

**USING BUSINESS INTELLIGENCE TO DISCOVER NEW  
MARKET OPPORTUNITIES: A CASE STUDY OF PRIVATE  
UNIVERSITY IN THAILAND**



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**Title:** Using business intelligence to discover new market opportunities: A  
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### **Abstract**

The thesis consideration included analysis of how the streamline market opportunity framework more efficient and profitable through the inclusion of BI framework. The study population consists of the selected private university in Thailand. The research targets the strategic, tactical and operation decision makers of the university.

The research method an exploratory case study research technique by using semi-structured interviews for data collection.

Higher education often lags behind industry in the adoption of new or emerging technologies. As competition increases among universities for a diminishing supply of prospective students, the need to adopt the principles of data and information becoming more important. Data from Thai Higher Education Commission (2012) shows that number of foreign students is increasing in last five years. Due to the dynamic and volatile competitive environment, Thai universities are enhancing their viability in today's evolving this global market.

**Keywords:** Business Intelligence, Market Intelligence, Competitive Intelligence, Market Opportunity Analysis, Marketing

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## **LIST OF ABBREVIATIONS**

ASEAN – Association of Southeast Asian Nations

ASU - Arizona State University

BI – Business Intelligence

BPM –Business Performance Management

CI – Competitive Intelligence

CHE - Commission on Higher Education

CRM – Customer Relationship Management

DSS – Decision Support Systems

DW – Data Warehouse

EDI – Electronic Data Interchange

EIS – Executive Information Systems

ETL – Extract Transform Load

ERP – Enterprise Resource Planning

ICT – Information and Communication Technologies

KPI – Key performance indicator

LOB – Line Of Business

MI – Marketing Intelligence

MkI – Market Intelligence

MIS – Management Information System

MkIS – Marketing Information Systems

MOA – Market Opportunity Analysis

## **LIST OF ABBREVIATIONS (Cont.)**

OAS – Office Automation Systems

OLAP – Online Analytical Processing

QM – Quality Management

RCM – Resource-Centered Management

SCM – Supply Chain Management

SIMS – School Information Management Systems

SWOT – Strength Weakness Opportunity Treat



# CHAPTER 1

## INTRODUCTION

In recent years, higher education has strongly influenced by global trends, as well as the students expectation is going to choose universities that are getting more international. As study Zhang (2013) shows that Asian economies continue to boom, in contrast to uncertain economic prospects for European and many other developed countries, it is likely that the next five to ten years could see a major shift in the world of transnational education. In this major shift, Asia could become a strong competitor in the higher education market.

In order to improve their performance, keep existing customers and explore the new market that institutions have to adapt the new environment. Every organization “do more with less!” For this purpose, education industry’s enterprise has a complete picture of data, presented in a way that is meaningful to summary, and detail analysis that is crucial to making confident decisions.

To make confident decision, managers need to have enough data and information. As information grows, the need for institutions to manage it and to make it process-able grows as well. Therefore, as the amount of the information grows it becomes a problem to get the right one at the right place for the right people. For instance, how can that each customer will discontinue the service be estimated to target the group of customers and thus reduce churning and optimize customer retention? Without the support of advanced model of strategy and data mining technique, it would be arduous to derive a reliable estimate of the churn probability and to determine the best recipients of specific marketing strategy. The main purpose of the Business Intelligence (BI) system is to provide knowledge workers with tools and methodologies that allow them to make effective and timely decisions. Moreover, this in fact is certainly important for the education sector as well, which has turned to BI systems in the supporting them to aid decision-making and optimize the performance. These information sources can be as varied as spreadsheets, specialist applications packages such as Enterprise Resource Planning (ERP), Customer Relationship Management

(CRM), Business Performance Management (BPM), Business Intelligence (BI), KPIs, Industry articles, the Internet and a host of functional specific applications.

Specially, BI aims to support analyzed data to make decision, value added to information. As started by Bouthillier and Shearer (2003) the information is not only expandable but also compressible, since it can be summarize or concentrate to facilitate its use. It is also redefining the functionally components of analytics, reporting and enterprise-wide use of data intelligence and insight used for streamlining decision-making processes.

### **1.1 Statement of the Problem**

The importance of relationships in higher education has encouraged these institutions to start thinking of a systematic way of managing their relationships. In business, managing relationships with stakeholders can be challenging for many organizations since they are involving in different operations and their customers' needs (Kleinaltenkamp & Ehret, 2006). Pausits (2010) believes that universities must identify their stakeholders clearly and engage into activities that reinforce their relationships with these stakeholders by proper integration of strategy, processes and people.

In the meanwhile, the pervasiveness of new advances in information and communication technologies (ICT) has positively contributed to managing such relationships in universities by enabling them to systematically identify, collect, analyze and satisfy their students' needs and preferences.

### **1.2 Research Objectives**

This study aims to identify the factors for maximizing market opportunity based on the model of BI. It begins with an interpretation on the impacts of MOA framework on the BI model.

Existing intelligence and studies are quite superficial and serve commercial purpose – after all, most publications in the area based on consultants' work in business firms. For that reason, there is a considerable need for academic BI research in education industry. The main objective of the research is to increase the marketing opportunity by using BI and its evolution, state, and usage in higher education institute. As research object is rather broad by approached through three research sub-questions. Those questions were posed to be support the objective and develop the framework of the research.

The study will gain the experiences in the entire process of analyzing, a comprehensive marketing announces in order to maximize to market opportunity for a private university in Thailand.

The researcher starts by figuring out to what organizational level BI is contributing. At strategic level the balanced scorecard will be introduced and aligned with BI provisions. Market Intelligence (MkI) and Competitive Intelligence (CI) are likely to benefit from BI module. Finally, the research will also discuss the contribution of market opportunity analysis to the MkI, CI and BI strategic analysis techniques of chapter one. Obviously, not all intelligence need could be fully covered by BI, but my expectations were fulfilled.

### **1.3 Scope of Study**

Considering the discussion presented, the initial purpose of this study is investigate the marketing efforts of Thai private university in order to explore a new market opportunity that play a significant role in this competitive marketing environment. Further, and as the main purpose of this study, the author intended to combine all these identified elements together in an integrated framework and describe the process flow between them in order to come up with the proposed Business Intelligence model. This framework can be used for the following purposes:

To identify, collect, store, manage, and disseminate right knowledge about customer's (students, and student's parents etc.) behaviors, needs, preferences, values, desires, problems and complains in systematic way

To create a collaborative information-centric environment inside the institute which will lead them to engage in satisfying employees' needs (Right information to right person at the right time)

An interface between management team, teachers, and employees and their students as a tool of building effective communications with the aim of establishing, managing and retaining relationships with these students

This framework therefore brings two benefits for Thai private university

Firstly, it increases the awareness of all parts of the university which is directly or indirectly interacting with their local/international students about their needs, preferences, values and problems in a systematic way.

Secondly, it enhances their abilities to establish, manage and retain effective relationships with their local/international students by satisfying their needs, preferences and values as well as by solving their problems and complaints.

The author thus expect that utilizing such strategic intelligence MOA framework in marketing strategies of Thai university can contribute well in increasing the opportunities to some extent.

However, it is notable that having a business point of view to higher education does not imply underestimating the first and foremost academic task of these institutions which is providing high quality education for students. Rather, applying tools and techniques that are commonly employed in business to the realm of higher education can produce valuable insights for universities (Collis, 1999). Kotler and Fox (1995) have stated that “*American universities have learned much from business, including improved budgeting systems, endowment investing, financial management procedures and increased professionalization of human resource management functions which have made them borrow relevant business concepts and adapt them to their roles in attracting resources to their institutions*” (p. 5). That is why most educationalists nowadays have been learning to be more mindful of their operations in a businesslike manner.

#### **1.4 Research Questions**

Considering the critical situation explained in problem statement as well as what has been discussed in background regarding the role of the market-oriented strategy in exploring new marketing opportunities and the role of ICT in this regard, business intelligence (BI) has been selected as the main pivot of this study.

The main research question introduced and then the supporting sub research questions introduced, which have to answered, in order to provide an exact answer to the main research question.

Main research question:

“How could Business Intelligence support to discover new market opportunities that make the successful marketing management at private university in Thailand?”

Based on that, the thesis will answer the following sub questions:

What could be the impact of market intelligence to discover the new customers?

What could be the impacts of competitive intelligence to optimize the marketing strategic plan in private university in Thailand?

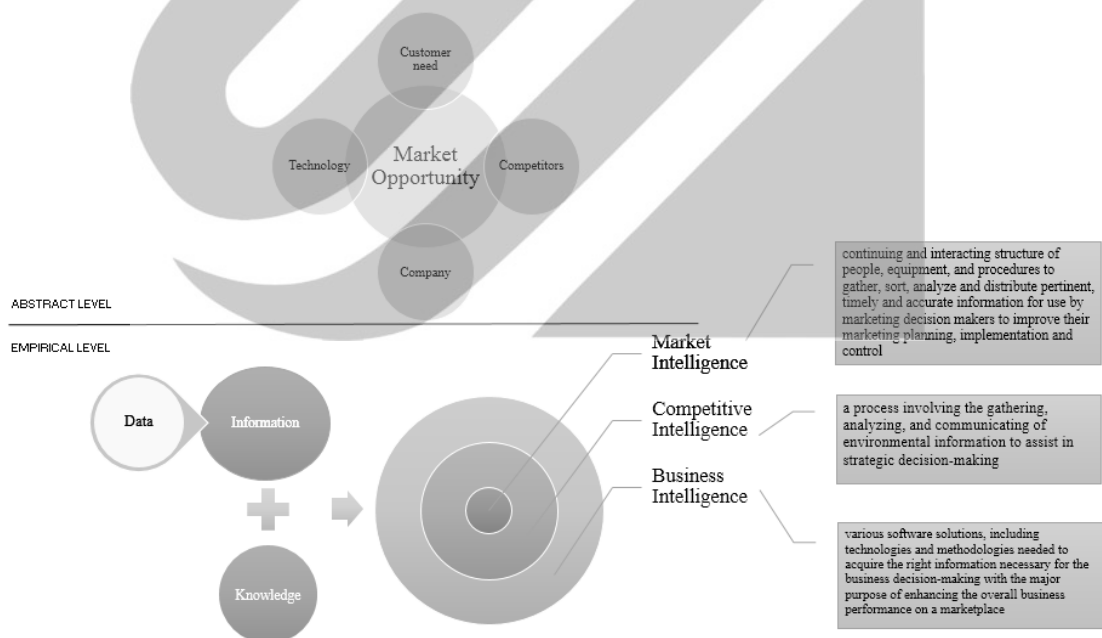
In order to optimize the market opportunity, how could Business Intelligence enhance the market by utilizing the Market Opportunity Analysis framework?

During the first phase, the answer of the research questions based on open-ended and semi-structured interview. Then last part categorize and analyze the main results then main question's answer will come up.

### 1.5 Theoretical Framework

The section describes the thesis theoretical framework, which is applicable to this research and make explicit what kind of knowledge the research uses to form a method for the combination of BI and optimize the new market opportunity.

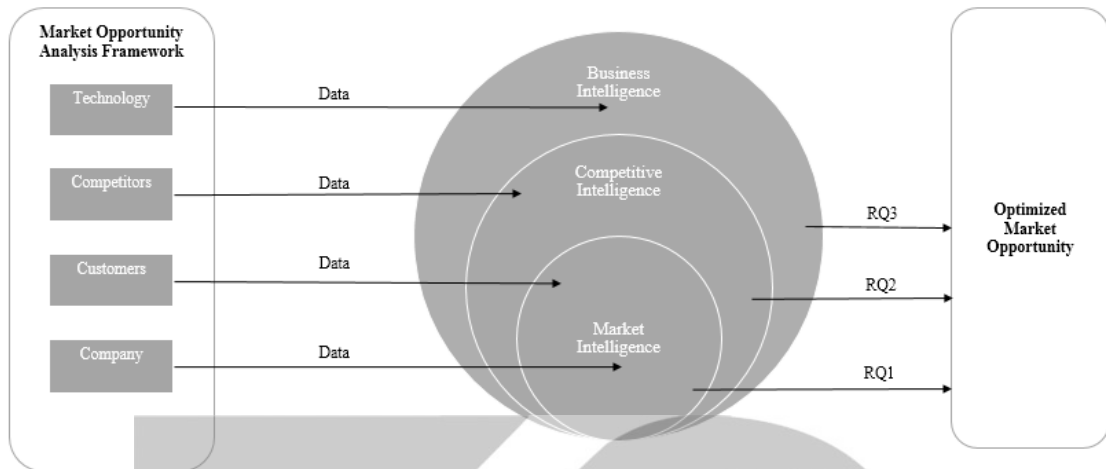
According to online sources, key elements of the market opportunity are customer needs, competitors, technology and company. It presents what the managers know about the size and growth trends of the market, what marketers face in terms of competition, who are the customers, what the customer wants/needs, and what management information and other ICT systems do marketers have. Those all questions are important to discover the new market opportunity.



