castells, 2001: 208). Due to noticeable diversity of their functions and the absence of a unique top-down absolute authority, universities are considered professional bureaucracies (Mintzberg, 1979 in Soares & Amaral, 1999:13), in which real authority lies at the level of the classrooms and the research laboratories.

Aside from the transmission and extension of knowledge, Jongbloed et al., (2008: 306) recalled that in 1973, there was a change in social contract binding the university and the society. Universities during that time were being called upon to:

- Play an important role in the general social objective of realizing greater equality and opportunity;
- Offer education tailored to a great diversity of individual qualification, motivations, expectations and career aspirations;
- Support the process of lifelong learning;
- Assume a public service function, i.e. make a contribution to the solution of major problems faced by the local community and by society at large, and participate directly in the process of social change (OECD-CERI 1982 in Jongbloed et al., 2008: 306).

While various functions continue to arise, universities remain a unique form of organization. According to Slaughter and Leslie (1999: 10), another way to approach these varying functions is through the idea of academic capitalism¹⁰, which is now a widely accepted view of human capital. In terms of production work, the quality of labor is built largely through formal education and on-the-job training. This brings the role of university academics in contributing to economic growth. Universities are treated as repositories of much of the scarce and valuable human capital that nations hold, capital that is valuable because it is indispensable to the development of the high technology and technoscience necessary for competing effectively in the global economy. Thus, the said changes require them to prove their contribution to the knowledge society and to have their teaching and research play a more visible role in strengthening the innovative capacities of the economy. From here, universities are not only expected to act responsibly and deliver value for money, but also to

¹⁰ Slaughter and Leslie (1999) defined “academic capitalism” as the participation of colleges and faculty in market-like behaviors, which has become a key element of HE in the United States. Profit-related activities of HEIs are involved, particularly the aspect of generating revenue from their core educational, research and service functions, ranging from the production of knowledge (such as research leading to patents) created by the faculty to the faculty’s curriculum and instruction.

work on their corporate social responsibility¹¹ (Jongbloed et al., 2008: 318) that makes them accountable to their respective academic activities.

4.3 Problems Faced by Higher Education Institutions in Developing Countries

During 1960s, the African, Asian and Latin American ministers of education met under the auspices of UNESCO in Addis-Ababa, Bangkok and Santiago respectively to implement very comprehensive educational development programs calling, among other priorities for a rapid increase in HE enrollments. The objectives delivered had promised a strong commitment to rapidly train the middle and higher level professional, technical and managerial manpower required for economic development. There was a general feeling that the quality of teaching and learning declined at the same time as a result of overcrowding, inadequate staffing, deteriorating physical facilities, poor library resources and insufficient scientific equipment (Salmi, 1992: 21). The massification of HE was also believed to have affected the institutions due to the strains between the national policies of elitism and academic excellence, on the one hand and the need to answer the call for increased social demand for HE and to comply with the human capital theory on the other (Soares & Amaral, 1999: 14).

Salmi (1992: 22) observed that the crisis in the beginning of 1990 had shaken the confidence of university administrators, academics, students and employers alike. Much of the blame is put on the economic recession of the 1980s to explain the lack of resources and the diminishing job prospects. At that time, developing countries with students from high and middle-income families are getting a lopsided share of the funds from the government. When it comes to other budgetary constraints, the Philippines' one-year budgeting system provides no mechanism for the government to control its budget and expenditure beyond a two-year time horizon (Pascua, 2002: 139). More often, the government approves budget that in the end requires massive payouts for its continuity. To back up some projects planned for HE, it is quite difficult to develop an arrangement projecting the budget implications of legislators' proposal for spending. Another problem is the limitation of the budgeting agency and the agencies managing the programs to deal with resource shortfalls. Within the one-year budgeting system, agencies try to settle their fiscal problems solely while reducing costs and maintaining existing program commitments. As a practical consideration, the government is still in the adjustment stage of applying the Medium Term Expenditure Framework (MTEF)¹² during the announcement of the annual budget plans for 2008.

¹¹ It has also been explained in this article (Jongbloed et al, 2008: 18) that corporate responsibility and corporate social responsibility (CSR) are frequently used terms in discussions about business companies' efforts to develop socially and environmentally aware practices and policies. In HE, CSR was associated to universities contributing to the solving of important problems faced by our society-problems that call for innovation of various kinds: social, economical and cultural.

¹² MTEF is a three-year budgeting system that thoroughly draws the requirements of on-going programs and proposed new projects on a three-year basis. This new system entitles the programs approved by Congress to be

In addition to Salmi's observation, many governments created unlimited expectations among population by allowing automatic access to HE for all secondary school graduates, by inscribing in their country's constitution the obligation to provide free education at all levels and by offering a public sector assurance to all university graduates. During election periods, it is always part of the candidate's platform to emphasize education as a top priority. People from the lower class would tend to look forward in becoming one of the beneficiaries of this free education program, which after election time, could be just a broken promise. Salmi viewed that this kind of approach reflects a vision of the State as a benevolent institution. It is somehow having an optimistic belief that the economic environment will favor the growing size of HE system and that the resources will steadily flow.

The economic crisis in the 1990's had inevitably left a difficult impact on the level of job creation, and that the lack of relevance of many university programs also contributes to the mismatch between graduates and occupations, it is quite blatant that graduate unemployment became a structural problem in many countries, leaving a fundamental arithmetic imbalance between the number of university graduates and the number of new jobs available in the modern sector of the economy (Salmi, 1992: 22, 23). Before, "brain drain" is an issue with important implications for both developing and developed countries (Tilak, 2002: 239). As recession started to hit again in mid-2008, several people lost their jobs and foreign remittances coming from Filipinos working abroad were also affected as they usually contribute a large percentage of household income. ADB Economist Hyun H. Son conducted a study that the schools in the Philippines are producing the wrong kind of skills for its labor market needs, which is hurting economic growth. The report said that with HE being an important determinant of employment in the Philippine market, low-productivity jobs are preferred by the more educated labor force, which in turn has lowered the price for skilled labor over the period (Son, 2008: 18). Son argued that from a policy perspective, going beyond universal coverage in education is imperative because what is required is an expansion of the supply of the right kind of skills.

In dealing with funding problems of HEIs in developing countries, Jongbloed (2000: 13) focused on a basic policy question of: "How much HE can a nation afford?" The size of the system was used as an indicator to direct policy makers in answering what kind of university and what type of programs are best suited to meet the human capital requirements of the country. Jongbloed suggested comparing one country to other target countries (i.e. countries experiencing a certain level of social and economic development) to determine the desired actions of the government towards this issue.

automatically carried over to the following year and become part of the baseline. As an advantage brought up by MTEF, it reduces the need to start from scratch every budget preparation period (Pascua, 2002: 139).

For the Philippines' situation, it is ideal to compare it to Singapore, a neighboring country in Southeast Asia. Singapore's HE system was described to be extremely elitist, with strict selectivity process and an advantage of high private returns (Shantakumar, 1992: 407). The streaming of students into aptitude-based education is the effect of a government policy to allow competent students reach the appropriate level of skills after graduation. With this strict compliance to access public universities and polytechnics, some private institutions have started programs in HE that are targeting to resolve the increasing demand in student participation. Institutions like the Singapore Institute of Management, Marketing Institute of Singapore, the National Productivity Board and many others have concentrated on business and management education. This move also started the competition with public universities and the promotion of Open University programs.

Comparing to what Winston (1999: 23) said about how universities are controlling to whom they sell, the case of Singapore explains that public universities are highly selective because of the national directives and concerns on the private returns of HE plus the benefits that the society will gain from it. The condition of providing loan subsidies to recipients from low-income families also corresponds to the future manpower needs of the country wherein these students have to serve the government after graduation in exchange for the support given to them.¹³ Singapore has been influenced by the factors that are already in place such as: full employment, high private returns to HE, an efficient banking system, stable financial infrastructure and a strong national innovation system. The country's experience in managing universities can provide a good start for the Philippines to improve its funding mechanisms and adopt more appropriate strategies that will continuously support it.

4.4 The Entrepreneurial University: Concepts and Approaches

Towards the end of the 20th century, a number of HE policy analysts were monitoring a second institutional change in progress, with research universities being transformed into "entrepreneurial universities" engaging in academic capitalism (Raines & Leathers, 2003: 210). During this transformation, it was said that two continuing phases had occurred. The driving force behind this first phase was the changing nature of university research and intended use of the results. It began in the mid-1970s, where an increasing number of major universities had started engaging in research projects aimed at producing intellectual properties with high market values. Interest in mounting information gateways was done to fully disseminate research and other academic engagements. Some universities had planned to collaborate with business firms to offer commercially their research projects and patent ownership rights. Public subsidy of basic research has been reduced and procedures were adopted to encourage universities in pursuing projects that contribute to national goals of

¹³ This statement applies to public university students in Singapore.

economic growth, job formation, and the ability to compete with global markets. It only shows that the coming out of entrepreneurial universities have two new missions- a proprietary mission of generating institutional revenues through commercialized research and a public mission of contributing to economic development (ibid. p. 211).

In another study by Santiago et al., (2008: 496) the transformation to entrepreneurial universities was in response to the amendments made by the government related to the financing of university-based research. In line with this phase, the traditional roles and functions of the universities were continuously questioned. They have also cited that profuse rhetoric on efficiency, effectiveness, quality, excellence, internationalization and competition attempted to push HEIs towards an entrepreneurial and pro-market “ecology” where institutional behavior embraces a business-like environment.

The second phase is occurring in the instructional activities of universities, not only in the undergraduate level, but also in the professional graduate degree level¹⁴. Online learning exhibits the flexibility of university programs especially for students who want to get their degrees from prestigious institutions. While experiencing this stage, universities have been placed under financial stress by an “expensive and low-yielding commercial infrastructure and greatly expanded administrative costs” (Raines & Leathers, 2003: 212, 213). Various developments continue to transpire and the challenge for economic models of universities’ behavior according to Raines and Leathers, is to be able to explain not only the behavioral tendencies of universities in a particular institutional environment but also evolutionary changes in that behavior due to the changes in the external environment or in the processes of internal decision making.

Ivar Bleiklie considered to illustrate the ideological changes in his study, the “organizational ideals” that offer to designate a layer of expectations. Among the three layers¹⁵, he stated that the last layer relates to the notion of the university as a producer of educational and research services; the university being a corporate enterprise (Bleiklie, 1998: 304, 306). Universities are involved in a leadership and numerous functional (academic, technical and administrative) staff groups servicing different user groups, which require at the same occasion the services offered by the enterprise. Quality may be treated as a very important objective of the corporate enterprise, an idea related to cultural mission of the university. However, Bleiklie stressed that the most valuable expectation it tackles is efficiency pertaining to time, cost and the benefits to be profited by the buyers of research. The

¹⁴ This includes Master of Business Administration Programs (MBA).

¹⁵ The first layer (University as a Public Agency) is about the expectation from the university as part of the national civil service and as executor of public policy. Its most imperative responsibility towards the State has been the education of properly prepared candidates for top civil service posts and learned professions. The second layer (University as an Autonomous Cultural Institution) relates to the commitment of engaging in academic activity based on autonomous research and teaching, rooted in the Humboldtian University (ibid. p. 305-306).

ideology following the university reforms during 1980s and 1990s is linked to the major aim of raising the number of students and to produce candidates more efficiently, especially at the graduate level (Bleiklie & Høstaker, 1994 in Bleiklie, 1998: 307).