**Figure 1.1** Theoretical Framework

**Source:** Aboueleish, 2012; Sjøilen, 2005

## 1.6 Conceptual Framework



**Figure 1.2** Conceptual framework

**Adopted from:** Aboueleish, 2012; Søylen, 2005

**RQ1:** What could be the impacts of market intelligence to discover the new customers in new geographical area?

Research question number one aims to explore the customers and company. Customer related objectives are that relate more closely to the students, staff, shareholders of our university. This includes satisfaction, retention and relationship. Company related objectives are management, quality management (QM), key performance indicator (KPI), financial entity, human resource entity, and service/product.

**RQ2:** What could be the impacts of the competitive intelligence to optimize marketing strategic plan in Private University in Thailand?

The second question aims to explore more environmental objectives. The competitors, technology, law, policy and company strategy.

**RQ3:** In order to optimize the market opportunity, how could Business Intelligence enhance the market by utilizing the Market Opportunity Analysis framework?

## CHAPTER 2

### LITERATURE REVIEWS

This chapter will present a literature review of the researchers whose research helpful for positioning the analysis and contributions of this thesis topic. First, literature review highlights the research focusing on the BI, identifies the objectives of BI. Second, describe the relationship between business intelligence and the market opportunity.

Marketing process is make decision based on supportive information data. Kotler and Keller (2012) makes clear that marketing management process has following five integrated processes: analyzing market opportunities, researching and selecting target markets, developing marketing strategies, planning marketing tactics, and implementing and controlling the marketing effort.

#### **2.1 Why Business Intelligence**

Information is growing at a very high rate. As information grows, the need for organizations to manage it and to make it process-able grows as well. While more and more information is growth, organizations are challenging with the analysis of this ever-growing information store, combined with the fact that business is becoming more competitive. The focus of this research lies within able to compete in this competitive market and to seek optimal market; an overall umbrella concept for the main topic within this research is BI.

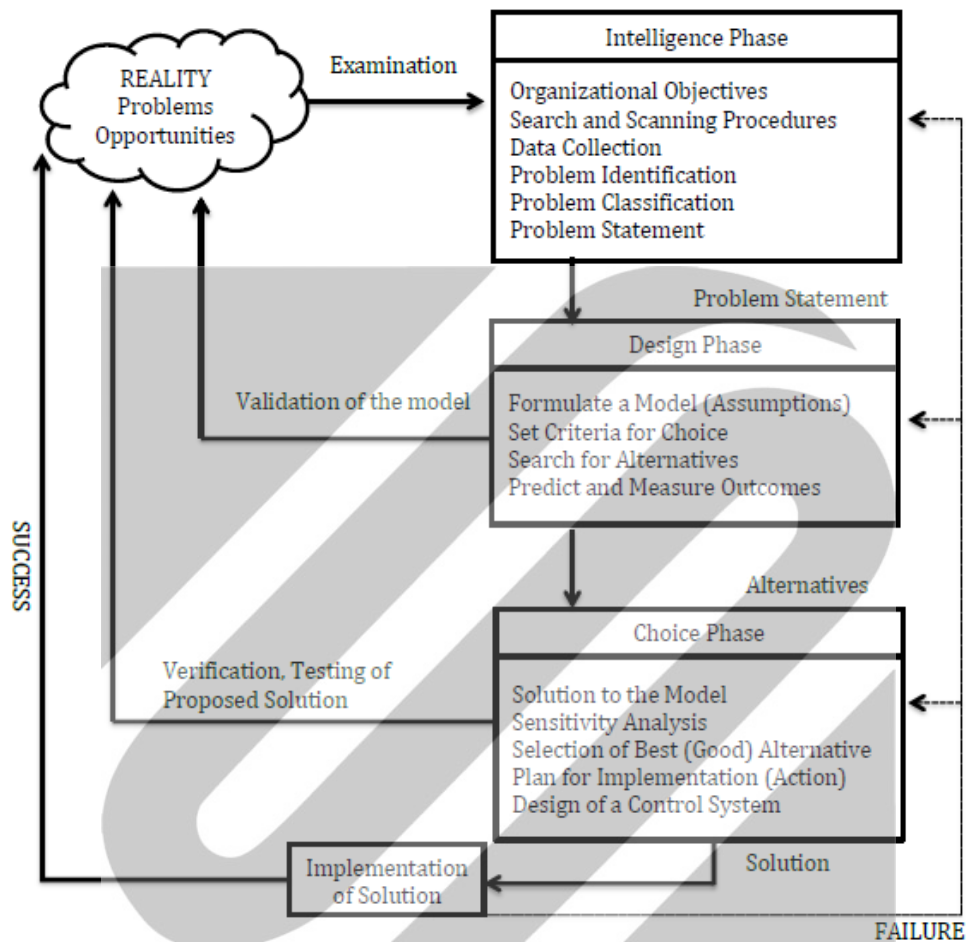
**The concept of decision-making process in marketing management.** The Twenty-first century challenged organizations to prosper financially and even survive in the face of the unforgiving economic environment as well as represent an untapped opportunity to grow the business in a new direction at minimal risk. Reference to Kotler and Keller (2012) reveal that challenges depends on marketing ability.

The internal resources are effectively and efficiently that deployed in response to current and anticipated customer needs determines the level of corporate success. This philosophy embedded in managers have to do gathering, analyzing, and reporting information of everyday activities that used to understand the customer's need (Popovič & Jaklič, 2010). Often those marketers use raw data and refine them to information

(Talvinen, 1995). The term data defined as “loose bits of communication sign, reduced to sentences, numbers, and codes: in writing, visual or verbal”. Sørensen (2005: 38) agrees with that information is gathering of data to sentences, which express ideas. In the general terms, the marketing manager focuses work effort in identifying new opportunities, which means their basic orientation is sales and profitability from both a short-term and long-term perspective. They look for new markets or products where they can serve customers in a profitable way. Another effort is assessing new approaches for achieving objectives – there is no commitment to only one approach. The marketing manager considers different ways to satisfy the customer. Creativity plays a key part in a marketing manager’s success. The last one, implementing programs – tends to be a coordinating type function with other functional groups in the company. The marketing manager has considerable responsibility but with limited direct control.

Turning to Kotler and Keller (2012) one finds that marketers have two advantages for the tasks, which are disciplined methods for collecting information and time spent understanding the customers and observing competitors and other outside groups. All of the exploring new market is gathering data, analyzing and decision-making process. Many research papers says it is important to know what steps the decision maker has to go through in order to make the final decision. In the next paragraph there is an explanation of the decision making process. In the literature, decision-making process has intelligence, design, choice and implementation phases (Turban, Sharda & Delen, 2011). The intelligence phase is where the decision maker examines the reality, in order to identify and define the problem. The decision maker searches for conditions that calls for a certain decision. The design phase concerns trying to find or develop and analyze possible courses of action for the rest of the decision making process. The design phase involves creativity, meaning that managers are searching for alternative solutions, and then analyzing these different solutions for the certain decision where the primary objective is classified, and to minimize costs. In the choice phase, the actual decision and the commitment to follow a certain course of action that is made. The decision maker compares the best solutions that are available, placed in order of importance, and then selects the best of these solutions for the decision. The most important thing is the alternative that is able to achieve all the

objectives is the tentative decision. In the final phase, the implementation phase, the marketers put the solution who has worked on in to action (Ida Aspaas & Magnus, 2012).



**Figure 2.1** Four steps of decision-making process

**Source:** Turban, Sharda & Delen, 2011: 19

After the implementation, continuous monitoring of the processes is crucial in all organizations, to be able to achieve the best results and to gain the advantage.

To extrapolate historical data into future is simple meaning of growth. Nowadays, internationalization has radically changed the competitive landscape (Gurmeet, Rafia & Raghuvar, 2008). Companies must anticipate trends, identify new opportunities, transform their strategy, and reorient resources to stay ahead of the competition.

As reported by English and Moate (2009), new market opportunities occur where there is the potential to sell existing products or services to new customer. Those new customers maybe in the new geographical areas or it may be possible to service them by new distribution channels or new merchandising methods, or reach them through opportunities.

In the same way Stefan (2006) defined, the “Opportunity” exists at a certain point in the process of discovery. For example, Shane (2003) have argued that at the point of “opportunity discovery” the discoverer becomes aware of a profitable opportunity. This implies that there needs to be a certain level of information present to justify speaking of an “opportunity discovery”. This perception of “opportunity” must be comprehensive enough to serve as a cognitive objective for the companies who perceives the opportunity (Alvarez & Barney, 2005).

## **2.2 Market Opportunity Analysis Framework and Business Intelligence Model**

MOA framework well suited in order to make a decision regarding discover new market opportunity. The role of the MOA is to help the process of better understanding of the most important market segment at business, how fast the opportunity is growing, what are the key sustainable differentiation and why are these important. In an article by Internet Research Group (2013), with the MOA strategic decision making starting with the choice of whether to enter a new market and, if so, what resources will be needed to gain market share. Defined by Internet Research Group, *“traditional research instruments like focus groups and polling cannot tell you very much about how fast markets are growing. That’s because the typical respondent to a poll or a participant in a focus group, while generally knowledgeable about the subject may not yet have been exposed to the latest technologies”*. Consequently, to learn how a new technology may potentially disrupt a market segment, it is necessary to build the fact base through interactions with individuals closer to the opportunities. Using MOA framework that revolves around four key elements:

Customer: Analysis of the customer environment uncovers unmet or underserved customer needs, segment interaction as well as the market they occupy.

Technology: Analysis of the technology environment reveals the readiness of the particular technology and adaption, impact of the new technologies as well as any

alternative technologies, on which the manager anticipates deploying the firm, is offering.

**Company:** Analysis of the company environment provides the current state of the company's resources and situations.

**Competitors:** Analysis of the competition environment reveal the structure of the industry and market, key competitors in the marketplace, and the firm's relative advantage to each of the key players.

The MOA framework applied these needs by reviewing market by assessing the external market potential demand, current players in the market, and customers' needs along with the internal capabilities of the company to determine the feasibility of pursuing expansion of operations into the optimized market.

The evaluation of market opportunity is a two-stage process entailing identification of new opportunities, such as creating new ways or means for satisfying buyer needs that are consistent with core competencies, and matching those opportunities with organizational capabilities.

**Customers.** "The customer is a king" is the great exhortation. In order to survive, competitive strategies had to be formulated which satisfied the needs of potential customers across all industries. Reported by Limehouse (1999), an ongoing relationship with a customer is most important thing in the business; attracting new customer is expensive and difficult (Limehouse, 1999: 101). Even though customer expectations have risen faster than ever. Indeed, it might have risen directly as result of improved customer care as king and generally attempts establish a customer satisfaction and then to target year-on-year improvement. Typically, the customer satisfaction is relate to loyalty intention such as "repurchase" or "recommend" and enhanced by the inclusion of price and value factors (Daniels, 2000). The benefit of loyalty customers could be direct advertisement tool in the market, which is a good word of mouth.

In higher education institute, become more market oriented to compete for potential customers (students, and their parents or stakeholders). Customers categorized by external customer who is not connect to that organization, another category is internal customer who is directly connect to that organization (such as stakeholders, employees or shareholders). Daniels (2000) identified the competitors' customers, to

arrive at comparative value assessments across the marketplace, which could be the external customers.

*It is possible to have highly satisfied customers but shrinking market share, perhaps the needs of the marketplace overall have not been identified (Daniels, 2000: 68).*

**Technology.** Scanning through the headlines of the Financial Times, The Economist and The Wall Street Journal suggests that our chances of surviving and thriving as a global community are dependent upon the growth of gross domestic product (GDP), improved business efficiencies and investment in new technologies.