The five elements stated by Burton Clark in his book *Creating Entrepreneurial Universities: Organizational Pathways of Transformation* had provided basic approaches in the transformation happening in universities. He mentioned that the following elements: a diversified funding base; a strengthened steering core; an expanded developmental periphery; a stimulated academic heartland; and an integrated academic culture could guide HEIs in achieving the foundation for sustainability (Clark, 1998: 5; Clark, 2003: 101). The five European universities involved in his study had transformed themselves into a highly proactive character by building a steady state that is oriented towards change and placed an organizational foundation under twin capacities to adapt themselves and to adapt to a changing society (Clark, 2003: 115). Entrepreneurial university definition has been presented in his study in a traditional European setting wherein HEIs actively seek to move away from governmental parameters and sector standardization (Clark, 1998: xiv).

As part of identifying other factors of change, Clark gave a reminder on the bureaucratic process of undergoing it. New practices depend on the adaptability of the institution to take the risk in applying them to the departments and it also entails proper orientation for the faculty, administration and students. The growth of bureaucracy must be aided and fully supported by the new units. Thus, the procedure is to slowly give up the old-rule that aims to prevent errors and give more awareness on the new bureaucracy that deals with the stimulation of initiative (Clark, 2003: 109).

Furthermore, Cano and her colleagues argued that entrepreneurial universities can be positively or negatively affected by two different macro and microeconomic conditions. The first one is related with the demands and pressures produced by globalization and internationalization phenomenon, for example are: the change related to regulating the HE system in economic regions, the emergence of knowledge societies, the expansion of new information technologies, and others (Cano et al., 2006: 18). As another condition, entrepreneurial universities are incorporated within the dimensions of government policies, socio-economic conditions, entrepreneurial and business skills, financial assistance and non-financial assistance (ibid).

To understand more the broad concept of entrepreneurship in HE, Barnett suggested two sets of distinctions to reflect on the nature of spaces that may reveal an entrepreneurial presence (Barnett, 2005: 56). Also included in his study is an observation that entrepreneurialism does not have a specific structure and could be found in different modes.

These shifting modes of university entrepreneurialism do not only entail proprietary goals because the choice to engage in entrepreneurial activities could be a response for institutional improvement, quality or continuous service to the community. Barnett's explanation below and the findings of this study will describe a university's choice of embracing entrepreneurship. Whether an undertaking has been demanded by the state, stakeholders or even the institution itself, the actors involved have their own way of promoting its relevance as well as techniques in handling the risk that may affect the university's institutional image and societal role.

1. Hard-soft entrepreneurialism

Hard entrepreneurialism was differentiated from soft entrepreneurialism in terms of the former's specific intention to secure an economic return and the latter's absence of economic drive to gain profit from a particular activity. Barnett had also given a caution on the risk to be drawn in from entrepreneurial activities. He said that a university must be ready to handle the risk that might affect its reputation, its intellectual capital, its position, its ethos, its educational character and its role as a cultural good (ibid). Some instances attached to this are the services offered to students, wherein there is no possible way for them to redeem back their investment in education or training after expressing dissatisfaction on the learning outcomes. This is the reason why Barnett would like to restrict the term "hard entrepreneurialism" to the economic form.

2. Strong state-strong markets

Lastly, in making a distinction between open markets and controlled markets, Barnett discussed that both may arise as a result of state policies and actions in respect of HE. He also cited an example that in some countries, institutions are encouraged to compete with each other for students and are also expected to demonstrate that they are each playing their parts in offering educational opportunities to applicants from across the social class range. Moreover, it is possible that some institutions are expected to engage in research or "third stream"¹⁶ activities. Within this kind of arrangement, they have to exhibit ways in which the society benefits from such activities (ibid).

4.5 Regional Development

Within the framework of entrepreneurial universities, it is more often seen that they are connected to regional economic development. Regional development has been defined by some researchers (Kitagawa, 2005: 67; Holtta, 2000 in Boucher et al., 2003: 887) in terms of

¹⁶ Third stream is defined as other than research and teaching, the two core elements of HE activity. It may involve a range of activities such as consultancy, contract research and the commercialization of research (Hatakenaka, 2005: 3, 4).

the existence, creation, and strengthening of formal and informal linkages; as a set of functioning institutions, organizations, funding, structures and streams; interactive networks, and; forums for collaboration for the pursuit of common, economic and social goals. For Doloreux and Parto, the concept of regional innovation systems has no commonly accepted definitions, but usually is understood as a set of interacting private and public interests, formal institutions and other organizations that function according to organizational and institutional arrangements and relationships conducive to the generation, use and dissemination of knowledge (Doloreux & Parto, 2004: 9). Their basic argument here concerns the set of actors that construct persistent and complete effects that encourage firms within the region to develop specific forms of capital that is derived from social relations, norms, values and interaction within the community to be able to strengthen regional capability and competitiveness. As of the moment, there is a growing concern shown by policymakers on the suitability of their investment in HE. Public subsidies and schemes can motivate university-industry interaction and universities' regional engagement. However, Kitagawa argued that these initiatives might have little effect on regional economic development partly due to the autonomous nature of universities and their faculty members (Kitagawa, 2005: 67, 68).

The participation of universities in technology transfer has become one of the major trends in HE in the United States. Through the years, the US research university system has been the source of inspiration for responding to economic change and contributing to the wealth creation of different governments all over the world. Universities' greatest successes in regional engagement have been seen in places where all the contextual economic factors are already positive, such as Silicon Valley, Route 128 region nearby Boston, and Research Park Triangle in the United States (ibid. p. 69).

At the European level, governments had expressed their initiatives and financial support in encouraging universities to engage with their localities. Massive transformation has occurred in different national and regional contexts. Finland was mentioned as an example, a country known for developing strong relations between universities, high-tech industry and regional economic development. In early 1990s, the country experienced a deep recession with high unemployment and this was the perfect timing for universities to become important engines of economic development in regions such as Tampere, Oulu, Helsinki and Turku. A symbiotic relationship has been formed among the corporations, public agencies and universities with strong leadership taken at the local level (Chakrabarti & Rice, 2003 in Kitagawa, 2005: 70).

Kitagawa emphasized in her study that in order to expose how universities work with their regions, it is necessary to reassess the mixture of activities and mission within HE (teaching, research, public services, technology development, spin-off, knowledge transfer, community

services, etc.) as well as policy instruments within multi-level governance structures (i.e. sub-regional, regional, national, European, and international levels) affecting the strategies of each institution. Likewise, the process of transmitting university technology and knowledge into application can be routed through various channels, such as free dissemination of knowledge through teaching and publication, interaction, collaboration, and licensing to existing firms, and the establishment of new business enterprises based on university spin-offs. The question of whether and to what extent knowledge transfer and learning occur at regional and other (national and global) levels, however, remains empirical (ibid. p. 73).

Etzkowitz and his colleagues highlighted that as the player in the innovation system, the government—at regional, national and international levels has been instrumental in encouraging universities to undertake responsibilities for economic development. Universities are now bearing the role as a producer of knowledge on which new firms can be based and as an administrative structure to provide a home for the early stages of firm formation. Because of these endeavors, the university has become a key element in a high-tech economic development strategy (Etzkowitz et al., 1998: 8).

Regional anchoring (Arbo & Benneworth, 2006: 32, 33) has become a duty for HEIs. Today, the institutions are represented in many more places. In every region a large proportion of the population, has spent years of education in schools and had taken it as part of an individual's cultural identity. The development of adult education and out-reach programs were also part of fastening regional activities. Both industry and government had marked a higher priority on access to qualified labor and the contribution of research to problem solving and innovation (ibid).

Prior to using the term “regional anchoring,” a published report for the HE Funding Council for England (Charles & Benneworth, 2002 in Baterburry & Hill, 2004: 39) enumerated seven dimensions of HEIs interaction with the regional economy. The dimensions stated had emphasized the role of HE covering the:

- Enhancement regional framework conditions (e.g. infrastructure quality)
- Human capital development processes (student access, response to local labor market needs)
- Business development processes (promoting/supporting the enterprise)
- Interactive learning and social development processes (analysis of regional features)
- Re-distributive processes (e.g. support for regeneration)
- Cultural development (e.g. attracting foreign visitors, improving cultural facilities)
- Promoting sustainability

In Southeast Asia, HE cooperation can be traced back to the founding of the Association of Southeast Asian Institutions of Higher Learning (ASAIHL). This non-governmental organization was created in 1956 at a summit held in Bangkok, Thailand represented by 8 state universities¹⁷ from Southeast Asia. ASAIHL offers a venue for the discussion of academic development, general university development and guidance to the member institutions for the improvement of cooperative arrangements on specific projects and relationships with regional and international bodies. It consists of 110 member universities from Southeast Asian region and 42 other members from Japan, Australia, New Zealand, USA, Canada and Sweden. At the inter-governmental level, the first initiative on further collaboration in education was the establishment of the Southeast Asian Ministers of Education Organization (SEAMEO) in 1965. The main purpose for its creation is the promotion of cooperation in education, science and culture in the Southeast Asian region. To achieve this goal, the SEAMEO Network designated 12 Regional Centers in 2004 that have disciplinary focus and some with concentration of vocational training, open learning and another for HE and development¹⁸ (Beerkens, 2004: 38-40).

According to Beerkens, with respect to intra-regional diversity, Southeast Asia might be seen as more outwardly driven through international organizations such as the World Bank, ADB and through links with foreign governments. He also examined that there was a shift from centrally planned HE systems towards more market-oriented approaches within the region. This shift that is currently taking place and the policies adopted to design it differ from country to country.

¹⁷ University of Ceylon, Chulalongkorn University, University of Hong Kong, University of Indonesia, University of Malaya, University of the Philippines, University of Rangoon, and National University of Vietnam

¹⁸ UNESCO and the International Association of Universities in collaboration with the Ford Foundation established the Regional Center for HE and Development (RIHED). One of the projects developed by RIHED concentrated on Regional Cooperation Program wherein several sub-regional activities in inter-university networking are promoted.

5 EMPIRICAL WORK AND ANALYSIS

5.1 Background of the Case Study

The Mindanao State University (MSU) was formed in the province of Marawi City on 1 September 1961 under the Philippine Republic Act 1387. In June 1962, formal classes were opened to the public- having 282 students, 19 faculty members and staff, and three core colleges: Community Development, Liberal Arts and Education. Following its success for more than three decades of operation, the University¹⁹ has expanded into a multi-campus University System with seventeen colleges and degree-granting units in the Marawi campus alone.