In order to gain knowledge of and react to customers has to coincide with the development of technologies such as internet, member cards that allow companies to market much more directly and personally.

According to Limehouse (1999), effective utilization of technologies can help to make customer-focused decision. To illustrate, the growth of the retail loyalty card is not just a designed to offer customers discount. That is one way to ensure customers stay with the particular organization for subsequent transactions and in the long-term to enable the host organization to know more about customer, and buying habits. From here retailers gain experience and building and infrastructure for the future. All those information in use – backed up their data warehouse, and data mining software (such as BI) which could help organizations soon will understand what it is that unites customers' and differentiates customers'.

However, how many companies get an advantage from latter and how many of them take step of refining it into useful information?

The future is all about a customer service. However, it is about creating a virtuous circle in which providing customer service creates knowledge about customer behavior, which can be useful to refine and improve customer service (Limehouse, 1999).

Technology able to change the way companies work and have dramatic effectives on the quality of service companies provide. Eventually have to design the technology to meet these new needs rather than simply keep using it to do with better. If do not improve customer service, the competitors will take this opportunity.

**Company.** Strategic formulation is the development of long-range plans for the effective management of environmental opportunities and treats, in light of corporate strength and weakness (SWOT). It including the corporate mission, specifying achievable objectives, developing strategies and setting policy guidelines.

**Strategic formulation – the role of the mission statement.** At the corporate level, organizations need to consider their existence, how they intend to achieve their objectives over a specific period. At the business level, strategy involves consideration of the external environment, how the organization can achieve a competitive advantage (Conway, Mackay & Yorke, 1994: 29). Over the past years, it generally accepted by both academics and practitioners that a vital starting point for these strategic considerations is the formulation of a mission statement, a vision for the future.

In a series of cases, the purpose of the company's mission is that tells what the company is providing to society (Wheelen and Hunger, 2012). In terms of what the company offered (product/service) to society, the well-conceived mission statement defines fundamental, unique purpose that sets a company apart from other companies of its type and identifies the scope of the company's operations.

A mission statement also could include the company's values and philosophy about how it does business, treats its employees and what it wants become management's strategy vision of the company's future.

Mission describes what the organization now; vision describes what the organization would like to become (Wheelen & Hunger, 2012: 65). The mission statement could be defined narrow or broadly. According to Sidhu, Nijssen and Commandeur (2000), the narrow mission statement may be best in a turbulent industry. The reason why it keeps the firm focused on what it does best, whereas, a broad mission statement best in a stable environment that lacks growth opportunities.

**Strategic formulation – objectives.** Objectives are the end-results of the planned activity and Wheelen and Hunger (2012) defined the objective should be action oriented and sentence begin with the word to.

**Strategic formulation – strategies.** A strategy of a corporation forms a comprehensive master plan that states how the corporation will achieve its mission and objectives. It maximizes competitive advantage and minimize competitive

disadvantage. As stated by Wheelen and Hunger (2012) companies consider three types of strategy:

Corporate strategy describes a company's toward growth and the management of its various business and product lines.

Business strategy occurs at the business unit or product level and may fit within the competitive and cooperative strategy categories.

Functional approaches taken by functional area to achieve corporate and business unit objectives and strategies by maximizing resource productivity.

***Strategic formulation – policies.*** A policy is abroad guideline for decision-making that links the formulation of a strategy with its implementation. Companies use polices to make sure that employees throughout the firm make decisions and take actions that support the corporation's mission, objectives. In addition, strategies.

***Competitors.*** A company needs to gather information about each competitor's real and perceived strengths and weakness (Kotler & Keller, 2012, p. 301). Once a company has identified its main competitors and their strategies, it must ask: What is each competitor seeking in the marketplace? What drives each competitor's behavior?

In the competitive environment, external parties could be very difficult or even impossible when no appropriate data is available. When no direct relation exist between external parties and a company external data is indispensable to carry out complex analyses. When external parties directly affect a company's business processes, retrieving data directly facilitated. Also publicly traded companies forced to publish lots of inside information, especially financial information, to the outside world. As matter of fact, the more data is available the more complex analyses, for example based upon neural networks, deliver exact results. Less data refer automatically to more general, intermediate analyses that could be associated with general overviews over long period, or with models consisted of more estimated variables, which could result in less accurate results.

Identifying new and emerging competitors is also a situation of the same type as identifying new and emerging technologies, which was discussed above in both strategic decisions and issues and early-warning topics. Notice that market shares and other ratios can easily be calculated and tracked over time. A significant drop in market share ratio could be detected and explained. Was this drop due to existing or new

customers, distribution channels, or recently entered competition? Once causal variables have known, management could easily steer certain activities. As you can see data mining techniques such as neural networks or regression techniques could solve several problems in a time by identifying correlations and causal factors of particular happenings. Results can obviously integrated into reports for tactical or even strategic management, depending on their importance.

Nevertheless, providing intelligence concerning key players in the marketplace is technically sometimes similar to techniques providing the previous types of intelligence needs. Porter (1980) defined the competitive advantage exists when either an organization's product or service offers the same benefits to consumers at a lower cost or exceeds those benefits.

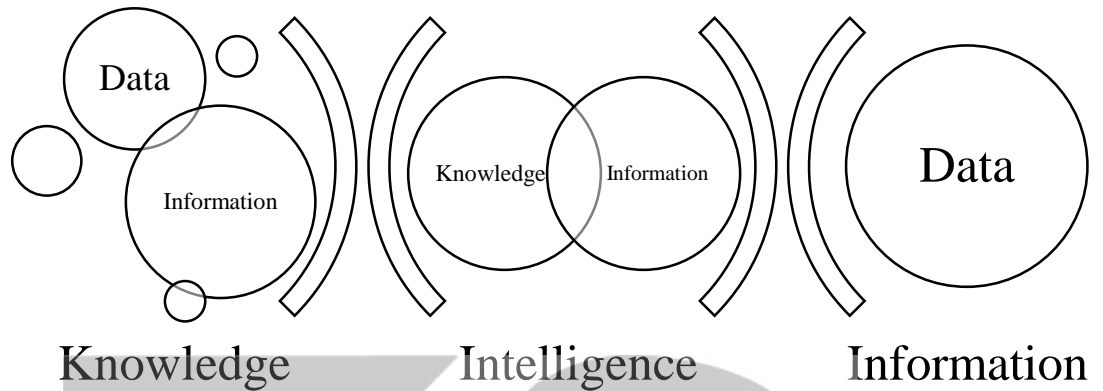
### **2.3 Formulating the Intelligence**

In the competitive world of business, survival of a company depends on how fast they are able to recognize changing business dynamics and challenges, and respond correctly and quickly into the market. The organizations reacting to these market needs by driving toward pervasive intelligence with the ability to capture interpret and act immediately on data to make faster decisions.

Taylor (1982), the informing knowledge, defines intelligence; it is information that has been filtered, and analyzed. Another definition of intelligence is actionable information (Søilen, 2005). One of the main problems in the intelligence organization are that there is too much information and but too little intelligence, or too much nice-to-know and from those information too little need-to-know. A major task for intelligence organization is to make sure that users can effectively make decision with available information. Information is a product of organized data through a process of sorting and filtering for an analysis. The end-product, or what users want to end up with, called intelligence (Søilen, 2005: 38).

Intelligence itself can generate new knowledge (Bouthillier & Shearer, 2003). Intelligence could help to discover new opportunities depending upon the situation that people applied (human, animal, technology or business etc.)

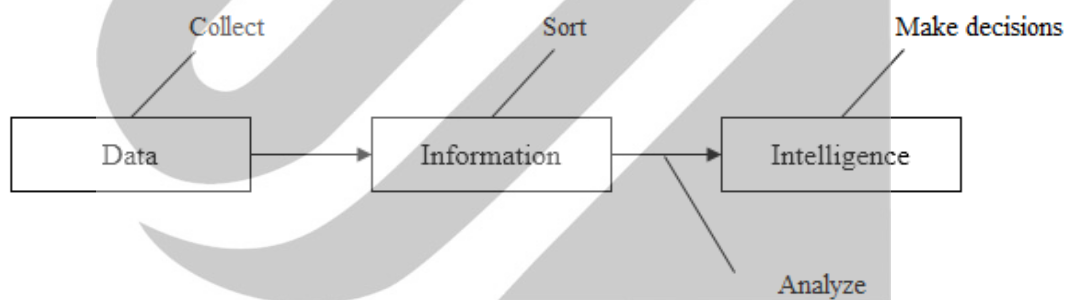
The relationship between knowledge and intelligence as well as information and intelligence shown in Figure 2.2 (Søilen, 2005).



**Figure 2.2** Correlation between basic concepts

**Source:** Adopted from: Søylen, 2005

Data, information and intelligence called intelligence products. Each of these intelligence products accompanied with a number of actions. These are collection, sorting, analysis and decision-making. The relationship between them illustrated as in Figure 2.3 (Søylen, 2005).



**Figure 2.3** Fish bone diagram of data-information-intelligence with corresponding activities

**Source:** Søylen, 2005: 39

Søylen (2005: 39) suggested that intelligence can be made available as the basis for decision-making. If the intelligence is good, the organization will be able to make improved decisions, given that a team of qualified leaders or managers leads them. Ideally, a manager's job is to make improved decisions instead of spend their time

searching for information. The problem is that this assumes that the managers trust the information what they receives enough to spend time finding it themself.

## **2.4 Market Intelligence**

As indicated by the online conversation with Mr. Marc Jellinek (BI and DW professional consultant, Co-Chair, New York City, USA) on first of September 2013 (see Appendix D); Market intelligence (MkI) would tell managers about the competitive environment of the business.

MkI is a set of procedures and sources used by managers to obtain their everyday information about pertinent developments in the marketing environment (Kotler & Armstrong, 1997; Mochtar & Arditi, 2001). MkI is totality as interacting structure of people, equipment, and procedures to gather, sort, and analyze the information for use by marketing decision makers to improve their marketing planning, implementation and control. The MkI serves four primary purposes (Tan & Ahmed, 1999). These are:

Competitors' assessment and tracking.

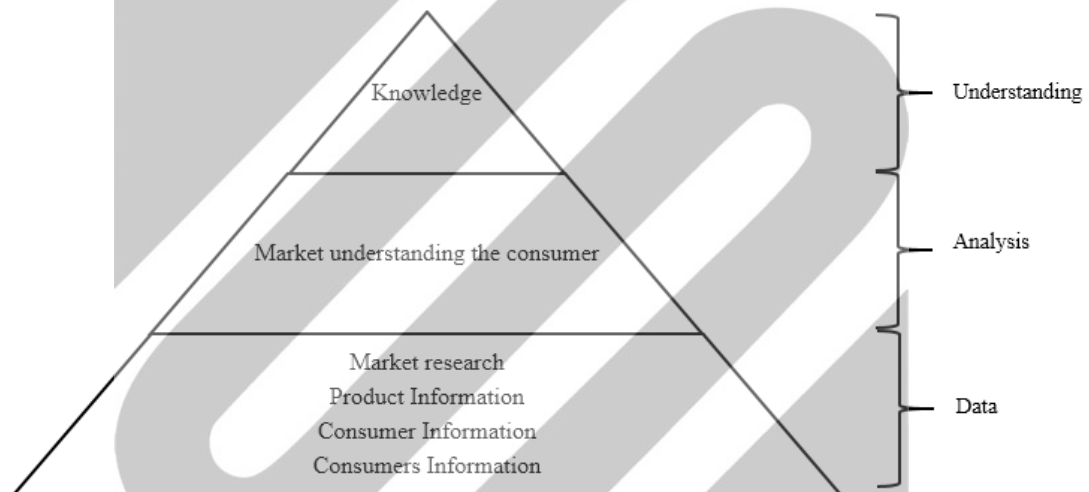
- Early warnings of opportunities and threats.
- Support for strategic planning and implementation.
- Support of strategic decision-making.

Particularly, Kara, Spillan, and DeShields (cited in Venter & Tustin, 2009) found a positive correlation between market orientation and the performance of small service business in the USA, while Aldas-Manzano, Küster and Vila (2005) found a positive relationship between market orientation and certain aspects of innovation in Spanish firms. A meta-analysis conducted by Shoham, Rose, and Kropp (cited in Venter & Tustin, 2009) concludes that market orientation positively affects organizational performance and behavior.

In the future, most effective marketing strategy will focus on measure the demands of unsatisfied consumer, following customer's behavior, measuring consumer response to changes in marketing activities and analysis of "customer feedback". This information used to identify trends in consumer needs, identify and eliminate points of friction between the organization and customers. That needs to support by MkI is the process of the data collection and transformation into information, allowing marketers to understand the environment, customers and prospects (Teresa et al. 2012).

Teresa et al. (2012) represented a pyramid. At the base of the pyramid (see Figure 2.4), the environment inside and outside the organization. In the middle of the pyramid, the information comes from analysis of database. At the top of the pyramid is knowledge, or product of the entire structure MkI.

Considering the pyramid MkI information flow, the some connections between the three levels, representing three other levels of operational tasks. At the bottom of the structure for the knowledge base of marketing, in different forms and media (market research or product and customer information); In the middle level of information, we have common knowledge and understanding of the consumer market (customers and prospects).



**Figure 2.4** Market Intelligence information flow

**Source:** Teresa et al. 2012

On top of the pyramid is the information that supports the marketing manager or marketer, the marketing decision-making. This level is the result of the MkI, which may be understood as the ability to act on the market (for example, to develop a new product) or with customers (for example, proposing new services), with knowledge of the benefit.

## 2.5 Competitive Intelligence

The opportunity itself how to compete with the competitors in the market. At the core-value is the attraction, satisfaction and retention of customers.

As financing has become global and thereby more available as product life cycles are becoming ever shorter and the number of competitors increase as new

countries enter the global market the only real competitive advantage lies in the information possessed by the individual company.

To present by Lackman, Saban and Lanasa (2000) Competitive intelligence (CI) will be define the business performance, interacting with customer and observing competitors and other outside groups. With this in mind companies optimize the opportunities; managers must first assess their strategic position.

In the literature, CI has multiple definitions. In different cultures, the conceptual understanding of CI is different. In particular, Sweden and Denmark the companies and government institutions are together gathering information about foreign competitors for goods of the national economy (Bouthillier, 2003). According to Dishman and Calof (2008) CI is a process involving the gathering, analyzing, and communicating of environmental information to assist in strategic decision-making, such as the fundamental basis of the strategic decision-making process. Consequently, the online conversation between Mr. John Maynen (Senior business architect at STA Group, Chicago, USA) (see Appendix D) and researcher on fifth of September 2013 there is another approach using competitive intelligence, which is that if marketing managers know the competitors' customer behavior. It would be likely to adjust their current strategy to fulfill the needs of competitors' customers.

Another literature says scanning for CI is a major channel for organizations to obtain needed information for MI generation and market adaptation (Patton & McKenna 2005). Arguably, organizational competitive advantage rests on the ability of organizations to scan proactively for competitive intelligence and make effective responses (Brownlie 1994).

In order to understand how to position the organization in such a way that this alignment is as optimal as possible. The process to get to this understanding has called a CI. As Hambrick (1981: 299) suggested, CI is "the managerial activity of learning about events and trends in the market". As indicated by Qiu (2007) the research "what implications scanning for competitive intelligence may have for managerial interpretation of organizational competitive advantage?" Given these facts, "scanning for CI requires managers to collect information from meaningful sectors of the market, monitor emerging trends, and evaluate the impact of situational changes on strategic decisions". In addition, results suggest that managers with a high level of

entrepreneurial attitude orientation engage in more proactive scanning for CI than those managers who demonstrate a low level of business motivation.

## **2.6 Business intelligence**

*“...The process of turning data into information, and then turning it into knowledge” (Golfarelli, Rizzi & Cella, 2004: 1).*

In the 1990s, much investment in ICT focused on enterprise applications such as Enterprise Resource Planning (EPR), Customer Relation Management (CRM), and Supply Chain Management (SCM) and on connectivity between trading partners via the Internet and more traditional means such as EDI. The business benefits of these investments included transactional efficiency, internal process integration, back-office process automation, transactional status visibility, and reduced information sharing costs. Reported by Moss, and Atre (2003) BI is mostly driven by business opportunity rather than business need.

In literatures, BI has multiple definitions. Wang and Wang (2008) defined “BI refers to various software solutions, including technologies and methodologies needed to acquire the right information necessary for the business decision-making with the major purpose of enhancing the overall business performance on a marketplace”.

While more and more data is stored, organizations challenged with the analysis of this growing information store, combined with the fact that organizations are becoming more knowledge centric. This leads to the access of a large number of employees to available knowledge within an organization, and amounts to challenges of acting on information available within the firm (Cody et al. 2002).

In order to improve business decision, BI using fact-based support (Negash & Grey, 2008). Sabherwal and Becerra-Fernandez (2010) explained that BI as the leveraging of a variety of sources of data, as well as structured and unstructured information to provide decision makers with valuable information and knowledge. This concept supported by Turban (2011), BI seen as the solution that will help organizations leverage their information in order to make intelligent decision. Negash and Grey (2008) outlined BI is a data driven decision support system that combines data gathering, data storage and knowledge management with analysis to provide input to the decision process.

It would seem that there is no commonly accepted term for referring to internal and external intelligence required for business decision-making. However, most of them accepted for the BI provides knowledge and information to make better decisions.

MKI (or MI), CI, BI and other terms all used at various times to describe more or less the same concept. Hannula and Pirttimäki (2003) explained BI broadly as “*organized and systematic processes which are used to acquire, analyze and disseminate information significant to their business activities*”. This explanation is similar to definitions commonly used for CI with a focus on the intelligence processes. Herschel and Jones (2005) had a stronger focus on the “*set of technologies that gather and analyze data to improve decision-making*”. Several characteristics of BI, in the context of this article, emerge from these definitions:

BI refers to both internal and external information. It relates to a process of adding value to information: gathering, analysis and dissemination are all value-adding activities in the information cycle.

The technologies used in the process of gathering, analyzing and disseminating information are an integral part of the underlying processes.

The goal of BI is to support management decision-making.

Similarly, the intelligence is gathering data, as well as analyzing information about internal and external environment (the online interview with the BI experts). Which will supported by “*process of gathering and analyzing internal and external business information*” (Okkonen et al. 2002). Collins (cited in Okkonen et al. 2002) defined “*BI is the process which supports business decision-making*”. Required information gathered about competitors, customers and markets. This raw data converted into accurate and focused analyses. As before mentioned that MOA elements contain those three raw data. Collins (cited in Okkonen et al. 2002) identified following objectives of BI:

Firstly, by using BI, a company can avoid surprises and identify opportunities and threats.

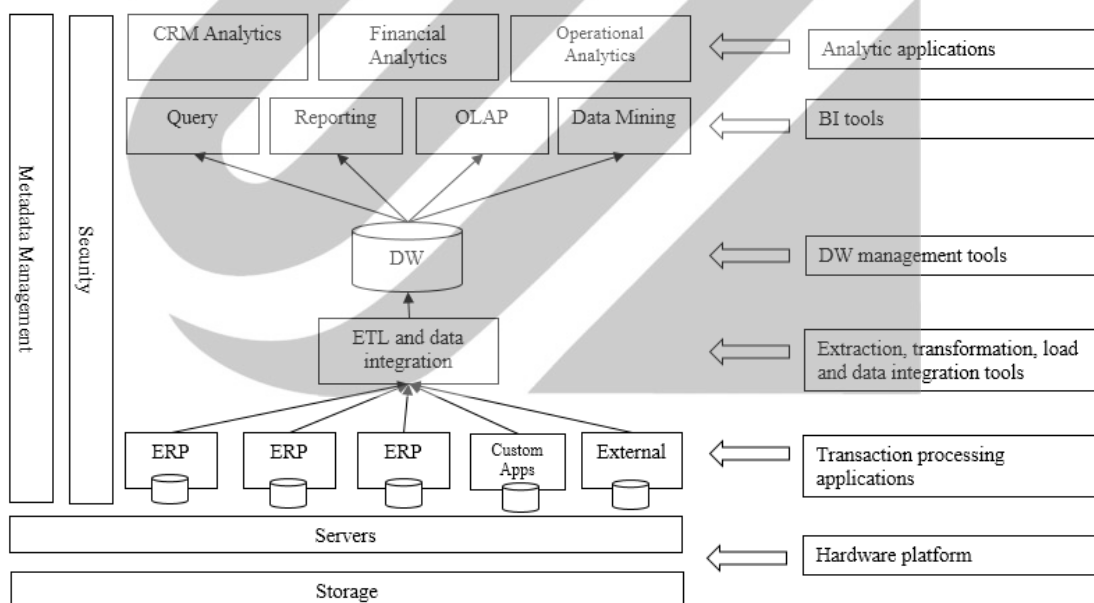
Secondly, BI establishes a baseline for performance evaluation.

Thirdly, BI provides increased reaction time. Added to this, operational and tactical decisions, business planning and strategy formulation are improved by a more extensive knowledge of the company and the external environment.

Intelligence Systems support to make decision at right time and right place. Actually BI is an umbrella concept used to encompass the processes, methods, measurements and systems businesses use to more easily view, analyze and understand information relevant to the history, current performance or future projections for a business (McCabe, 2010).

As depicted by Figure 2.5 (Ranjan, 2008) below BI integrates many of the business processes into a variety of applications that serve the primary source of data, which extracted and with the help of BI tools.

The analytical models include statistical and data mining techniques to analyze large volume of data for querying, reporting, visualizing, and advanced analytical techniques for clustering, classification, segmentation, and prediction. The analysis results provide business insight, and help make better business decisions (Bhushan & Joseph, 2012). This literature supported that BI is not a technology someone implements and then put in maintenance mode, it is an approach and set of technologies that are continuously evolving and adapting as the business climate changes, users discover new opportunities to leverage information, and the industry innovates.



**Figure 2.5** Business Intelligence Environment

**Source:** Ranjan, 2008

BI supports to identify the causes and reasons of certain occurrences helping the business to make calculations and analyses. So that needed knowledge successfully

extracted from the hidden data and that can help to make proper management decisions. According to Ranjan (2008: 18), BI is the conscious, methodical transformation of data from any and all data sources into new forms to provide information that is business-driven and results-oriented. It will often encompass a mixture of tools, databases, and vendors in order to deliver an infrastructure that not only will deliver the initial solution, but also will incorporate the ability to change with the business and current marketplace.

Managers need to understand that the purpose of BI is not to achieve result quickly, but to make sure it is creating value for the companies (Hackathorn, 2004). The BI provides companies with a holistic overview of their business, and monitors the financial health of the organization (Vortex-Technologies, 2004). Apparently, most of the definitions agree BI should support defining the fundamental direction of a company by analyzing and reporting data.

According to Venter and Tustin (2009) why BI is important to organizations becomes clear when the marketing concept commonly accepted that customers' satisfy examined. Shoham et al. (2005) described market orientation as the organization's ability to anticipate, react to and capitalize on environmental changes, leading to superior performance. Therefore, BI plays a critical role in providing actionable intelligence to enhance market orientation.

BI leverage powerful technologies, such as data warehousing and business data analytics for information-driven answers to their operational, tactical, and strategic questions.

**Table 2.1** The three types of BI processing

	Strategic BI	Tactical BI	Operational-Right (Real) Time BI
Business focus	Achieve long-term business goal	Manage tactical initiatives to achieve strategic goals	Manage and optimize daily business operations

**Source:** White, 2006: 1

**Table 2.1 The three types of BI processing (Cont.)**

	Strategic BI	Tactical BI	Operational-Right (Real) Time BI
Primary users	Executive and business analysts	Senior managers, business analysts, and line-of- business (LOB) managers	LOB managers, LOB users, and operational systems
Time frame	Months – Year	Days – Weeks Weeks – Months	Intra – day
Data	Historical data (KPIs)	Historical data	Right time metrics (Current data)

**Source:** White, 2006: 1

Strategic BI used for managing long-term business plans and goals. Executives and senior managers use the high-level business performance metrics (sometimes called KPIs) produced by strategic BI to track how well the business is doing against long-term business goals such as growing market share, reducing costs, and increasing revenues. As business initiatives are launched (marketing campaigns, new products, for example) to help align actual business performance with planned performance, tactical BI analytics are employed by senior managers, business analysts, and line-of-business (LOB) managers to measure and optimize the performance of those initiatives. This tactical BI analyzes business operations over a period of days, weeks, or months (White, 2006).