For this research, the Mindanao State University-Iligan Institute of Technology (MSU-IIT) shall represent the 10 campuses belonging to the MSU system. It used to be the Iligan City National Highschool in 1946 then later on changed to Lanao Technical School (LTS) under the consent of the Bureau of Vocational Education. In 1965, LTS was supposed to be converted into Northern Mindanao Institute of Technology (NMIT) as covered by the Republic Act (R.A.) 4626. In spite of this plan, the law was not executed. The amalgamation of LTS into MSU System happened in July 1968 through the implementation of R.A. 5363.²⁰

The University caters to more than 10,000 students and is located in Iligan City in the province of Lanao del Norte, Northern Mindanao Region. It offers a wide array of more than 115 academic programs, including 43 graduate programs in the fields of education, business, arts and humanities, engineering, information technology, the natural sciences, and mathematics. Aside from this, MSU-IIT is also known as the Information and Communication Technology Learning Hub for Northern Mindanao and the Virtual Center for Technology Innovation. In the questionnaire, Chancellor Marcelo Salazar was asked on the historic links between MSU-IIT and the region. He stated that:

The beginning of MSU was considered historic because of its unique mission of integrating the cultural communities in Mindanao to the national body politics. Such mission, which is clearly embedded in the University Charter, is very significant given the Mindanao context. Muslims, Christians and the Lumads (indigenous people) have been brought by different circumstances to settle down in the island. With their diverse cultures, cultural assimilation has faced some serious problems that until now have persisted in many places. With the mandate to really be a factor for peace and

¹⁹ For this study, the word “university” when capitalized applies to MSU-IIT being the case study institution. The lower case refers to HEIs in general.

²⁰ R.A. 5363 created the MSU-IIT as an autonomous unit of the MSU system (MSU-IIT, 2009).

development in the region, MSU leaders had thought of having additional campuses and MSU-IIT was one of those that became part of MSU in 1968.

With regard to the development of the Mindanao region, he explained that:

The expressed intention during that formation stage was to make MSU-IIT the flagship of MSU in science and technology. Iligan City was used to be highly industrialized during 1960s and 1970s and therefore, was expected to be the major beneficiary of MSU-IIT's initial programs in technology, engineering and business. But the mandated service area of MSU-IIT, as stated in its enabling law R.A. 5363-is the whole of Mindanao. In effect, it is expected that MSU-IIT will contribute to the MSU's mission through the development of professional and technical manpower for the Mindanao regions.

As an initiative towards community involvement, MSU-IIT is dedicated in: (1) engaging the community in ICT; and (2) the promotion for quality and productivity. At this moment, the Information and Communication Technology Center (ICTC) have implemented various collaborations with the Iligan City and nearby provinces. Along with the other government agencies, industry organizations and the College of Education, the College of Business Administration and Accountancy and the College of Arts and Social Sciences, it is also involved in some projects such as the Iligan Information and Communication Technology Council, Intel Teach, Java Boot Camp and Job Placements. Another latest initiative is in curriculum development wherein the ladderized two-year Diploma in Electronics Technology is being offered. This program permits a student to find a job after completing each year of studies. The main concern shown is on the competency-based curriculum that gives the acquisition of skill sets required for industry and those that are specified by certification standards.

In promoting quality and productivity, MSU-IIT being the only member coming from the academe was provided an opportunity to join the private industries and non-academic government offices through the Mindanao Association for Quality (MAQ), Inc. The structure of this association is principally composed of members from the private industries, and government offices in the Northern Mindanao Region and affixed on the principles of unity, leadership, group development and service to the Quality Circles concept.²¹ MAQ has an aspiration of developing corporate members into better organizations, particularly of MSU-IIT, as the University is currently gaining from its training and mentoring services.

²¹ A Quality Circle is a small group of individual working in an organization or living in the same area coming together voluntarily to solve their work related problems or improvement of their work environment, relations or even their personal problems inside their organizations. This concept was first introduced in Japan, which foster a spirit of teamwork and cooperation and bring about a sea of change in the attitudes of people (MAHAPWD, 2009).

The data gathered revealed that the changes experienced by MSU-IIT over the last ten years were dictated by either projected market demands or visions of earlier leaders who saw the need to strengthen the academic programs despite the proximity of the Iligan campus to MSU Marawi, which is 37 kilometers away. The logic seemed to make MSU-IIT strong enough to be considered as a real flagship in science and technology. In this case, additional course offerings were approved by the MSU Board of Regents but subject to the condition that scholarship privileges being offered by MSU Marawi will not be granted by MSU-IIT to its students. Less than a thousand students were enrolled in 1968 from the initial offerings in general education, 3-year engineering technology and business administration. By year 2000, the enrollment had reached more than 8,000 students that resulted to a bigger faculty force and more support staff. During the years of massive growth, the Chancellor claimed that more emphasis was given to the instructional function, with less focus on research and extension. This development was partly due to the need to concentrate limited resources for instructional purposes, and the absence of bigger impetus for more research work such as external funding and research fellowships. He also added that the government's allocation for research is quite minimal but the main emphasis of MSU-IIT, that is, science and technology has not been lost in this era of growth.

5.2 MSU-IIT as an Entrepreneurial University

Similar to Burton Clark's work, using the term "entrepreneurial university" rather than "innovative university" is more suitable in this study because of the goal to focus on the local effort and actions (Clark, 1998: 4) executed by MSU-IIT for the development of the Northern Mindanao region. Going back to his literature (ibid. p. 5), five elements were identified that support the transformation strategies of five universities in Europe. For this topic, the pathways he used will be regarded as a form of determining more significant elements proving HEIs obligations to society by connecting the institutional theory as a framework.

In Chapter 4, Cano and her colleagues (Cano et al., 2006: 18) mentioned that the emergence of entrepreneurial universities could be affected by the globalization and internationalization phenomenon, the factors coupled to the policies instigated by the government and the current socio-economic condition. MSU-IIT's engagement in commerce-related activities has been granted through the Philippines' HE Modernization Act of 1997. Also known as R.A. 8292, this act aims to provide procedures to be undertaken by State Universities and Colleges on institutional governance and structure for the purpose of improving the country's education system and in accordance with the demands of the people and society (House of Representatives, 1997: 5545).

Section 4 under the Powers and Duties of Governing Boards clearly stated at least six relevant institutional actions that are currently influencing the functions of MSU-IIT as an entrepreneurial university.

1. To establish research and extension centers of the state universities and colleges where such will promote the development of the latter;
2. To collaborate with other governing boards of state universities and colleges within the province or the region, under the supervision of the CHED and in consultation with the Department of Budget and Management, the restructuring of said colleges and universities to become more efficient, relevant and productive and competitive;
3. To enter into joint ventures with business and industry for the profitable development and management of the economic assets of the college or institution, the proceeds from which to be used for the development and strengthening of the college or university;
4. To develop consortia and other forms of linkages with local government units, institutions and agencies, both public and private, local and foreign and, in furtherance of the purposes and objectives of the institution;
5. To set up the adoption of modern and innovative modes of transmitting knowledge such as the use of information technology, the dual system, open learning, community laboratory, etc., for the promotion of greater access to HE;
6. To privatize, where most advantageous to the institution, management and non-academic services such as health, food, building or grounds or property maintenance and similar such other activities.

Source: House of Representatives, 1997: 5548

In the theoretical framework (Chapter 3), the HE Modernization Act of 1997 was also used as an example to describe the strategic actions designed for HEIs that require institutional compliance (Ogawa & Scribner, 2002: 583). The succeeding sections will discuss how MSU-IIT as an institution handled the demands linked to regional development based on the responses received from the central administration, faculty and the local government.

5.3 Institutional Action for Northern Mindanao and Programs Offered

As an institution, MSU-IIT is cognizant that significant industrial and socio-economic development of Mindanao is affected by the quality of the graduates that they produce. Part of institutional goals has been concentrated on implementing a number of key strategies wherein the top priority is faculty development. It was mentioned by the Chancellor that massive faculty development has been under implementation since the 1980s, to a point that

at least 10% of the faculty force has been set out for graduate studies in prestigious universities in Metro Manila and even abroad at any given time.

The other key strategy is facilities development that was made possible by part of national networks for educational program development. Most of the support came from the national government, which included MSU-IIT in the World Bank assisted educational project for technician education in the 1970s and followed by participation in other big projects. One of these projects happened in 1988 as the College of Engineering was chosen to be among the 19 DOST-ESEP engineering schools for the development of laboratory and instructional services. DOST-PCASTRD network had included MSU-IIT as one of the five Philippine universities tasked to build up higher manpower resources in science and technology.

To describe how MSU-IIT depict upon the specific characteristics of a region to aid learning and teaching, the School of Graduate Studies Dean, Professor Jerson Orejudos, highlighted that proper dissemination and understanding of these characteristics in addition to the dissemination, know-how and development of skills among its citizenry will lead to peace and harmony in the region.

Since the author was able to get the responses representing the faculty side from the School of Graduate Studies, among the courses offerings that meet Northern Mindanao's regional needs are: (1) all Sciences and Engineering Courses; (2) Language Courses; (3) Social Sciences Courses; (4) Sustainable Development Studies Courses. According to the Program Coordinator of Sustainable Development Studies, Professor Ruben Amparado Jr., the graduate programs in MSU-IIT are geared towards developing competencies in the fields of engineering, computer science, education and mathematics to meet managerial skills and manpower requirements of the Northern Mindanao region. For the past years, the region has increasingly been moving towards industrialization and the need for highly skilled managers and its manpower requirements are also increasing. This information provides a notion that MSU-IIT is aware of the problems faced by most HEIs in relation to the labor market needs.

Assistant Dean Cristina Duyaguit stressed that feasibility studies were conducted before a program can be implemented. Therefore, she asserted that all programs offered by the School of Graduate Studies meet Northern Mindanao's needs. This result can also be associated to the literature analysis of Barnett (1990: 25) on the disappearance of Karl Jasper's idea of HE, mentioning how subjects in the curriculum that make clear contribution to the economy are more preferred because of the sharp change in attitude of the state. At present, it is happening in most universities as government officials are also taking part in the decision making on what courses to be offered by state universities and colleges. From the

information given by the local government, the Mayor of Iligan City noted his role on this aspect (see topic 5.5. Entrepreneurial Curriculum).

When asked about the existing instruments used for promoting flexible education provision such as satellite campuses and online learning, the results indicated that MSU-IIT has extended its two-year technology course offering in the field of computer technology to two campuses of the MSU—to MSU Naawan and MSU Baloi Community College. The plan is connected to the idea of extending opportunities for IT technical education to units outside of Iligan, given the carrying capacity of the Iligan campus. Faculty members of the MSU-IIT are still the ones conducting the instructions.

Similar undertakings are envisioned for implementation in other areas where need for specific courses are firmly established and collaborative arrangements with the local stakeholders have already been organized. It was also confirmed that no courses are being conducted on a pure online mode as of this date although some departments have used existing online facilities to supplement face-to-face classroom instruction. A freeware called Moodle is being used as the protocol (software) for facilitating online learning activities.

While maintaining institutional consistency in the light of shifting and multi-territorial educational provision, MSU-IIT is still not much affected by this considering that online learning is at the early stage of development. The major change occurring as of the moment is the growing demand for the improvement of ICT infrastructures for a better connectivity. Having more computers and software had also created pressure for the management to allocate more funds in supporting these needs.

In creating new forms of ICT-based course delivery to advance educational opportunities to a wider group, a participant said that current emphasis is still on the training of teachers for use of online learning facilities. Chancellor Salazar noted that less than 20% of the existing faculty force, approximately 500 of them has undergone training recently for online teaching. The administration is also concerned on the development of more modules for internet-based learning. Training on basic module development is already incorporated in the online teaching course but full module development would have to be monitored to ensure more internet-ready quality modules. In addition, other considerations are the procurement of higher capacity software for online learning similar to WebCT or Blackboard and orienting the staff for proper administration of the system.