Summarized this chapter, BI is all about providing people with the information they need to do their jobs more effectively that needs to provide to meet a wide range of requirements. Scope of BI Strategy should be determine by the business drivers and business goals. That should always account for the changing business requirements to keep the BI strategy aligned with business.

*“The future of BI is bright. BI is changing how companies are managed, decisions are made, and people perform their jobs.” (Watson & Wixom 2007: 99)*

## **2.7 Challenges with business intelligence in higher education institute.**

BI provides a large variety of services, which are applicable in some of the above issues, from top-level management to line management. Table 2.1 illustrates three main corporate levels to divide corporate responsibilities of top managers, middle managers and line managers. This is useful to apply the different BI services to strategic, tactical and operational level. For each level, information requirements are different in terms of usage frequency, time horizon, accuracy, and the like.

As with any other system implementation, there are specific challenges related to an implementation of BI. As pointed out by Atre (2003), companies fail to implement BI during the project because they look at it as just another ICT project. As before mentioned on Section 2.1.5, BI is not just system or product that is being implemented, which is supported by Atre (2003) “*constantly evolving strategy, methodology, vision and architecture that continuously seeks to align an organization’s operation and direction with its strategy business goals*”. Although BI implementation is more than an ICT project, it still has some of the same characteristics as other ICT project, which brings high risk and has potentially high costs.

The first concept of the higher education defined as a set of institutions. McNair (1994) identified the higher education is schooling, or traditional “training”, and higher education is where knowledge is made, as well as passed on. The managing relationships with students/stakeholders can be challenging for education institute since they are involving in different operations and their customers’ needs and wishes can significantly vary. Therefore, the customer analysis is important thing. Kodama (2000) identified an adult education that the popularization of higher education is advancing in step with the internationalization of society and of the economy. Usually, adults prefer to be self-directed learners. The realization of adults’ objectives of acquiring new and advanced knowledge and skills will depend on an increase in the number of opportunities to learn at universities and graduate schools (Kodama, 2000). Since adults have own goals and real life experiences, they want to explore activities and discover new ways for accomplish the tasks that relate to them.

Olorunniwo and Hsu (2006) identified the any service business classified four quadrants, which are service factory, service shop, mass service, and professional service and education is mass service. That mass service has following dimensions:

Tangibility (includes the physical facilities, equipment, and appearance of personnel)

Responsiveness (the willingness or readiness of employees or professionals to provide service targeted to customers' specific needs)

Knowledge (the knowledge competence of service providers, possession of necessary skills etc.)

Accessibility (the service providers ability – through its location, operating hours, employees and operational systems – to design and deliver the service capable of adjusting to the demands and wishes of the customers in a flexible way)

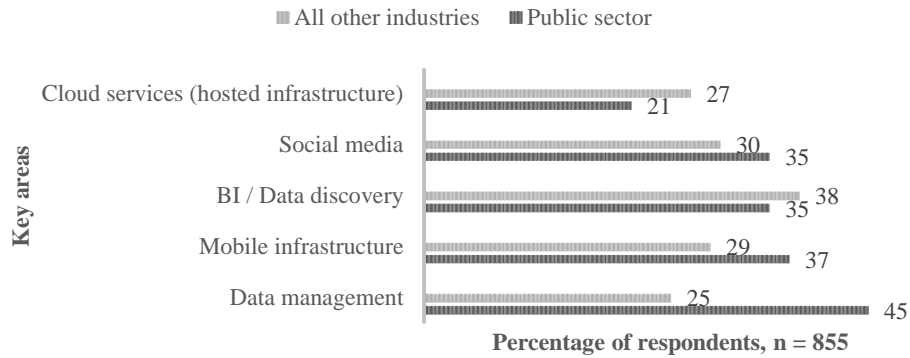
Reliability (the degree to which customers can rely on the service provider to keep promises and perform with the best interests of the customers).

Using BI in higher education institute is behind the curve compared with other segments of the information technology, leaving it ripe for innovation that could improve the those mass dimensions. In education institute, the benefit of using BI managers/marketers and services providers will learn how BI is making inroads in the education market. They will also gain insight into opportunities and challenges of building solutions around BI; understand the market's size, structure, and performance; and develop a vision of it is potential and where BI might lead next.

According to Rodrigues (2002) the information that an enterprise possesses is mainly 90% unstructured and 10% structured and BI aims to solve that problems. BI allows organizations to get a more accurate and detailed picture of what is going on in terms of business and customers. It can do this in different ways through accurate view of costs, liabilities, risks, customer buying patterns, supplier cost-effectiveness, etc.

In 2011 years, Aberdeen Group has done survey in public sector companies (Lock, 2012), which is demonstrated that 58% of public sector organization viewed cost reduction as their top business goal for 2011, and 2012 it has been grown to 60% of comparable public sector sample report that same top business goal in 2012. In order to identify these opportunities for efficiency, many of these public sector organizations are turning to BI technologies and analytical activity. According to that, report aim for these organizations is to foster and analytical mindset in their workforce and arm their most crucial decision makers with the ability to ask questions of their data and generate timely and meaningful insight.

## KEY AREAS FOR 2012 TECHNOLOGY INVESTMENT



**Figure 2.6** Key areas for 2012 technology investment

**Source:** Lock, 2012

The Figure 2.6 shows that data management and BI technologies are still among the top investment priorities across multiple industries including the public. With an effective strategy in place for business analytics, companies better positioned to capture more of their growing volumes of data, ask the right question of the data, and deliver business insight to their managers in a more intuitive way.

The education of recent have developed into more complex kind of learning, which requires the knowledge of other subjects. It is more complex with increase in technology and computerized society; a professional must equip himself with all forms of skill to be able to fit in our competitive business. Nowadays, education prepares students to function intelligently as consumers and citizens in a business economy.

How does education institute use the abundance of data available to them in order to achieve institutional objectives and organizational mission? It is vital for universities to identifying that which students will ultimately succeed, which applicants are inappropriate for admission. With an ever-increasing number of applicants, institutions must sift through large amounts of disparate applications that are obviously in neither the “accept” nor “reject” categories. By analyzing existing applicant data, it is possible to develop models that will be able to predict the success potentials of these potential students.

Saint Joseph’s University, United States (2013) reported that over the last forty years, enrollment management has been developed to meet the changing needs of the

higher education industry. An essential function of enrollment management is to ensure that tuition goals have been met (by enrolling a sufficient number of qualified students and retaining those students). BI is an integral tool used in analyzing the data needed to create the appropriate marketing, recruitment, and admissions strategies to meet those goals.

BI is widely used by large corporations around the world. However, Florida State University, United States (Bates, 2010) (initially for HR and Finance), Tarleton State University, United States (Powers, 2011) etc. universities have turned to BI as means of seek international stakeholders, student exchange, proper decision make in management team. Erik Bowe (Executive director and chief data officer at Kennesaw State University) says BI tools in higher education have made significant improvement in the last three to four years around ease of use for the end user (cited in Powers, 2011). Many important determinants of success with BI systems, the most critical is a solid understanding of the communication and collaboration at the process level first, followed by a continual maturing in the use of data analytics reporting tools that span across multiple databases is critical. Erik Bowe mentioned that BI tools were very ICT centric but nowadays extremely user friendly and make it easy for the end user to generate reports without ICT expertise. Kennesaw State has more than five hundred people on campus using the SAS Enterprise Intelligence Suite for Education in a variety of ways. The university has seen thirty percent to forty percent drop in centralized reporting since the SAS solution allows self-service access to data. In addition, Bowe mentioned that previously, faculty, administrators, and staff waited one to two weeks for their custom reports.

As Lockwood and Davies (1985) has put it, “*universities as organizations face many problems common to most modern organizations*”, including, for instance, the problems of coordinating resources, controlling costs, of stimulating and facilitating enterprise among staff, and so on. Thus, it might be argued, that universities have problems common to a wide range of organizations, then the standard tools of contemporary organizational analysis and institutional management – including computer systems used by large corporations around the world, such as ERP, and data mining systems – can be similar applied in universities (Pollock & Cornford, 2004).

Wishon and Rome (2012) who are CIO/BI strategies in Arizona State University (ASU), is a pioneer of Data Warehousing in High Education sector, building ASU's first data warehouse around 1992. Since then he has coached Higher Education institutions on how to build data warehouses, best practices and the strategic importance of BI.

## **2.8 Private universities in Thailand.**

The private sector, which has replaced the public sector as the major employers of university graduates since the 1980s. By Thai Law, the private university consists by University, Institute and College (Thai Law Section 9) (Thailand Law Forum, 2013). In section 8, a Private University shall be an institution for study and research, having its objectives in promoting academic and advanced professional studies that include teaching and conducting research, providing education to society and sustaining arts and national culture.

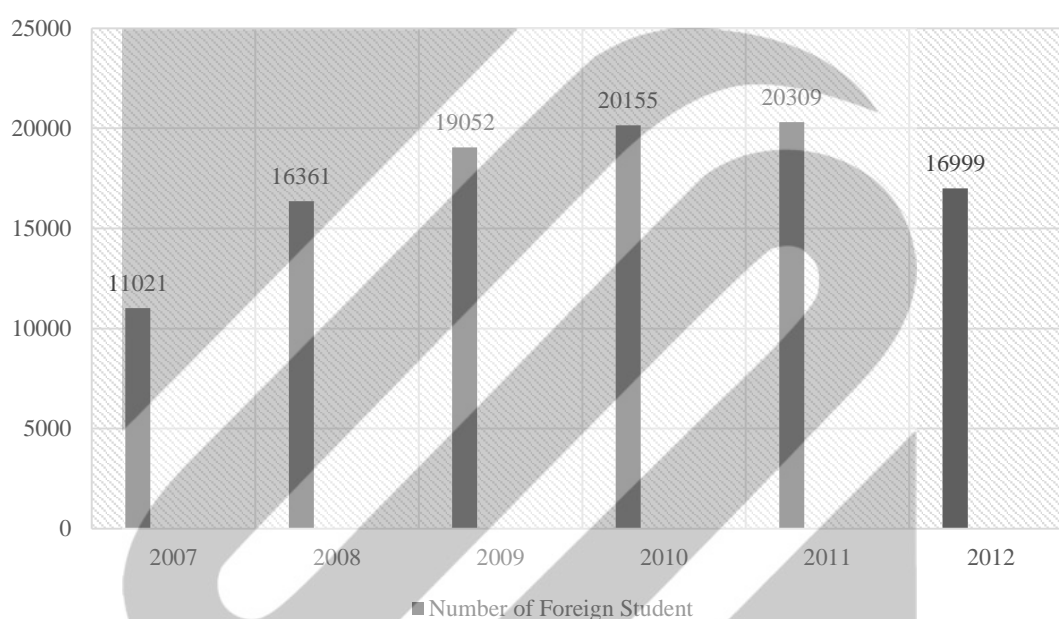
20th century witnessed the growth of education's share in the national budget, the opening of new private and public colleges, as well as a significant rise in the numbers of Thais getting educated in the United States. The 1999 Education reform act aimed to rationalize. In 1998, the emphasis on rote learning did not help students assume positions in the workplace, which stresses problem-solving and other analytical skills (Higher-value, 1998: 2).

In 2002 years, Thai basic education's duration of the year expanded to 12 years (Sawat, 2003). This increase in basic education led to a need to expand the supply of higher education. The figures are 0.7 million in 2000 to 1.8 million in 2016, an increase of 150 % in 15 years time.

The higher education has considered very important and strategic for developing the human resources. The right to higher education imposes an obligation upon country to ensure that all children and citizens have opportunities to meet their basic learning needs. With the advance in communication technology and increasing longevity, the new generation of Thai students who look for higher education will vary in age, needs and places of study. A year from now, in 2015 Thailand will integrate with ASEAN, as a though result of ASEAN in contrast to uncertain economic prospects for European and any other countries to Thailand. The aim of the establishment of ASEAN is to bring about cooperation in the economic, technical, educational etc. other

fields, coupled with the promotion of regional peace and stability through respect for justice and the rule of law, and adherence to the principles of the United Nations Charter. Another hand the objective is to increase ASEAN's competitiveness through trade and investment liberalization, and closer economic cooperation.

Last five years from 2010, international students contrasting to more over coming to study in Thailand. For the year 2011, there were 20,309 foreign students in 103 Thai higher education institutions (see Figure 2.7). The number of foreign students increased by 0.74% from the year 2010.



**Figure 2.7** Number of Foreign Students

**Source:** Thai Higher Education Commission, 2012

To meet these Thai and International needs, the higher education institution must be flexible in their management of resource and curriculum.

Ten years ago 2004, Commission on Higher Education (CHE) has taken the initiatives to formulate Thailand's First Long-range Plan for Higher Education Development (1990-2004) with more proactive and dynamic approach in responding to changing environments. The Long-range Plan emphasizes five major dimensions of higher education development namely:

- Access and equity
- Efficiency and accountability
- Quality and excellence

- Internationalization and regionalization
- Privatization and corporatization

The internationalization and regionalization projects have launched to meet the expected demand. The underlying strategies are to promote international education programs and encourage staff and student exchange programs with foreign institutions. Higher Education Institutions in Thailand who wish to offer International Programs should ensure that their programs possess the following characteristics to reflect the true aspect of international education:

- Quality and Efficiency of Program's Administration.
- International Standard of Curriculum Structure.
- Qualifications and diversities of faculty members.
- International and cultural diversities of student bodies.
- International academic learning environment
- International standard facilities and services.
- At present seventy-one private higher education institutions (Office of the Higher Education Commission, 2012).

## 2.9 Summary

*"Everyone and their uncle is calling their solution Business Intelligence." -  
Nicole Engelbert, Datamonitor*

Finally defined Market intelligence, Competitive Intelligence, and Business Intelligence. More specific, this section has an overview of the intelligence needs in order to take strategic decisions with the purpose to improve competitive advantage. Decision makers, top managers and analysts often use strategic models either to apply or to produce these intelligences.

Reporting tools focus rather on the distribution and visualization of generalized data or information. Nowadays report creation and distribution means are tending to be more user-friendly. With a few mouse clicks, users can easily design their customized reports.

Data mining tools really are data miners as they are able to discover (hidden) patterns and relationships in data. In the next chapter will align this chapter with the first one in order to measure the level of contribution of BI tools to strategic management.

The main goal of this chapter is to define the information needs at the strategic level of a company. Firstly, an overview of some theoretical concepts of strategy and strategic management is given. Taking decisions at strategic level in order to obtain competitive advantage requires the right definition of intelligence needs. This process can be supported by the competitive intelligence cycle.



## **CHAPTER 3**

### **METHODOLOGY**

This chapter presents the methodology of the study including research method, population of the research, sampling size, the questionnaire and its' design, data collection, and data analysis.

#### **3.1 Research Design**

This research aims to examine the new market opportunity in higher education institute within BI. This study has taken starting point in relevant literature on MOA, and BI.

The research will first describe the area of research to try to create an understanding of the area and which is the basis of the exploratory research (Yin, 2003).

According to Yin (2003), the purpose of an academic study can be exploratory, descriptive or explanatory. Exploratory studies are practical if researcher wishes to clarify their understanding of a problem (Saunders, 2012). Exploratory studies are a method of finding out “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson, 1993 as cited by Saunders, 2000).

Explanatory studies are useful when researchers wish to establish causal relationship between variables. The emphasis in this sort of study is to examine a situation or a problem in order to explain the relationship between variables (Saunders, 2000).

This research is an exploratory case study research by using semi-structured interviews combined with a literature study for data collection.

Yin (2003) stated the case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not evident. Yin (2003) distinguishes between four case study strategies based upon two discrete dimensions:

1. Single case or multiple case
2. Holistic case or embedded case.

A single case often used where it represents a critical case or, alternatively, an extreme or unique case. Conversely, a single case selected because it is typical or because it

provides you with an opportunity to observe and analyze a phenomenon that few have considered before (Saunders, 2012). The advantage of this approach is more realistic and has high internal validity. Therefore, single case study will help to answer research questions and understand the main concept.

In the study, semi-structured interviews were conducted for data collection. Interview is common used in qualitative research, which could be conducted face-to-face interview, by online tools that e-mail or social websites. Researcher particularly chosen the face-to-face semi-structured interview and it allows subjects to clarify their responses, explain their opinions and even ask the interviewers question that the participant may not quite understand. During the semi-structured interview researcher could encourage an informal conversation covering the research topic and questions. It is useful method to provide in-depth information about the research area in exploratory case study.

The interview questions of this research are designed to find out when the managers who associated with the higher education institute and then attempt the discover which specific marketing strategies influenced them if any and finally their personal opinion on the most effective way to discover new market opportunity and what could be the best way to optimize that opportunity.

Secondary data source is a data collection method (Heaton, 1998) which means that collected data by reviewing published data including newspapers, documents, books, researches, leaflets and previous studies.

### **3.2 Research Approach**

Research methods classified in the qualitative and quantitative research. The quantitative research methods originally developed in the natural sciences to study natural phenomena (Myers & Avison, 2002). Example of quantitative research methods now well accepted in the social sciences include survey methods, laboratory experiments, formal methods (e.g. econometrics) and numerical methods such as mathematical modeling.

Qualitative research methods on the other hand developed in the social sciences to enable researchers to study social and cultural phenomena in order to develop a deep understanding of the research environment (Walsham, 1993). Examples of qualitative research are action research, grounded theory, ethnography, and case study research.

This research is starting from concept and moving to data, collected qualitative data through semi-structured interview at private university in Thailand. The literature study will focus on books, websites, relevant articles and white papers. By selecting relevant literature following the qualitative systematic approach, as described by Hart and Boeije (cited in Houten, 2012), the research has following steps to process qualitative research, first propose a model, second select cases for the case study and execute the case study and last one prepare for interviews.

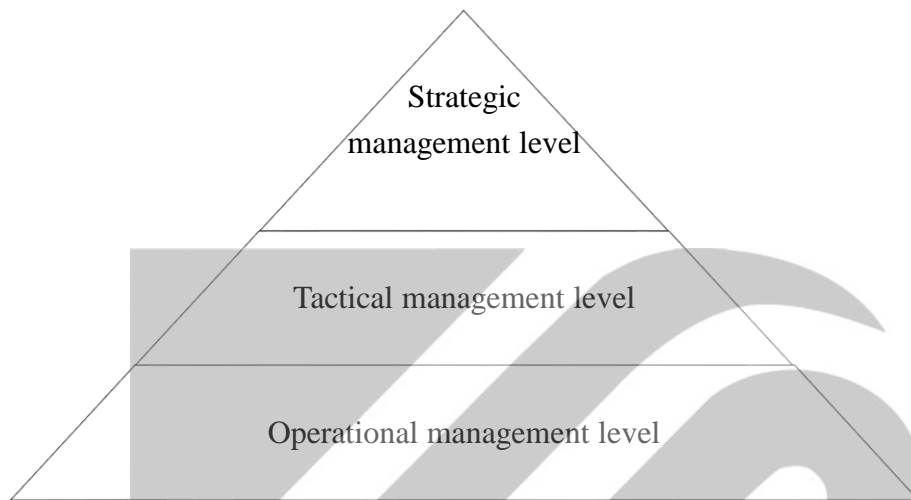
Hart and Boeije (cited in Houten, 2012: 7-8) consider qualitative analysis as a means to take part in the situation at hand, by using in-depth/open interviews or case studies. The Qualitative research is well suited to understand process regarding management and decision making which require a close look at details.

Corbin and Strauss (cited in Houten 2012) note that qualitative methods allow for acquiring a better understanding about any phenomenon, which has not (yet) been researched (often). Qualitative methods also allow gaining new perspectives about subjects, which have a broad research basis or gain more in-depth information concerning the subject of research.

**Preparing for semi-structure interviews.** Hart and Boeije (cited in Houten 2012: 8) proposed a systematic approach to literature research, initially describing the subject and performing a query on top-level literature, resulting in information which acts as input for defining an in-depth search-plan (consisting of a detailed description, which information to take from what location and the most important aspects). The process of preparation of the semi-structured interviews and data analysis shown below:

- Contacted respondents for an interview
- Selected the sample
- Defined the quantity of sample
- Set up a meeting with interviewee (respondent)
- Conducted the interviews
- Asked for confirmation (the review of a brief summary of noted answers) to the answers
- Summarized of the interview
- Verified the interview findings with the adviser
- Analyzed the data

The twelve respondents participated in a face-to-face interview. The invitation was distributed by email explaining the research questions and the significance of the study (a sample of the invitation can be seen Appendix D). The respondent's information refused to disclose regarding to confidentiality.



**Figure 3.1** Participants level

**Source:** Adapted from: White, 2006

According to Figure 3.1, researcher had planned interview with strategic, tactical and operational management level. Operational control serves to regulate the day-to-day output relative to schedules, specifications, and costs. Strategic management is a level of managerial activity below setting goals and above tactics. Strategic management provides overall direction to the enterprise. The tactic is method intended to gain a specific objective in the context of an overall plan.

The interviews were conducted with participants in the meeting room of the selected university and audio recorded and transcribed. Each interview took around forty-five minutes to one and half hour. The interview started with pre-structured question, which were the ones, related to participant's experience in the education area and their role of the position. Summary of the interviews are provided in Appendix III.

The questions were in logical sequence from general concepts on education institute to specific ones on marketing, financial, academic and business. Pre-questions were uses to following any important ideas and concepts that the interviewees provided for the general questions.

The following three questions were used at the beginning of each interviewee:

- Could you please introduce yourself?
- How many years are you working in the education institute?
- What is your role?

The data collected was coded. The codes used for the interpretation of data will be explained in detail in the analysis chapter.

The explanatory case study used as to optimize the new market opportunity within its BI for the qualitative analysis.

### **3.3 Population and Sample Selection**

In the study at hand, according to the problem description, since the problem is associated with optimizing marketing possibilities of Thai university, the sample unit has been planned to target that university's staff in charge of international marketing activities who might be associated with student recruitment's department, marketing department or international office depending on the organizational division of selected university.

Meanwhile, the sample size was decided to include private university with the most international students based on the statistics provided in the Office of the Higher Education Commission.

According to the Office of the Higher Education Commission, seventy-two private universities, institute and colleges in Thailand (Office of the Higher Education Commission, 2012). Nearly half (44%) of higher education institutions are located in and around Bangkok. Due to the time limitations, the researcher did not choose multiple case study is put a single case study on selected private university in Thailand (according to the confidentiality issue, the university's name and participants information is not declare).

The initial contact people will be selected by the author based on their knowledge of the particular area; this is referred to Figure 3.1.

### **3.4 Research Instrument**

Using previously validated collection instruments can save time and increase the study's credibility. Once the data collection procedure has been determined, a time line for completion was established (Pierce 2009). This research will use below instruments:

- Qualitative semi-structured interview

- Online conversation
- Secondary research
- Explanatory

Based on the literature reviewed a set of keys was identified and expanded in the conceptual framework. The keys identified were customers, competitors, company and technology. Those all keys covered by Business Intelligence Model. Cooper and Schindler (2008) make clear that keys will be taken as codes, specifying the application of it through a definition.

The keys included in the codebook worked as key words and indicators of the data that was more relevant to the study. Once that a key word or quote matched the description of the theme, this was highlighted and reflections were made on the side in order to categorize the findings. A sample of this process has illustrated in Appendix C. Whenever appropriate; respondents' statements have quoted to illustrate the construct. The participants of this research have recruited through human resource manager and conducted by mail and telephone.

Questions have pre-tested on members of the study population who were not serve as participants. Pre-testing can help address the following key concerns about validity (Dreachslin & Hunt 1996):

- Is the meaning of the question clear?
- Do the questions use terminology that is understandable to the participants?
- Does each question ask only about one topic?
- Do the questions reflect any hidden bias or "lead" the participants?

Whether to use faculty, administration or staff as facilitators is a key consideration. The richness of the data can be more fully appreciated by decision makers if they serve as facilitators, but participants may be less frank in their responses. A participant is not likely to respond with candor to a question about quality of instruction if the faculty member he/she considers to be among the worst is serving as the focus group's moderator. An honest assessment of the level of trust among faculty, staff, administration, and focus group participants is important. If trust is low or questionable, a facilitator external to the program may be necessary to produce the self-disclosure that is essential to valid results.

### 3.5 Data Collection Procedure

The data collection for this thesis has multiple sources: interviews and secondary data. This research has two primary phases of data collection, Phase one and Phase two (see Table 3.1).