On the tensions encountered between place-based and virtual forms of education provision, the findings pointed out that these tensions could result from confusion on the appropriate treatment of efforts towards online learning delivery. There is a need to settle some issues like teaching load determination for hours spent on online learning and the mode of

compensation associated with it. The same holds true for compensation of module development efforts. Restrictions posed by the government bureaucracy were believed to be providing additional dimension to these problems.

Chancellor Salazar explained that formal ranking of HEIs has not been established at both regional and national levels. These rankings are usually in relation to performances in some specific programs that are covered by professional examinations such as engineering and education but none for the institutional level. The nearest to an institutional level ranking are the budgetary allocations received by state colleges and universities which are published in General Appropriations Act.²² This involves a comparison between HEIs programs that are already accredited by external bodies against the level of accreditation received. He added that they are important to a university knowing that quality is a major deliberation of incoming students for college enrollment. Those recognitions, accreditations and other awards received in addition to published researches are measures being used by the Department of Budget and Management who decides on possible increase in budgetary allocation from the national government.

5.4 MSU-IIT and the Regional Learning System

In the questionnaire, the author asked on how active is the School of Graduate Studies in promoting collaboration with regional stakeholders for the contribution of teaching and learning to the labor market and skills. Professor Orejudos answered this question by describing his department's role in the development of regional learning system provided by MSU-IIT. He stated that:

For one, MSU-IIT School of Graduate Studies is an active member of the Council of Deans of Graduate Schools (CDGS) in Region X. Membership in the Council is composed of the Deans from various HEIs in the region. In this organization, specific policies and good practices are brainstormed for possible standardization and adoption of HEIs. Annual activities such as CDGS Congress tackle research outputs from various universities encompassing matters related to problems in the local government, business/agricultural industries, etc.

A Program Coordinator from the Arts and Social Sciences, Professor Sulpecia Ponce had also mentioned that the Consortium of Graduate Program strengthens the collaboration between MSU-IIT and other universities in the region. For instance, Xavier University's (Catholic private university in Mindanao) Master of Arts in Anthropology and PhD in

²² General Appropriations Act is known to be the Sources of Funds for Disbursements at MSU-IIT and released through the delivery of either monthly or quarterly Notice of Cash Allocation.

Anthropology programs are done in consortium with faculty members of her department, especially those who are teaching History and Sociology.

On the other hand, the Professor Duyaguit described that MSU-IIT is a delivering institution for various scholarships sponsored by some departments of the national government (i.e. DOST, CHED, Graduate courses for Lanao Teachers, Department of Environment and Natural Resources employees, workers of local industries etc.). Faculty members are also conducting seminars, forums and lecture series to other institutions. In relation to this, Professor Amparado included MSU-IIT's role in collaborating with the local government by providing technical assistance in various projects and also its involvement in the Iligan Chamber of Commerce.

The author's aim for this section is to draw the insights of faculty respondents on their awareness of the regional role of MSU-IIT. All the participants from the School of Graduate Studies were requested to enumerate the strengths, weaknesses, opportunities and threats characterized by MSU-IIT in relation to the contribution of teaching and learning to labor market skills in the Northern Mindanao region. The results were summarized in Table 3.

Based on the results, the respondents in this study were able to describe the basic features of MSU-IIT as an institution. The University's edge among other HEIs was pointed out through its strong faculty force, modern facilities and the relevancy of the programs to the current labor market needs. Descriptions on the quality and impact of MSU-IIT programs to job creation were not mentioned as strength although review and curricula update were placed under the weaknesses. Emphasis on budget and seeking for international recognition belong to the weaknesses part as well. Harmonizing the number of articles to be published by PhD candidates was identified by one of the participants as an issue related to the contribution of teaching and learning to the labor market skills in the region.

The development of online learning at MSU-IIT was seen by some respondents as an opportunity to enhance the necessary skills of the people in their region. Other opportunities cited were related to the strong local linkages and continuous development of faculty and students stressing MSU-IIT as having a prestigious reputation in promoting quality education. On the remaining items, majority considered that peace and order situation is still a concern and continues to be a threat even if the University's location is not as grave as in other parts of Mindanao. This is an important aspect especially if the teaching and learning related activities will be hampered due to security reasons. Impact of financial crisis was also expressed in relation to possible effects of future enrollment along with the reduction of governmental support for MSU-IIT's institutional expenses.

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
* Many of its faculty members were trained in prestigious universities, both local and foreign as part of the faculty development program	* MSU-IIT need to enhance its linkage to the foreign counterparts and be able to attract international students	* Iligan City and neighboring cities are industrialized areas and graduates do not find difficulty in getting a job after graduation	* Peace and order situation is still a concern
* Tuition fees implemented by the institution are relatively competitive. They have one of the lowest tuition fees charged among students.	* More patronage from the Alumni as they are not actively involved in some of the teaching and learning activities initiated by the University	* Transparent administration that caters to the welfare of its constituents	* Financial crisis affecting the attrition rate of enrollment for Graduate School students
* An excellent faculty force with a pool of experts and available modern facilities (library and laboratories)	* Desire to acquire local and international funding to purchase needed facilities	* MSU-IIT has a prestigious reputation within the region, particularly in the quality of education inculcated among its students	* The support of the national government to the maintenance and operating expenses of MSU-IIT and other government owned HEIs has gradually been phased out
* MSU-IIT being a Center of Excellence in Science and Engineering courses	* Not enough budget to support projects	* Scholarships, both local and foreign could be availed by Graduate School students and faculty members	
* Highly relevant graduate programs which cater to the skills and manpower needs of the region	* Some curricula in the Graduate School needs to be reviewed, revised and updated to meet the current and future need of the labor market and skills in the region	* Linkages and collaboration on research, teaching and other activities are on-going	
* Being a state owned institution, its budget comes primarily from National government appropriation	* The requirement as to the number of articles to be published in peer-reviewed journals for graduate students pursuing their PhD degrees has not yet been institutionalized and harmonized among programs	* On-line learning is slowly put in place	
* MSU-IIT was able to produce internally-generated income through its Income Generating Projects to finance their own infrastructure and maintenance projects		* Linkages with other universities in the region are strong	
* Projects initiated are supported by DOST, CHED and other HE grants			

Table 3. SWOT Analysis on the Contribution of Teaching and Learning to Labor Market Skills in the Northern Mindanao Region

After enumerating all the factors above, the participants have stated the links that exist between the University and other HEIs. In the School of Graduate Studies' case, the Dean stated that the

programs are delegated among Colleges and Schools. Each College has its own intrinsic linkages with other entities, both local and foreign. Professor Ponce mentioned about links with CHED such as scholarship offering for Graduate students, conducting commissioned researches facilitated by a specific faculty member and the implementation of Sandwich Programs²³ for PhD students. For programs in Sustainable Development, it was indicated by its Program Coordinator that they have no links with other HEIs. This could also be attributed to the fact that there are only few universities in the Philippines who offer this type of courses/programs.

5.4.1 MSU-IIT's Contribution to the Regional Learning System

As a Sustainable Development Program Coordinator, Professor Amparado believes that the role of research in creating new knowledge and its major contribution to higher learning is given much impetus at MSU-IIT. Research is considered a vital component in all academic programs of the School of Graduate Studies. He stated the promotion of the importance of research through the following measures:

- An annual In-House Review of all researches based in the University is done to encourage faculty members and students alike to present their completed, on-going thesis/dissertation based researches
- Faculty members are given financial incentives for papers published in Institute for Scientific Information (ISI) journals
- Graduate students (Masteral/PhD levels) are required to submit manuscripts of their thesis/dissertation and poster prior to the final defense. The manuscripts submitted (with the consent of the authors), are due for peer review for the possibility of publishing their work in the School of Graduate Studies journal²⁴

This respondent also added that to further boost its research collaboration with other universities in the region, MSU-IIT has established linkage with the Northern Mindanao Consortium for Agriculture and Resources Research and Development (NOMCARRD). This serves as a forum for information dissemination and linkage among the researchers in the consortium.

5.4.2 Link to the Northern Mindanao Region and Iligan City

According to Goldstein and Drucker (2006: 23), one task that is essential to the subject of assessing the economic impacts of HE is to distinguish the different ways in which colleges and universities latently contribute to regional economic development. Therefore, from the reply of

²³ The PhD Sandwich program of CHED is a dissertation writing assistance to be undertaken overseas for maximum of one year on a full-time basis.

²⁴ In some programs, graduate students particularly those pursuing their PhD degrees are required to have their work published in peer-reviewed journals as a condition to fulfill for graduation.

Chancellor Salazar, this situation of mapping the impact and links of MSU-IIT with the Northern Mindanao region is based on:

The provision of quality graduates, not only in the undergraduate degrees but also at the graduate level. Many establishments have preferred graduates of MSU-IIT to those of other HEIs in the region. The impact of the graduates to socio-economic development is directly considering their level of participation in the manufacturing, service and other sectors of the economy.

He also added that producing Master's and PHD graduates in engineering, information technology and physical sciences who are now holding leadership positions in many academic institutions could be considered as part of achievement for MSU-IIT. This situation has been regarded to be the contribution of the University to the development of the faculty force of Mindanao-based colleges and universities. In the long run, it would help improve the overall quality education in Mindanao.

Another linkage is the engagement of faculty members in various types of research. Regardless of the claim raised that research is vital at the School Graduate Studies, Chancellor Salazar expressed that many are still in the basic research level except in the field of information technology where research projects are more applied and already being used by some establishments. Faculty members have been serving as consultants too in numerous foreign-funded projects in Mindanao and other extension projects although many of them are confined to Iligan City and its suburbs.

Examining the structure of HEIs is closely connected to the HE systems in which they operate and the alterations they experience are commonly concerned on the external pressures: from governments, business and industry and local communities (Tight, 2003: 143). In response to the inquiry regarding academic leadership and central management changes encountered by MSU-IIT to meet regional demands, the result explained that the provisions of the Civil Service Commission and the Department of Budget and Management dictate the form of its organizational structure. Nonetheless, the need to address specific concerns like creations of some centers as dictated by demands of development and better service are still being implemented. There was a problem seen on manning the centers because it has been limited to the designation of faculty members for the special functions and with some corresponding load reductions. Additional support staff is made possible by hiring contract workers for fixed periods but usually charged to salary lapses. Call for better services are addressed with the use of ICT and many transaction-processing systems are continuously upgraded with the use of information technologies. MSU-IIT is after the

goal for improvement of service delivery to internal and external customers, and promotion of good and transparent governance.

Airing the side of the local government, the Mayor of Iligan City, Honorable Lawrence Cruz stated that the role of MSU-IIT is evidenced by various memoranda of agreement, *Sangguniang Panlungsod* (City Council) Resolutions or internal Special Orders that designate its faculty and staff in the special training and development programs of the City. Since 2007, MSU-IIT has been assisting the local government in promoting various initiatives. Mayor Lawrence Cruz enumerated the following projects involving MSU-IIT and the City of Iligan:

- Formulation of the Integrated Coastal Resources Management plans of the city;
- Revalidation of the structural design of the reservoirs and other structures of the Iligan Water System;
- Financial assistance for the establishment of the Bamboocraft Technology Center to be based at MSU-IIT campus, and collaboration in development of interest among the people of Iligan of the livelihood prospects of bamboo farming and bamboo craft;
- In order to meet the demand for highly qualified nurses, the city has entered into a five-year agreement with MSU-IIT to allow their nursing students in undergoing internship at the City Hospital (Gregorio T. Lluch Memorial Hospital).

Mayor Cruz described the contribution of MSU-IIT to the community wherein collaborations with Goodwill Mindanao Philippines, Inc., Philippine Business for Social Progress and the Department of Education were made effective through the Sangguniang Panlungsod (City Council) Resolution No. 03-39. It is an agreement signed by the institutions involved to promote through the Remedial Reading Program conducted in the 32 elementary schools of Iligan City.

The year 2001 marked the start of a massive information campaign on the Barangay Justice Service System (BJSS). As stated by the Mayor, this promotional activity is a component of the tripartite agreement formed by the Iligan City government, MSU-IIT and the Southern Philippines Research and Extension Foundation that intends to attain family and community peace throughout the *barangays*²⁵ by giving out trainings and lectures. Originally, the BJSS is a project of the Gerry Roxas Foundation and it aims to train and mobilize local citizens regarding family laws and other barangay-based delivery of justice services.

²⁵ The Filipino term “barangay” often connotes a small village or community. It is also a basic political unit in the Philippines and serves as the primary planning and implementing unit of government policies, projects and activities in the community and as a forum wherein views of the people may be expressed and where conflicts could be mediated (I-site, 2009).

From 2002 to 2007, subject to renewal of the Memorandum of Agreement, the local government of Iligan and MSU-IIT has joined forces to implement R.A. 8792, which mandates that all government institutions must be compliant with provisions leading to the shift from the traditional industry-based economy to a knowledge-based one. The agreement is also known as the e-Government project that aims to promote interaction and linkage with various stakeholders and entities through ICT, making Iligan a premiere ICT-enabled city not just in Northern Mindanao, but also all over the archipelago. To name a few, the ICT projects under this mandate are: Business Licenses, Estate Taxes, Information Dissemination Center, Zoning Policies, Legislative Information System and many others.

In relation to the foregoing and subsequent agreements to engage in collaborative projects, the Iligan City Statistical Coordinating Council (ICSCC) was formed in 2008, with MSU-IIT as a member. With the help of institutions like MSU-IIT, the Council is working out to provide comprehensive, accurate, updated and accessible statistical database network that is responsive and effective in the implementation of planning and decision-making for the sustainable development of Iligan City. Through the various agreements and resolutions initiated by the local government in encouraging universities to undertake responsibilities for economic development, MSU-IIT's role in the city of Iligan can be considered as part of regional anchoring (Arbo & Benneworth, 2006: 32, 33). The University did not only represent itself as an important element in building a progressive city but had also extended its scope in other parts of the region. In summary, Mayor Lawrence Cruz believes that:

The activities of the City Government of Iligan which are aimed at propelling the city into the mainstream of 21st century science and technology would not have been jumpstarted without the cooperation of the academe, led by MSU-IIT, the industries, the City Council of Iligan, other public and private organizations and by the populace of Iligan City (Cruz, L. E-mail interview. 1 April 2009).

5.5 Entrepreneurial Curriculum

All respondents were asked on the type of programs within MSU-IIT that increase the capacity of students to be enterprising, thereby applying their skills and express their initiatives in taking advantage of regional issues and opportunities. Each participant provided his or her own understanding of this question. Some expressed their insights on the issues being confronted by the University towards its own programs aside from the general information required to be given out.

Dean Orejudos from the School of Graduate Studies acknowledged that most of the courses, both graduate and undergraduate integrate the entrepreneurial curriculum which allow students to develop business skills in the hope of taking advantage of business opportunities in the future. Program Coordinator Professor Ponce replied that offering Master's in Business Management is an advantage but she did not give further explanation to support her answer. Meanwhile, Assistant Dean Duyaguit answered that all programs offered by the School of Graduate Studies have a requirement that students should have research output before they graduate and she believes that this is an important contribution.

Interestingly, Professor Amparado from the Sustainable Development Studies Program expressed his thoughts that it is real challenge for MSU-IIT to re-engineer its programs in order to develop and increase the entrepreneurial skills of its graduates. He said that plans have already been laid down to revise various curricula both at the undergraduate and graduate programs to meet this challenge. In his answers, he also explained the connection of the entrepreneurial programs to job creation, placement and venture opportunities:

It is still the present reality that graduates are mostly seeking employment both in public and private sectors. The option of our graduates in establishing business ventures to create jobs and move the economy towards self-reliance and sufficiency is still considered, to date, wanting. Business-oriented programs in the undergraduate level like Business Administration, Marketing, Economics and even the Master in Business Management at the graduate level are spearheading the way towards developing competencies and skills among its graduates in the creation and management of business enterprises to meet the needs of a growing economy in the region.

To support entrepreneurship, the Chancellor elaborated that a course in Entrepreneurial Marketing is being offered at MSU-IIT and Technopreneurship subject is included in the curriculum of third year business students. Before graduation, students are required to have a business plan and be able to implement them. The University has formed a partnership with Holcim Cement and Education for Youth Enterprise, Inc. (EYE) Foundation for the conduct of the WIWAG program for graduating students every year. WIWAG as described by the Chancellor, is a 5-day business simulation course where participants would undergo all aspects of business planning and plan execution in a simulated environment. Individuals performing managerial tasks in business communities are volunteer instructors in this program and the activities augment the students' understanding of Finance, Production, Marketing, Human Resources and the relevance of these functions in a real business setting. This activity gives an impression that a learning enterprise can

constitute a powerful learning environment that exposes students at certain cooperative skills in an entrepreneurial context (Schelfhout et al., 2004: 178).

While reviewing other documents that support the participation of other units on integrating an entrepreneurial curriculum, the author found out that even the Office of Sports, Physical Fitness and Recreation is mandated by the MSU Board of Regents to recommend and implement income generated projects related to its present activities. At the College of Education, the establishment of income-generating activities was included as part of the objectives of the Industrial Education Program. Hence, Mayor Lawrence Cruz highlighted his role as the Institute Advisory Council's Chairman, having the privilege to a seat on the Board of Regents and give suggestions to the Chancellor on some potential degree programs that will fit the development plans of Iligan City. He noted that the School of Graduate Studies offer courses in Development Management and had emphasized the courses connected to the demands of Iligan City such as the Sustainable Development Studies and Solid Waste Management.

Being influenced by the US system of education, it is possible that the situations mentioned above are also present in private HEIs in the Philippines. Not only research universities in US had experienced the reshaping of instruction and learning wherein the integration of entrepreneurial fundamentals are imparted even on liberal arts curriculum (ASHE, 2009: 60). In community colleges, entire curricular structures are being revised to meet the labor market needs of the new economy (ibid). While this study had only attempted to cover the entrepreneurial actions of public universities, it is not clear on how private HEIs in the country are dealing with reshaping their curriculum to support regional goals since they are mostly non-profit entities run by religious organizations and majority of the actions²⁶ declared in the HE Modernization Act of 1997 only apply to SUCs.

5.6 Fund Management and Income Generating Projects

Empirical findings confirmed that Normative Funding Scheme is applied for SUCs as per implementation of the Department of Budget and Management and CHED. With this scheme, the allotment for maintenance and other operating expenses are given based on the following performance measures: a) weighted enrolled student units; b) performances in national board and other examinations; c) merit (externally-funded) scholarships; d) published researches; e) high-impact extension programs and; f) internally generated income. The budget for personal services

²⁶ Moreover, the HE Modernization Act of 1997 stated that the rights, privileges and exemptions pertaining to acceptance of gifts and donations are also extended to non-stock, non-profit private universities and colleges. The Act also mentioned private HEIs on issues related to academic arrangements, autonomy, collaboration and building linkages with SUCs (House of Representatives, 1997:5546)

is not subject to performance measures yet, although the government has planned actions of including performance-based allocation for this item.

A cost center system at MSU-IIT exists wherein the budget received from the national government is fairly allocated to the different units. Certainly, the academic sector receives the biggest share. For the internally generated income (normally from tuition and other fees), the unit generating the income retains 35% of the tuition, and 85% of other fees. Meanwhile, 35% of the tuition is accrued into a building fund for financing the construction of new premises, while the remaining 30% is reserved for general administration expenses. As a rule, however, all self-liquidating programs and projects retains 85% of the fees collected to take care of the program expenses. The Nursing and Hotel Restaurant Management programs are examples of these self-liquidating programs (Salazar, M. E-mail interview. 17 April 2009).

Fund management is also covered by the²⁷:

1. General Appropriation Act (GAA) - in a form of monthly or quarterly Notice of Cash Allocation. SUCs classified this as Fund 101 that comes from collected refunds/returns of travel, salaries, stipends, cash advances, disallowances and losses from books and equipments. Grants given by other government agencies like DOST and CHED are also under this category.
2. Special Trust Account – known as Fund 164 and it consists of income collected from tuition, miscellaneous fees and other income earned by MSU-IIT as stated under the HE Modernization Act of 1997 and COA Circular 2000-02²⁸
3. Income Generating Project- under the classification of Fund 161

According to the Chancellor, the term Income Generating Projects (IGP) is being used at the university level and the impetus towards this direction is also provided by some measurement systems of the performances of State Colleges and Universities wherein income generated by the school is a dimension for evaluation. For that reason, the higher the income generated, the higher the points which also increase the chances of getting more subsidies from the national government for maintenance and operating expenses budget.

²⁷ Cited from MSU-IIT, 2009

²⁸ The Commission on Audit (COA) issued Circular No. 2000-02 on April 4, 2000, entitled "Accounting Guidelines and Procedures on the Use of Income of SUC to RA 8292" to present guidelines and procedures on the utilization of income of public universities constituted into Special Trust Fund (STF) in accordance with Section 4(d) of the HE Modernization Act of 1997.

On other activities covered by the IGP, he enumerated that:

For one, we have established a Bamboo Craft Center and a Ceramics Center. Both are producing products that are being sold to interested buyers. Most of the spaces in campus that are being used by outside entities would entail some payment of fees. We even have a business area where some stalls are available for monthly rental for businesses and individuals who would like to operate within the campus. Some entrepreneurs are also operating a canteen area. MSU-IIT is operating a 12-room hostel for fees that are competitive with the outside inns. In addition, we are putting up a cafe to support the offering of a course in hotel and restaurant management.

The Chancellor also indicated the future plans and the barriers attached...

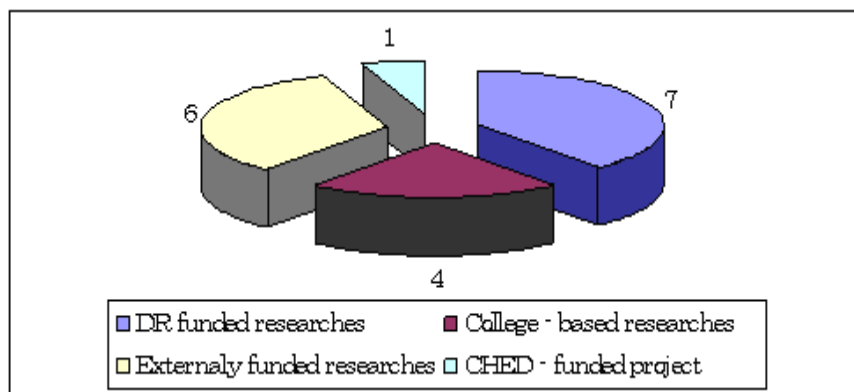
MSU-IIT also supports the idea of Technology Business Incubator and has plans to have one. The major constraint that we face is physical infrastructure---having no building where such incubator can be located. The Tibanga campus is already too crowded, to a point that some courses suffer lack of classrooms during critical hours of the day. But we have a vacant property outside the Tibanga campus that can be developed for this purpose if there are investors (Salazar, M. E-mail interview. 3 March 2009).