**Table 3.1** Data Collection Phases

Data Collection	
Phase 1	The online conversation with BI experts (LinkedIn). The phase 1 aims to gathering the information about BI, CI and MI
Phase 2	The phase 2 aims to gather the data about Private University in Thailand Semi-structured individual interview including management team at the Private University in Thailand. Secondary data such as published papers and books

During the interviews data collection was audio-recorded with the interviewees' consent. Summary of data collection shown for Table 3.2.

**Table 3.2** Summary of data collection and sources from case study

Level Of Data Collection	Number Of Participants
Online interview	Five participants conducted by LinkedIn. Information Technology, BI experts: five participant(s)
Face-to-face semi-structured interview	Twelve participants from selected private university in Thailand Head of Management: two participant(s) Human Resource: one participant(s) Marketing Department: one participant(s) Financial Department: one participant(s) Management/Lecturer(s): seven participant(s)

### 3.6 Content Analysis

Content analysis involved coding and classifying data, also referred to as categorizing and indexing and the aim of context analysis is to make sense of the data collected and to highlight the important messages, features or findings (Anon, n.d.).

The content analysis was based on the conceptual that consists of the four research questions. The researcher analyzed the conversation on the interviews, filtered, and summarized the key themes and concepts that relate to the conceptual framework.

The process of content analysis had data reduction, data display, drawing and verifying conclusions sub-processes (Saunders, 2012). The data reduction included summarizing and simplifying the collected data. The process aimed to transform the data and to condense it. Outline a number of methods for summarizing interview data (Saunders, 2012).

This research content will evaluate by the qualitative data analysis software, which is similar with NVivo software which is open-source software, which aims to assist in the categorization and matching process.

### **3.7 Data Coding**

The researcher used the meaning of analysis context as the unit of analysis for coding and looked for description. This means that the data is not coded sentence-by-sentence or paragraph-by-paragraph. However, coded for meaning and most duplicable words during the interviews.

### **3.8 Validity and Reliability**

Validity is an important aspect of the research; in order to deal with this a case study type of research is preferred, and these study findings were valid (Yin, 2003). According to Gibbs (2007) qualitative validity means that the researcher checks for the accuracy of the findings by the certain procedure, while qualitative reliability indicates that the researcher's approach is consistent across different researchers and different projects (cited in Creswell, 2009).

The researcher has put very much effort to achieve the highest quality of the results in order to increase the validity of the study. For this purpose, the researcher has conducted the interviews with the most relevant and knowledgeable person responsible for the international marketing activities of selected university. Besides, during the interview sessions, the researcher has provided extra information or explanation where needed for the respondents in order to make sure that they have no misunderstood any question and thus, the answers are accurate. Additionally, the whole interview sessions have been recorded and collected for not losing the important pieces of information obtained within these interviews.

According to Saunders (2012), reliability is of special concern when conducting interviews, especially towards the bias of the interviewer. This type of bias could be reduced by structuring the interview beforehand. Therefore, interviews were only performed in a semi-structured manner, as per Appendix C. To try to increase validity every interview has been recorded for later review. Which means set up a detailed case study protocol. The interviews were conducted in English; the written material was returned to the interviewee's so they could check that their responses had been understood properly. The study was identified following reliability procedures (Gibbs, 2007):

Check transcripts to make sure that they do not contain obvious mistakes made during transcription.

Make sure that there is not a drift in the definition of codes, a shift in the meaning of the codes during the process of coding. This can be accomplished by constantly comparing data with the codes and by writing memos about the codes and their definitions

Crosscheck codes developed by different researchers by comparing results that are independently derived

In addition, validity deals with the generalizability of the research, whether it can be applied to other research settings. This is of greater concern when dealing with single case studies as the results usually only reflect that organization (Saunders, 2012).

The respondents were from diverse backgrounds that made the researcher believe that other universities, which did not participate in this research share many similarities with these participants to some extent. Therefore, the results of this study can be applicable to other similar private universities under the same circumstances to a certain extent.

## CHAPTER 4

### RESEARCH FINDINGS

#### 4.1 Data

This chapter contains the empirical data has been collected for the thesis. It contains primarily data attained through use of interviews.

##### **Research question one**

“What could be the impacts of market intelligence to discover the new customers in new geographical area?”

The overall analysis of interviews reveals that all twelve interviewed participants are certainly aware that higher education is not just educational industry, rather it has been becoming a global market and which is not only allows you to run the business, but it also needs to be competitive in the market.

The first question has planned to discover to what extent the interviewees believe that education institute different from other business organizations, how do participants are seeing the customers in educational institute.

The higher education institute has different organization structure and different goal/mission in order to compare with other business organizations. Perhaps the most remarkable thing is that huge responsible to educate the people for society and in terms of economic profit, education institute gains profit in long-term period.

*“...education that seems like planting a tree. It might be give a profit after 10 years. When it comes to the financial factors it concern to be very important...  
...higher education institute is very different from the other business industries ... in terms of education... work for profitability through the people...”*

Higher education institute is customer oriented in order to facilitate student satisfaction with good qualified education and qualified team members (lectures, staff and members). Therefore, managers have to understand the customers that makes them satisfy. In order to satisfy customers, higher education institute has to have well qualified team, qualified education program, transparency mission, vision, and supportive data information to reach that mission. In order to evaluate that achieve the goal/mission, performance and specific program attributes so that customers infer

service attributes based on customers' perceptions of country stereotype and their experiences with that service from that country.

*"...in terms of international marketing, I think that based on quality and price. Again, it depends on countries. For example, China is different from India; India is different from UK etc. Therefore, those marketing messages will be different. Might be future marketing message will be more differentiation..."*

*"...we have to look at demography of education in each country. For example, we have to know what statistic of students is studying in each major, and what the needs of market from employers. When we know about that information, we can move to another step that is developing marketing strategy..."*

Another important point is to discover which efforts the selected private university has carried out so far in order to attract their customers and is aware of the importance of market segmentation and if they have such consideration, which criteria (Age, Geographic area etc.) they use to segment their market.

*"...we need to reach non-traditional population, who are they have children or non-degree people...and our marketing message must be focus on those target customers..."*

*"...marketing message must be a right and need to know to whom we are going to deliver the message. For example is that marketing message is too fun or too serious. Therefore, we need to understand the customer needs and what they like to hear from same time and us what we want to deliver to those customers. I think future marketing effective message will be serious message to customers..."*

By this question, the researcher has planned to identify the available and possible channels by which private university in Thailand communicates with their customers. These channels will be used in the proposed MOA framework indicating the possible ways through which university can get into the global market in order to not only identify the right knowledge about and from their customers (their needs, values, wishes, desires and problems), but also to provide the right knowledge for them (customized programs, services, solutions and decisions). The participants are defining

their target customers have two segments by market research tool, which are undergraduate and postgraduate level and below criteria:

- Geographic location specially in ASEAN community
- Age
- Knowledge
- Passion
- Qualification
- Experience
- Lifestyle

Another point is students are not only target customers, who is paying to them to study parents also customer of the higher education institute. In order to identify important consumer segments, vital for targeting marketing strategies, recommend investigation of consumer profiles defined through demographic variables (Age, Gender, Education, and Income). Another important thing is revenue from the activities.

*“...you can only deliver the good service if you have good teachers as well as good people supporting the students in their daily needs outside of the academic activities”*

*“...higher education institute there is always conflict between education standards and customer satisfaction ...”*

Defining the internal analysis in organization, mission statement is the purpose of an organization and its reason for existing that organization. It provides the framework within which the organization's strategies have formulated. In order to gain goal/mission, higher education institute has to have strong brand image, brand reputation and demography of international and domestic market. According to the interview with participants, below objectives could influence the marketing strategy:

- Marketing research team
- Word of mouth
- Focusing on the niche market, geographical area
- Three R – right place, right people and right product
- Qualified team
- Product development

- Market extension
- Promotion
- Branding
- Focus target group
- Make awareness
- Price strategy
- Brand communication

The selected university mission is to provide high-qualified education and real life knowledge utilizing latest in interactive technology to our students in their society.

*“...goal is to serve the people and make it sustain... in some other industry the customer happy is goal of industry. In the manufacturing industry their goal is completely satisfy the customer. In the higher education institute that is the not only goal...”*

*“...organization culture to support the vision and mission... mission is high qualified students studying in real international environment with qualified teachers...”*

Every participants think there is opportunity to extend a business in education area. Such as online course, education consulting etc. If summarize by the one sentence about extend a business, deliver the new product to the existing customers or same product to new customer in new geographic areas by innovative way.

*“...idea is we will continue to have main demographic, but the same time having another demographic by new programs...”*

Most important strategy is deliver the right service to right people which is most effective marketing plan to achieve the goal.

*“...deliver the right product to the right person... if you have a good connection in the other countries, then it is simply by contacting by right people, having the right kind of respondents and contacts...”*

*“...marketing department must be transparent. We spend a lot of money for the TV program. We need to justify that what kind of benefits we can gain from that media tools. That we call first campaign research to make sure that every media could reach the right people...”*

Other hand extending the business it does not mean about only customer. The organization has to concern that employee who is knowledgeable and experienced labor.

*“...our group of market pretty good but future we need to reach the other groups and other area of market ... but we don't have people who work/manage our team that selected country...”*

*“...high qualified students studying in real international environment with qualified teachers...”*

MkI defines that most effective marketing strategy will focus on measure the demands of unsatisfied consumer, following customer's behavior, measuring consumer response to changes in marketing activities and analysis of “Customer Feedback”.

*“...human resource department what kind of person you would like to requite in order to satisfy the customer, in financial department how much budget allocate in order to satisfy the customer. Customer need, customer problem, customer feedback and customer satisfaction...”*

This information used to identify trends in consumer tastes, identify and eliminate points of friction between the organization and customers.

*“...we spend a lot of time to understand to what are the needs of customers...”*

That needs to support by MkI is the process of the data collection and transformation into information, allowing marketers to understand the environment, customers and prospects.

### **Research question two**

What could be the impacts of the competitive intelligence to optimize marketing strategic plan in Private University in Thailand?

The question number two aimed to define the strategies in order to gain their mission/goal and if they have such consideration about market, what could be the most effective strategy use to extend their market and how compete/differentiate with the competitors. This question will help to the researcher to find out the objectives that could influence the marketing strategy and identify the possible marketing strategy at private university in Thailand compete with competitors. Moreover, this question was supposed to provide the researcher with deep insight about the marketing plans,

initiatives and preparations, which the universities under study are going to take regarding the upcoming critical situation. It can also help the researcher to discover new channels involved in these marketing efforts.

*“...education that seems like planting a tree. It might be give a profit after 10 years. When it comes to the financial factors it concern to be very important...”*

Long-term planning is always at the core, and a difference has made to the level of decision-making top management for strategy or to the level of detail involved, as a difference to tactics. During the interviews, each level of management participants were answering different perspective. However, the main idea was exactly same which shows good communication between the organization levels.

*“...need to share the vision and strategy in organization. That is very important and valuable information for management team. Also pier objectives and result from strategy. We need to communicate about marketing strategy we achieve that strategy. In our case, communicate about the key initiatives to improve the quality of the education of our university...”*

Further, higher education could face resistance from the social system, while adopting any disruptive innovation. For instance, the society, culture, economy, and regulations that forms part of this social system should favor these innovations, for their adoption to succeed. Participates were explaining two different way to define the innovative which are included technology and another definition was something new thing never done before. It could be the methodology.

*“...If you reach that market, next step is more difficult thing. In terms of growth, we need to do some special innovative things. But those innovative things will come from each department... innovative means something never done before or something different than your competitors...”*

*“...In order to be success, you have to be innovative. Many ways you can be innovative. Innovative learning and teaching methodology, innovative programs some way no one never done before you will be the first...”*

Regarding the interviewee's response, first identify the products, price, place and target customers.

*“...need to analyses the product, price, target market and place...”*

*“...when you have a good product it could be attract more customers and we can compete with our competitors...”*

Competitors defined by similar programs, similar price, targeting same customers, locating same locations and brand positioning.