As a follow-up, the author inquired about the actions done by MSU-IIT in providing effective tool for technology transfer to the Northern Mindanao region. From the words of Professor Orejudos, he said that the University has outreach and extension programs wherein the community is benefited of the technical and skill trainings shared during this endeavor. This reply was also confirmed by Program Coordinator, Professor Amparado in which he mentioned that MSU-IIT has created the Department of Technology Application and Promotion (DTAP) and later named as Technology Application and Promotion Unit (TAPU) to become the marketing arm in the transfer and commercialization of technologies developed within MSU-IIT together with the involvement of agencies like the DOST.

From the information posted on MSU-IIT's website, it was written that this unit is responsible for extending technical services to target beneficiaries on technologies related to housing, ceramic and bamboo. Activities connected to the prototype development of bamboo and ceramic products and production for income generation were also done by TAPU. The Annual Report published by the University claims that its intensive promotion for the development of networks and linkages was given priority in 2007. On that same year, the Office of the Vice-Chancellor for Research and Extension endorsed inter-agency and collaborative works for a wider impact of results and extension work.

Likewise, research activities led by the Department of Research (DR) resulted to successful outputs through the support of different departments and units. A total of 18 projects were undertaken and categorized as: DR Funded Researches (7); College-based Researches (4); Externally Funded Researches (6) and; CHED Funded Project (1). Information collected did not specify the exact number of projects completed individually or in collaboration with other disciplinary units.

Figure 2. Total Research Activities in 2007



Source: The Vice Chancellor for Research and Extension's 2007 Report (MSU-IIT, 2009)

Another unit exemplifying the success of income generating activities is the information and Communication Technology Center (ICTC). An innovative system called e.SMS (electronic-School Management System) was developed by this unit in order to incorporate the key activities of MSU-IIT such as handling admission records, course scheduling and enrollment, billing and student records management. Through its affordable implementation, practicality and ability to secure data in compliance with the Intellectual Property Rights, the University was able to market this system to other HEIs in the region as well as extending its services to the provinces in the Visayas region. Software and data preparation, onsite installation, upgrades and training are included as part of the package depending on the preferred payment scheme of the client.

Adding more emphasis on the role of MSU-IIT in supporting the government in the promotion of the culture of peace in Mindanao is the creation of Iligan Center for Peace and Research. This unit is annexed to the Office of the Vice Chancellor for Research and Extension, responsible in delivering orientations on peace and conflict resolution and providing expertise for political leaders, peace negotiators, religious leaders and teachers in handling peace studies courses. Aside from establishing linkages, the Center is also dependent on its own income generated from research outputs and facilitation of trainings and seminars. The services that they render to the community

are also contributing to the needs of the region due to the on-going insurgency problems in some parts of Mindanao.

From the statements above, it only shows that confronted with external pressures, MSU-IIT develop activities with for-profit intents, either at the training level or at the external service to society level (Devaney & Weber 2003 in Santiago et al., 2008: 497). This aspect is slightly challenging the public mission of HEIs but improves the scope of services offered to society. According to Barnett (2004: 71), "What began as an external ideology is being internalized: an ideology for the university is becoming an ideology of the university." It is being implied here that MSU-IIT is experiencing the opportunity of creating its own market as an entrepreneurial university. As a starting point, the University was expected to comply with the HE Modernization Act of 1997 but through the responses and information gathered, it appears that they are also promoting the benefits to be gained from entrepreneurial activities.

The Chancellor's Report of 2007 also highlighted MSU-IIT's other financial achievements in relation to salary improvement, accreditation results and enrollment.²⁹ Some facts below were quoted from the published report:

Managing the financial resources of the Institute remained to be participatory and transparent. Two structures which are very much in place allowed these to happen – the Fiscal Planning Board and the Financial Management Information System. Institute constituents were aware that last year our GAA (General Appropriation Act) funds amounted to Php 306,105,000.00, which compared to the other year's Php 291,276,000.00, an increase of Php 14,829,000.00 constituting 5%. The increase accounted for the 10% across the board salary increase of government employees and the increase in the MOE (maintenance and operating expenses) allocation as a result of the Institute's having academic programs that are recognized as Centers of Excellence and granted top-level AACCUP³⁰ accreditation. The Institute's income increased from P43.941M to P57.545M, which was a feat in itself (cited from MSU-IIT, 2009).

When four new programs started to be offered in June 2007, the University was able to get 15 students particularly in the Doctor of Engineering program. The average enrollment at all levels for the first and second semesters posted at 10,233, an increase of about 10% from the previous year's 9,274. Furthermore, compared to the 1,275 graduates in 2006-07, there were 1,364 in 2007-08, which means an increase of about 7%.

²⁹ The figures disclosed are all in Philippine Peso, with a rate of 1 EUR = 63.0716 PHP as of April, 2009.

³⁰ Accrediting Agency of Chartered Colleges and Universities in the Philippines is an agency responsible for the accreditation of SUCs academic programs.

The content of the report indicated that the financial performance of MSU-IIT for the past three years has been stable because of the increase in participation rate (that goes along with the increase of GAA funds) and IGP. The University is also keen in using a systematic approach of monitoring the utilization of its finances through the Electronic Financial Management Information System (e.FMIS). Having a steady flow of finances did not only prove how it affects evaluation for additional governmental support, the central administration felt that it also created an impact on staff earnings, granting of Centers of Excellence during accreditation process and the creation of other academic programs.

5.7 Faculty Commitment

During the start of empirical work, inquiries from different faculty members were done in order to know their involvement in promoting an entrepreneurial environment at MSU-IIT. Out of those several inquiries, two faculty members from the College of Business Administration had given basic details about their departmental and professional activities. The responses gathered for this sub-topic are not part of the main empirical data received from the School of Graduate Studies.

This Professor stated her active involvement in entrepreneurship education since 1996 and other relevant information related to her current undertakings:

Through my initiative, after attending the one-month Trainers Course on Entrepreneurship Development (TRACED) at the University of the Philippines-Institute for Small Scale Industries (UP-IISI), I have transformed two 3-unit courses at MSU-IIT's School of Engineering Technology. I did a lot of introducing entrepreneurial subjects at College of Business Administration and it is always my assignment whenever there is a new entrepreneurship subject. Our existing undergraduate degree program is Bachelor of Science in Business Administration Major in Entrepreneurial Marketing. Likewise, I am a licensed national trainer on Competency-based Economies through the Formation of Entreprises/Entrepreneurs (CEFE) methodology of entrepreneurial development. I am also into consultancy work with USAid projects as a Local Government Economic Enterprise Development Specialist. Aside from full-time teaching at MSU-IIT, since June 2008, I have been designated as the Institute's overall Income Generating Coordinator (Bokingo, J. E-mail interview. 25 January 2009).

The other Professor expressed the interest of her department in pursuing a research project on a wider community's reorientation to entrepreneurship:

Currently, the department is planning to formulate a study/research that would survey/gather stories of successful entrepreneurs in our region with the hope of learning from them and being able to inspire our own students/graduates to really go into it. With the thousands of Filipino workers being laid off particularly by I.T. companies here, it is high time to really redirect/reorient them into the entrepreneurship pursuit (Dimamay, M. E-mail interview. 3 March 2009).

Aside from these two faculty members, additional information was gathered to prove the commitment of other members as well. It is good to know that the exposure and interest of some Professors in ICT have led to numerous activities promoting the importance of the subjects they are teaching. For instance, a highschool teacher joined the College of Education and currently facilitating the Intel Teach program³¹ offered by her department after having an experience of attending the same during the previous years. While teaching Mathematics in highschool, she encountered a dilemma on the difficulties of students in understanding geometric concepts. From her own training at Intel Teach, she learned about Curriculum-Framing Questions, Project-Based Learning, Inquiry Approach, and Authentic Assessment and how to apply these methods into her teaching techniques (MSU-IIT, 2009).

The role of the College of Education had focused on integrating the Intel Teach pre-service curriculum courses such as, Educational Technology, Principles and Methods of Teaching, Multimedia Applications in Teaching, and various strategy courses. On the first year of the Intel Teach implementation in 2004, 380 out of 480 would-be teachers completed the program. The training was also extended to other faculty members wherein the Dean joined as a participant and executed her own unit plan (ibid). Originally, the intention to facilitate such program at MSU-IIT is more on the concern related to student learning outcomes and curriculum development. It did not actually aim to focus on attaining regional development goals through teaching but somehow, the program was able to raise awareness of it because of the participation of other HEIs in the Northern Mindanao Region. Partnership among the students, faculty members and community was said to be one of the benefits gained upon implementing Intel Teach at MSU-IIT (Buan, A. Internet telephone interview. 24 April 2009).

To date, the involvement of faculty members in entrepreneurial activities have brought potential benefits to the institution in terms of funding and recognition. Behind these advantages, they also create administrative challenges for deans and department chairs. According to Lea (2005: 4),

³¹ Intel designed this program to support teachers in polishing them as effective educators. Academics are being trained to incorporate technology into their lessons, promote problem solving, critical thinking and collaboration skills among their students (Intel, 2009).

“conflict of commitment” and “conflict of interest”³² policies are being enforced in some cases to define the time and resource demands of entrepreneurial faculty members. Going back to the HE Modernization Act of 1997, academic freedom and institutional autonomy were guaranteed under Section 11 although aside from specifying these aspects, no information pertaining to faculty obligations or contracts for limiting entrepreneurial activities outside academic hours have been disclosed by any of the respondents. The author also relied on the main elements stated on the Act regarding profit-related activities, collaborations and external linkages that need to be achieved by universities for institutional development.

Developing products that cater to the intermediate needs of the stakeholders (MSU-IIT, 2009) is one of the goals of MSU-IIT. The roster of faculty with expertise on specific fields had opened up opportunities to appreciate the significance of combining institutional mission and entrepreneurship (Lea, 2005: 4). Yet few details were provided here to describe the commitment of faculty members and departments, emphasis on community service and value for teaching were reflected on the results. The demands from academics do not only reveal the necessity of complying with rules and procedures. Thus, in undertaking entrepreneurial activities for institutional and regional missions, treatment on teaching as a vocation is obviously important for them.

5.8 Regional Mechanisms

On the mechanisms for raising awareness on the role of MSU-IIT in the Northern Mindanao region, the Chancellor sent a detailed response about this inquiry by enumerating the following:

- Serving as venue for undergraduate scholarships in science and engineering with sponsorship given by DOST;
- Conduct of collaborative researches with other colleges and universities for some foreign-funded projects such as biodiversity, peace and development, etc.;
- Conduct of lecture series in the discipline where MSU-IIT has made some inroads;
- Making use of the internet as a medium of communication or publicity to the outside world;
- Invitation to other HEIs in the Northern Mindanao and other regions to participate in the conduct of regional researches along science, mathematics and engineering which is being coordinated by MSU-IIT being the Zonal Research Center for the above-cited disciplines;
- Hosting of regional, Mindanao-wide, national conferences and symposia which were made possible due to MSU-IIT’s network with other organizations;

³² Conflict of commitment arises when the pursuit of external activities impedes with the faculty member’s obligations to students, colleagues and institutional missions. In contrast, conflict of interest refers to situations in which the financial or other personal considerations may compromise or generate the potential for compromising or the appearance of compromising a faculty member’s objectivity in his or her duties, including research (Lea, 2005: 4).

- Sharing some internally developed ICT applications with other SUCs;
- Being a major stakeholder in every important community projects such as the 57:75 Movement which envisions to improve the mean performance score of elementary and highschool students in the selected schools in Iligan City in the fields of English, Math and General Science from 57 to a more decent score of 75 in the next 5 years.

Regarding the inquiry on how MSU-IIT's strategic plans include its affiliations with the regional community as a key strategy for enhancing viability. The Chancellor had again noted that one of the identified key performance areas for the University is "relationship with the community." He added that this thrust is critical considering the need to relate effectively with the other sectors for so many reasons, such as the employment of graduates, scholarships, grants and donations, budgetary support and many other needs. Conscious efforts to develop cordial and productive relationships with the stakeholders of academic institutions as well as maintaining strong networks and linkages are being emphasized. It was also stressed on the response that membership in many professional and research-oriented organizations is supported by University. As an example of this endeavor, MSU-IIT is the lone academe member of the Iligan Bay Chamber of Industries and he said that this affords a golden opportunity to link with employers of graduates and possible grant givers.

6 DISCUSSION OF MAJOR FINDINGS

This chapter aims to provide a discussion on entrepreneurial universities' obligations to society as described by the institutional actors of MSU-IIT and on the supplemental information given by Mayor Cruz. Understanding these obligations from a developing nation's perspective has been established through its connection to regional development, most especially on the aspect of local initiatives and support mechanisms performed by the case study involved. While summarizing the major findings found during empirical work, it is also important to reflect on the overall impact of entrepreneurial activities in a localized setting particularly on how a university is viewed as an institution working on the said initiatives. The discussion on this chapter will be supported by the issues raised in the conceptual framework, concepts drawn from the literature review and through content analysis of key results gathered from the respondents and other data collected.

6.1 Approach to the Changing Idea and Functions of Higher Education

HEIs nowadays are showing more concern on the significance of liberal education (Newman, 1954: 129) and this can be observed through their commitment to improve the institutional governance, curriculum and faculty force. Along with this quest, is a process that will allow them to enhance their services and fulfill institutional goals. The following are some of the major findings connected to this category and it only shows that apart from being an ideological apparatus, the university's interaction with society expects participation in activities that go beyond its normal function.

- New modes of learning are adapted by MSU-IIT with the support of modern technology while research is also being prioritized in some subject areas
- MSU-IIT was able to prove that some of the changes encountered by HEIs pertain to value-for-money, good management and preferring a curriculum that make a clear contribution to the economy (Barnett, 1990: 25)
- Performing a public service function by addressing the problems of the community (of Iligan City and the Northern Mindanao region)
- Expectation from MSU-IIT as a provider of HE services, supporter of local policy implementations and supplier of manpower in the region

The contribution of the university as exemplified by the case study appears that creating knowledge comes in different ways and is supported by modernization policies and institutional actions. Looking at the results above, it gives an impression that the idea of a university is focused on the function of creating a learning economy that can cope with rapid change and development

of new products and services. From Lundvall and Borrás' study, this will assign priority on policies aiming at human resource development, creating new forms of organization, building innovative networks and integrating universities in the innovation process (Lundvall and Borrás, 1997).

6.2 More Problems Faced By Higher Education Institutions in Developing Nations

Within the scope of obligations are the problems faced by HEIs in general that should be given attention. Getting the insights of the Chancellor and faculty members on this matter had offered a better understanding of the actual situation of HEIs in developing nations, particularly the public universities in the Philippines.

In addition to the problems mentioned in Chapter 4, other problems encountered are related to funding (specifically on operating expenses and budget allocations, external funding and ICT infrastructure expenses); tension on place-based and virtual forms of learning; the need to enhance foreign linkages; restrictions caused by government bureaucracy during project implementations; and the current financial crisis affecting student enrollment. The connection of these problems to the current institutional practices of administrators and academics led to compliance of actions included in the HE Modernization Act of 1997. Traditional practices in teaching, research and delivery of HE services were configured according to local and regional development needs while at the same time combining the primary actions stated on the Act.

6.3 Concept of an Entrepreneurial University as Derived from the Case Study

Institutional compliance and configurations done had provided a setting for new approaches on university entrepreneurialism. From the views of the respondents, MSU-IIT's approach to entrepreneurialism has been influenced by the factors connected to: (1) evaluation as a measurement for procuring additional funding; (2) strengthening the collaboration with other HEIs and stakeholders; (3) support for infrastructure projects; (4) responsibility to facilitate training and develop new modes of learning; (5) addressing the skills requirement of the region and; (6) HE service expansion. As a whole, engagement in entrepreneurial activities is not only about being self-reliant amidst the situation of getting fewer subsidies from the government. Through content analysis, "relationship with the community" has been emphasized on Chapter 5 (5.8. Regional Mechanisms) that could sum up the overall initiative of MSU-IIT's institutional environment in delivering HE services. Being an entrepreneurial university, MSU-IIT's role in regional development of Northern Mindanao proved to have started by addressing the needs of Iligan City and had further expanded throughout the region.

In reviewing again the relevance of the institutional theory, this study has attempted to illustrate the university's experience of making adjustments for its own development. The actions headed

for the entrepreneurial path have been influenced by structures of power and constraints (Brint & Karabel, 1991: 346) and these can be drawn from the role of the Iligan City local government in steering HEIs or through the university's direct link to a powerful labor market (ibid). The behavior of an adaptive university is also an entrepreneurial trait epitomized by MSU-IIT. Sporn (1999: 25) explained that this notion refers to the ability of creating a fit between structural variables and the environment. Adaptive behavior and strong entrepreneurial culture (Clark, 1998: 115) were highlighted in the responses provided by MSU-IIT's administration and faculty specifically in the aspects of fund diversification and practice of good collegial management (Sporn, 1999: 28). More significant factors could have been elaborated if participants from the business sector were also included in this study because they are entitled to give a separate view on the way HEIs are expected to operate based on the projects collaborated with them.

Change as a process can be observed in describing the journey of universities in meeting societal demands. At the system level, policies are being restructured because of the environment pressures connected to global competition, budgetary constraints, shifting demographics, the changing role of the state and the increasing importance of IT (Peterson and Dill, 1997 in Sporn, 1999: 23). Moreover, at the institutional level, change is experience as part of the adaptation period wherein the university is looking at the possibilities of choosing the appropriate strategies to respond on the measures demanded from them. Dealing with the important elements of the HE Modernization Act of 1997 is an example of encouraging change within HEIs in the Philippines particularly on the issue of structure, manner of governance and promotion of institutional autonomy.

6.4 On Institutional Interests and Opportunity Fields

Institutional interests and opportunity fields were found in this study. They are vital in assessing the responses of HEIs during entrepreneurial transformation because the actors involved are given the responsibility to take steps promptly on the demands and also feel the pressure of working together for a common goal. At MSU-IIT, institutional interests were seen in the departments and individual undertakings of faculty members. Successful implementation of strategies has been coordinated well and most institutional members were able to demonstrate their own initiatives of constructing an entrepreneurial environment.

The strategies and actions focused on IGP had opened market opportunities to sustain MSU-IIT's functions while continuously addressing the needs of the community. Existing resources were maximized without the need to spend on rentals and materials. Individual undertakings could also be credited because it is one way of easily promoting the activities of the university and attract more ideas for project enhancements. Brint and Karabel reminded that opportunity fields may vary

from state to state (Brint & Karabel, 1991: 349) and in this case, the advantage of being located in an industrialized city proved that both opportunities and corresponding obligations await HEIs.

6.5 Entrepreneurial Universities' Obligations to Society

Aside from responding to the goals of the HE Modernization Act of 1997, the institutional actions of MSU-IIT are categorized on the following items as part of the scope of entrepreneurial university obligations to society.

1. Academic Related Obligations
 - Quality of programs and courses
 - Field expertise
 - Research (Knowledge creation/transfer)
2. Community Related Obligations
 - Job and opportunities creation
 - Special trainings and development programs
 - Citizenry's orientation (on community issues and present campaigns)
3. Regional Development Obligations
 - Support the implementation of local policies and strategies
 - Peace and order
 - Conversion from traditional industry-based economy to a knowledge-based one (creating new technologies and promotion of ICT)
 - Manpower supply for both public and private industries

On the first category, the results of the study proved the academic related obligations of HEIs and these are based on the demands arising from programs and courses offered, the field of expertise demonstrated by faculty members, and the discovery of new knowledge through research. The findings also exhibited some features of the original idea of the university that is stated on the literature view in Chapter 4. For MSU-IIT's case, the academic related obligations present a starting point in pursuing the other two obligations given that the society relies on the initial services offered by HEIs in terms of the latest programs for the formation of students along with the obligation attached to the experts who are responsible to mold and guide them. The role of research is part of the obligation because of the belief that wealth or productivity is increasingly dependent on the development and application of new knowledge (Maassen, 2003: 1). As an institution, the university is still the time and place of learning (Fincher, 2000: 5). Therefore, in this case study, performing entrepreneurial activities linked to the new modes of learning and expertise is one way of supporting intellectual advancement, observing the character formation of students

and continuously leading the process of cultivating the minds (Newman, 1976: 103, 118 in Barnett, 1990: 8, 9) of the people.

The second category consists of the demands that create community related obligations of HEIs to society. From the empirical data, these demands are greatly relevant to the basic expectations of the community on job and opportunities creation, the need to undergo specialized trainings and programs initiated by the university for skills development and on the right of the citizenry to be vigilant on current issues and laws through the university's support to local government and other stakeholders' campaigns.

The third category is likewise connected to the second because it covers a wider scope of obligations pertaining to the role of universities in regional development. Findings gathered here prove Jongbloed's research as well, mentioning the change in social contract that binds the university and the society (ILO, 1975 in Jongbloed et al., 2008: 306). Through this, the demand to support local policies and strategies and having a harmonized community consequently assumes a public service function with respect to the problems faced by the society at large (OECD-CERI 1982:10 in Jongbloed et al., 2008: 306). The success of the region is also strengthened by the presence of high caliber people in both public and private industries. On similar situations mentioned in this study, it only shows that universities are treated as an element of regional institutional systems that are struggling to adapt to the needs of a global process of competition for investment and jobs. As cited from Charles (2006: 118), universities are now recognized as an employer, through attracting students, as a source of technological know-how, and as source of human capital development in promoting a flexible and adaptable workforce.

7 CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

This study has attempted to determine the role of HEIs in a developing nation's case by looking at entrepreneurial undertakings as key elements not only for institutional survival but also of the ability to extend support in promoting regional development. All of the factors comprising the results of this study were based on the views given by the respondents representing the university administration, faculty and the local government. The Philippines' HE Modernization Act of 1997 was able to put weight in analyzing the functions influencing MSU-IIT as an entrepreneurial university.

To answer the main problem presented in the first chapter of how HEIs (entrepreneurial universities) meet the economic and social expectations of a globalized society, particularly in the case of the Mindanao State University in the Philippines, establishing related arguments were made possible through the formulation of the following research questions:

1. What is the scope of entrepreneurial university obligations to society particularly in the country's case?
2. What are the mechanisms in promoting HEIs regional involvement in Northern Mindanao?
3. How does the case study's institutional environment depict the elements of entrepreneurialism as obligations to regional development?

The first research question was answered on the way academics and the government official perceive the role of MSU-IIT as an institution in a localized setting. Major findings were categorized according to the demands expected from the case study. Based on the results, the scope of entrepreneurial obligations are academic related, community related and the most important category is the task on regional development obligations. Although MSU-IIT could be considered as keeping the original idea of the university, the changes occurring within its institutional environment are influenced by the factors connected to its relationship with the community and the expectation that the region will be the major beneficiary of the HE services offered. In the HE Modernization Act of 1997, improving the country's education system in accordance with the demands of the people and society (House of Representatives, 1997: 5545) was indicated as one of the reasons for declaring this policy. From these words, the content signifies the role of the university as an institution bound to improve the system by undergoing change. Regional development was not mentioned in the Act but the actions expected from HEIs are also leaving an impact to the region.

In the theoretical framework (Chapter 3) for this study, the institutional theory attempted to explain how institutions and institutional context impinge on economic and social development (North, 1990: 3 in Cano et al., 2006: 5) by considering change as a process of meeting these demands. The expectations on HEIs with regard to their everyday operations are influenced by “programmed actions” (Berger & Luckmann, 1967 in Jepperson 1991: 147) as encouraged by the HE Modernization Act of 1997 or “common responses to situations” (Mead, 1972: 263 in Jepperson, 1991: 147) produced by a localization effect (Karlsen, 2005: 501) to Iligan City and the Northern Mindanao region. MSU-IIT is a public university located in a major city and Karlsen described this situation as taking advantage of the benefits to be gained when a HEI is nearby. Being strategically located in an industrialized Iligan City, it was mentioned in the results that the creation of MSU-IIT in 1968 left an expectation that the locality will be automatically benefiting from its course offerings. Moreover, localization effect on firms results to an advantage of getting well-qualified candidates and the possibility of hiring staff from the university in a part-time job system (ibid). The government on the other hand, expects the participation of HEIs like MSU-IIT in policy formulation, regional technical support and projects that enhance the community through learning and skills development. Aside from these expectations, there is also a demand for promotion of peace and order by pushing activities that will raise the awareness of people in Mindanao. In summary, the findings under this question were able to confirm that regional development is indeed an institutional responsibility (Karlsen, 2005: 500) for MSU-IIT.

On the second research question, the mechanisms in promoting HE regional involvement in Northern Mindanao included details on actions related to scholarship, research collaboration for foreign funded projects, the use of internet as a promotional medium, conduct of regional researches and other community projects. In this context, the results proved the interest of MSU-IIT in establishing local and foreign linkages to build up their role in the region. Performing entrepreneurial activities also contributed to a number of successful undertakings involving the departments and extension units. IGPs were considered as measurement for evaluation. The more they create and implement entrepreneurial projects; chances are that governmental support for additional budget could be given.

Entrepreneurial engagements also boosted MSU-IIT’s faculty members in promulgating their projects that are beneficial to their graduates, co-workers and the community at large. The case study exemplified that promoting HE activities in the region no longer treat the government as the sole actor working on the mechanisms. Building institutional interest and finding opportunity fields (Brint & Karabel, 1991: 348, 349) has affected the University in terms of status pressures (ibid. p. 351). In Chapter 5 (Empirical Work and Analysis), it was described in some instances how the University works on promoting itself as a provider of quality education in the region.

For the last research question, MSU-IIT's institutional environment depicts the five entrepreneurial pathways mentioned by Burton Clark in his study of European entrepreneurial universities (Clark, 2003: 115). Having a strengthened steering core, an expanded developmental periphery, a diversified funding base, a stimulated academic heartland and an integrated entrepreneurial culture (ibid) were also the trajectories of MSU-IIT. However, Clark's study is insufficient of evidences proving the role of entrepreneurial universities to regional development. He described the University of Twente (Netherlands) and University of Joensuu (Finland) as regional universities but both cases could only attest to sustainability of HEIs in times of less governmental financial support. Another issue is related to the countries involved in his study since all were European universities and considered as developed nations. It has also been analyzed that the effect of entrepreneurial undertakings and the trajectories of universities vary across countries.

7.2 Recommendations

From the findings and conclusion drawn, it is essential to provide recommendations that will suit the present situation of MSU-IIT and other HEIs in the Northern Mindanao Region.

For the policymakers, the concern for the modernization agenda of HEIs will be considered truly successful if all the actors involved within these institutions are going to be reoriented on the importance of entrepreneurial activities especially those public universities that are not located in the city but is being recognized by the community and the local government for potential contribution to the region. Aside from institutional survival, it is also relevant to emphasize regional anchoring (Arbo & Benneworth, 2006: 32, 33) --- how every undertaking would result to a wider scope of service to be extended to the community since the agenda of this Act is in accordance to the needs of the people and society (House of Representatives, 1997: 5545). Majority of the problems faced by HEIs are related to funding and establishing linkages with foreign agencies and universities. Another way of addressing these concerns is through the promotion of SUCs like MSU-IIT in regional cooperation activities within Southeast Asia and other countries.

This second recommendation is intended for university administrators and faculty members. Other than funding problems, participation of alumni in promoting the HEIs in Northern Mindanao will greatly help in pushing through some pending projects. In this way, finances will not only come in but prospective partnerships with the industry and other local government agencies. Furthermore, the quest for quality education is dependent on the programs offered by HEIs and as mentioned by one of the respondents, it is better to take into consideration the possibility of restructuring some of the courses to direct more people towards the path of new technical skills and opportunities. The study covered only few departments that verified the commitment of faculty

members in all entrepreneurial undertakings. Given this situation, additional support structures are needed in order to discover more market niches from courses other than business and science.

In this last recommendation, the author would like to address the future of this study to other HE researchers. To start with, comparative studies are applicable in this case since the author had covered only one of the ten campuses of the Mindanao State University in the Philippines. In the context of establishing the role of universities in a developing nation, getting case studies from the islands of Luzon and Visayas shall offer a clear idea of the changing functions of HEIs and the emergence of new approaches to university entrepreneurialism. Comparative studies could also prove the real implication of regional anchoring and localization effect by seeing university entrepreneurialism in similar or contrasting dimensions.

Given the limited scope to discuss more issues, it would be good enough to also get the side of the students and other stakeholders such as government agencies (i.e. CHED, DOST and the National Economic Development Authority), industries (i.e. Chamber of Commerce and small/medium enterprises) and the community. These group of people could provide various explanations on the impact of HEIs in regional development since the information received from the government came from the municipal level only. MSU-IIT was able to exemplify three entrepreneurial obligations wherein the last obligation concerns regional development. At the next level, it would be an advantage to use the findings gathered from the case study on how entrepreneurial universities can be also regarded as innovative universities portraying national obligations in a developing nation's perspective.

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APPENDIX

Appendix 1: Questionnaire

Questions for the Chancellor

Regional Higher Education and Governance

1. What are the historic links between the MSU-IIT and the region and how have these developed?
2. How did the institution change over the last ten years in terms of: (a) staff and student numbers; (b) faculty mix; (c) balance between teaching and research functions; and (d) regional focus?
3. What are the regional organizations that have strategic responsibility over funding and management of MSU-IIT?
4. How would you describe the ambition of MSU-IIT in terms of attaining quality education for the industrial and socio-economic development of Mindanao? What actions are being put in place to achieve this ambition, most especially if it is part of the Northern Mindanao regional strategy?
5. To what extent are regional stakeholders aware of the rank of individual higher education institutions? How important is the rank of MSU-IIT to regional stakeholders?

Mapping the Impact of Entrepreneurial Universities to Regional Development

1. How did MSU-IIT produce an impact and links with the Northern Mindanao region? (i.e. direct economic impact; contributions to local economic development; social and cultural impact).
2. What are the mechanisms to raise awareness of the role of MSU-IIT in the Northern Mindanao region?
3. To what extent has the MSU-IIT academic leadership and central management been altered to engage with regional needs?
4. How do the MSU-IIT's strategic plans include its affiliation with the regional community as a key strategy for enhancing viability?

Shifting Forms of Educational Provision

1. What instruments exist for promoting flexible education provision such as satellite campuses, accreditation networks and on-line learning?
2. How does MSU-IIT maintain institutional consistency in the light of this shifting and multi-territorial educational provision?
3. How does MSU-IIT create new forms of ICT-based course delivery to advance educational opportunities to a wider group?
4. What are the tensions between place-based and virtual forms of education provision?

5. Other Comments/ Information that you would like to include?

Questions for Faculty Members

Support to Localize Learning Practices

1. How does MSU-IIT depict upon the specific characteristics of a region to aid learning and teaching? What are the courses offered by the School of Graduate Studies that meet Northern Mindanao's regional needs?
2. What are the programs within MSU-IIT that increase the capacity of students to be enterprising by applying their skills and to express their initiatives in taking advantage of regional issues and opportunities?
3. How do MSU-IIT assists in providing an effective tool for technology transfer (i.e. third stream activities done by School of Graduate Studies) to the Northern Mindanao region and promote their highly skilled graduates?

Developing the Regional Learning System

1. How active is the School of Graduate Studies in promoting collaboration with regional stakeholders in relation to the contribution of teaching and learning to labor market and skills: (a) between the universities in the region; (b) between universities and other HEIs; and (c) between HEIs and other regional stakeholders (i.e. local government and business/agricultural industries)?
2. What are the strengths, weaknesses, opportunities and threats related to contribution of teaching and learning to labor market and skills in the region?
3. What other links exist between the university (particularly your department) and other higher education institutions?
4. How does MSU-IIT promote the importance of research in the School of Graduate Studies and considering it as a contribution to the regional learning system?
5. Other Comments/ Information that you would like to include?

Questions for the Mayor

1. Based on your point of view as City Mayor and Chairman of Advisory Council for MSU-IIT, how is the university expected to operate and contribute to the development of Iligan City and Northern Mindanao region?
2. How does the local government organize its intention of involving the role of universities towards the development of Iligan City and Northern Mindanao in general? In what aspects of the city government's strategic plan include the role of MSU-IIT?
3. What resources are made available to MSU-IIT by the local government and other HEIs to support regional engagement? How are these distributed?
4. What incentives are given by the local government of Iligan City in enhancing regional engagement of all HEIs most especially in conducting third stream activities such as research and spin-offs?

5. What policy initiatives have been taken by local government of Iligan City in fostering the regional role of all HEIs and to stimulate regional collaboration among other HEIs, industries, governments and civil society?
6. What other policy recommendations would you like to contribute or would be part of your local government's bill in connection to the role expected from all HEIs in Iligan City?
7. Other Comments/ Information that you would like to include?

Appendix 2: Profile of MSU-IIT Respondents

Name	Position	Faculty/Program
1. Marcelo Salazar	Chancellor	MSU-IIT Administration
2. Jerson Orejudos	Dean	School of Graduate Studies
3. Cristina Duyaguit	Assistant Dean	School of Graduate Studies
4. Sulpecia Ponce	Program Coordinator (Arts and Social Sciences)	School of Graduate Studies
5. Ruben Amparado Jr.	Program Coordinator (Sustainable Development)	School of Graduate Studies