*“...segment of type of university...”*

*“...need to understand the business where we are in. Sells function, finance function and product function. Then how we can approach our goal and how we will compete in the market...”*

*“...private universities and offering similar products...public universities. Students are do not joining us so we are competition with them. Nevertheless, they are not direct competitors. Because they are in different positioning in terms of price and selection process...”*

*“...look at our products. The competitors offering the similar product. Next step is quality of the programs. If they working good then we will think how can we do better than our competitors do...”*

### **Research question three**

*“In order to optimize the market opportunity, how could Business Intelligence enhance the market by utilizing the Market Opportunity Analysis framework?”*

The information that organizations require to manage themselves efficiently and effectively. This question answers, which will assist in deciding whether there is a need to share information and what should be consider to sharing information. Gathering the data is not enough.

*“...we have some information technologies. I think we are lying with too much broad information and it seems important but not useful for everyone. That is not as much as transparent. However, the future will be change. The moment we need to create the information before when we start to use it...”*

Without rigorous analysis and insightful reporting, the data remains simply is data, it never becomes useful information. In order for CI to be useful, different types of data (market share, competitor product cost data, etc.) must be merged together into information which is relevant to key decision makers and the decisions they are making.

*“...depends on organization level and confidential rules. For example in higher education institute, managers need to share about demography information, market demand information, the statistic of students studying in each major etc. information will help to make decision to improve our quality and future decision making...”*

*“...need to communicate about marketing strategy we achieve that strategy. In our case, communicate about the key initiatives to improve the quality of the education of our university...”*

*“...marketing sales, in terms of academics, quality framework set by ministry of Thailand...”*

*“...Budget information and better information about students. I would like to have big picture...”*

*“...share student information, their qualification and other information which support the management decision making...”*

The ultimate test of the data and the analysis is whether it provides the right information in order to let the decision-makers make decisions with confidence.

Providing details about organization's mission, vision, customers and about their service, which is important to communicate with other department as well as helps to seek new customers. However, the confidential information should be shared on a need to know basis and only in an environmental of trust and respect. The first step in information sharing is discuss/ ask the management team for their consent and explaining purpose, with whom and how much data will be shared in the organization.

In the reality, not all information data used to make decision, just specific information can be used directly to make decisions. First, define the essential information that needs to analyze at each management level of the organization. In the previous chapter, BI provides a large variety of services, which are applicable in some of the above issues, from top-level management to line management. However, in the interview result, different management levels have different information needs. The most common answer “Customer's Information, Feedback & Behavior”.

Either the organization needs to share information do they have information technology to share those information effectively and essentially. Purpose of information system is that managers need to make decisions that decision-making is an

integral part of the business. This is because a majority of operations in an organization revolves around decisions made by the management and other key stakeholders in the organization. In order to make decision to be made adequately, it is vital for there to be a good information system since decisions are based on information available. Therefore this question will provide the information about the technology and how could help to managers that technology in order to make decision. Same time thought out to identify the available and potential ICT tools which can be used as channels or any technological part in the final proposed framework.

According to interview, participants did not clarify to the researcher about information technology that support their decision making process. Most of the participants gave overall answer. If conclude the answers, information technology needs to support the academic and business area.

Based on interviews' answers, result of decisions must be made during an evaluation including: what the focus of the evaluation will be; who will undertake the evaluation; how data will be collected and analyzed; and how the evaluation will be reported. Therefore, it is important to establish a decision making process to ensure agreement can be reached on how decisions will be made. It depends on the management level managers with different perspectives might also be consulted about the scope of the evaluation of the result.

#### **4.2 Research Findings**

The findings from this research derived through a comprehensive review of the literature and from primary data through semi-structured interviews with management team of the Private University in Thailand, triangulated through secondary data to improve the accuracy.

**Business understanding.** This is surprising finding considering the private education sector is not anymore just an education organization. This finding may also has deemed worrying given that dynamic of rising tuition combined with expanding student debt and declining middle class income is shaking the foundations of respect and affection for higher education. Students, politicians, and think tanks have begun to question the role played by universities in modern society. There is also online courses are getting popularity by attracting hundreds of learners. However, those online learners are working adults or who does not have time to study in the class.

The higher education has been had considered very important and strategic for developing the human resources. The right to higher education imposes an obligation upon country to ensure that all children and citizens have opportunities to meet their basic learning needs. Nevertheless, those alumni certificated by online course can a collection of online courses be considered as a replacement for higher education in a university?

Traditional university model had been a pioneer in Thailand. In 1999, Ministry of Education Center authorized that student centered. Within these changes, the new generation of Thai students who look for higher education will vary in age, needs and places of study. A year from now, in 2015 Thailand will integrate with ASEAN, as a though result of ASEAN in contrast to uncertain economic prospects for European and any other countries to Thailand.

Researcher believes that the private funding reality forces acceptance of a more market-centric approach, mainly because students have access to alternatives including proprietary universities and advancing cyber education.

There is a pursuit of quality (vertical product differentiation), but few universities in the same strategic grouping commit to focus and distinctiveness (horizontal differentiation). Consider this mission statement:

The mission of (the university) is to serve the people of (the state) and the world through preeminence in creating, communicating, preserving and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

There is nothing distinctive about this statement from the selected university in Thailand; it could easily apply to just about any flagship private university. The statement suggests, "We do everything," which provides no guidance on how to prioritize anything.

Students who pay higher tuition expect additional courses and services in their areas of interest and, because there are often competitive institutional alternatives, they are less willing to subsidize disciplines they do not plan to take.

Attractive features of the business model in a university setting include: becoming more externally focused, adopting differentiated products, assigning

decentralized accountability for revenues and expenditures, and aligning incentives to coincide with articulated missions.

Today, standard incremental responses include: raising base tuition, admitting more non-residents, imposing across the board budget cuts and, in more extreme cases, freezing salaries and eliminating adjunct, and part-time faculty. Transformational responses include: introducing differential tuition, consolidating back-office processes, monetizing valuable assets, developing resource-centered budgeting, eliminating programs that are judged to be non-strategic, rationalizing programs in a system, adopting new substitute technologies, and privatizing programs. Specific suggestions

- adopting a distinctive, externally focused mission that;
- identifies differentiation in product (program) offerings and scope;
- defines what the university will and would not do within a financially sustainable framework; and
- guides priorities, including the choice of which areas to subsidize.
- setting differential tuitions across majors, universities, and entire systems according to costs of delivery and willingness to pay;
- adopting decentralized budgeting approaches, like resource-centered management (RCM), that align incentives with the mission; and
- crafting agreements with legislators that determine appropriate financial support for qualified need-based students and for basic research.

Communicating purpose lets consumers, legislators, and faculty members know what matters. Mission statements should focus externally and delineate those activities that lead to success in creating and capturing value, and they should state the obvious. For example, there is typically nothing mentioned in the mission statements of public universities with academic medical centers concerning their dominance relative to other units in terms of revenue, funded research, and the number of tenure-track faculty. With few exceptions, major athletic programs have never had mentioned. The mission statement should indicate the strategic intent of a selected number of programs that the university chooses to emphasize.

Where competition is restrained, we prefer to rely on a regulatory regime that seeks tuitions that maximize student (customer) welfare, while recognizing there are high fixed costs associated with delivering academic programs. Effective pricing

should determine different tuition levels based upon the costs of providing education and on the earning prospects of graduates in a way that ensures that well run public universities could break even. We view positively the recent movement to set differential tuitions to account for both cost differences across majors (business, engineering, and nursing) as well as differences in the earning potential of graduates.

Adopting RCM as a budgeting framework to allocate resources can be a positive step. RCM assigns revenues and expenditures to units based on enrollments, permitting units to retain net revenue to improve their programs.

Teaching stand-alone, discipline-based courses does not work as well in an environment that demands convenient delivery of contextually relevant material, so programs has offered when and where students want to take them in convenient formats.

Graduate programs in business not only develop as independent revenue and expenditure structures; they also require the coordination of complementary activities of recruiting, advising, instruction, placement, and alumni relationship building. Integrated processes for delivering graduate programs have extended to undergraduate business education. In the rest of many universities, these activities have organized as shared-cost centers vying for resources as substitutes. For example, placement centers have organized as silos that operate independently of similarly recruiting, advising, and alumni relations.

While competition is an inevitable and relentless force, universities express a culture of cooperation. The cooperative culture of higher education could leveraged. Some business schools have built political support and promoted their programs by collaborating with other units in mutually beneficial ways. A typical business school undergraduate education is reliant on the liberal arts. These alliances could strengthened both academically and financially to mutual benefit. The key to developing cooperative programs is to turn them from dependence on subsidies into revenue producers that provide both educational benefits to society and employment opportunities.

#### **4.3 Data Analysis**

Following chapter will present the analysis of the data through comparisons between literature review, the interviews result and secondary data.

The analysis of the interview data and secondary data research has performed simultaneously. As suggested in literature review (Saunders 2012), this would improve both the level of detail and accuracy of the analysis by avoiding the common biases from the different sources of data such as:

- Interpretation bias (interviews)
- Data and presentation bias (secondary research)

The next sub section will analyze the data based on MOA framework.

**Company.** The overall analysis of empirical findings reveals that all twelve interviewees are certainly aware that higher education is no longer a pure educational area; rather it has been becoming a global market. The analysis start with company environmental analysis, which is part of the MOA framework as well as the interview supposed to be coding by company.

Literature review makes clear that company analysis involves of the company's mission, objectives, strategy, current situation and resources. These indicate to an organization the strength and weakness of that company, whether there are areas for improvement and how well an organization fits the external environment. After a brief opening, next paragraph will look more closely at mission and objective of selected private university in Thailand.

As participant points out before, firstly the study needs to identify vision of the organization.

*"...it starts from Vision. Vision is we want to expand the accessibility of the quality of higher education. How can we expand this accessibility, how can we produce quality of graduate..."*

*"...all of us looking for the same direction which is success..."*

According to interviewees, the vision of selected university is to help the students to life in international environment, both academic and social side, to provide effective academic skills and study techniques, which are essential to success in higher education. The mission of the selected university is to provide high-qualified education and real life knowledge utilizing latest in interactive teaching and learning technology to our students in their society. From the mission and vision statement, the researcher could analyze the below sentence:

In the higher education institute, the mission has defined by narrow. According to the previous study, effective mission statement clearly defines who the customer is and what the services and products the business intends provide to society. The clear mission and vision will guide for day-to-day operations and even as the foundation for the decision-making. If analyze on the interviews, current mission statement of the selected private university is clearly mentioned about their service and product. However, the mission did not define who the target customers are.

As per the interviews, selected private university concerns profitability at financial area, efficiency and effectively use the information technology for academic and business both side, utilization of the lectures, staffs and management team and contributions to society by preparing qualified graduates.

In order to gain goal/mission, participants suggested that higher education institute has to have strong brand image, brand reputation and demography of international and domestic market.

**Customers.** “If growth is what you are after, you will not learn much from complex measurements of customer satisfaction or retention. Simply need to know what your customers tell their friends about you” by Frederick F. Reichheld.

According to the literature review, in order to attract the customers most important effort is market segmentation. Even though participant mentioned

*“...any marketing activity needs to concern about their customers. Targeting the customers is most key strategy in marketing and we need to identify the market segmentation...”*

Any industry customers are right, but in education industry, customers are right and same time wrong, which has been had supported by the literature review “provide the right knowledge for them”. As participants mentioned that identify target customers, ascertains the needs of these customers, and then specifies how the product satisfies these needs. Therefore, in marketing plan the customer analysis and understanding the customer is most important part. According to the interview, customer demographics is one of the major effort. As participants mentioned that gender, age, ethnicity, geography and income are all market-segmenting criteria based on demographics. Then by having a well-defined set of demographic factors, marketing will be able to identify the best channels to reach these specific demographic segments.

For example, selected university's target segment is younger adults, therefore Internet and social media channels will be more important than traditional media channels like print, television or radio advertising. However, managers need to remember "customer's behavior changing faster than ever". Next effort is customer behavior. Marketing department need to analyze the customer behavior, which requires a more in-depth understanding of the actual decision-making process of the customer purchase. The big example of the behavior analysis could be Amazon.com, which shows the customer purchasing decision, timeline and those customers what kind of product/service buying. This behavioral information, for example those related purchasing option suggested on next customer' choose. In fact, the major criteria that customers use to distinguish competing products are price, quality, convenience and prestige. Previous study mentioned that defined the two main attributes consumers use to differentiate products are price and quality, so finding the correct balance between these two attributes usually leads to a successful consumer product. The researcher could analyze the below sentence:

In the any industry, customer is king. However, in education institute different from other business companies which is balance between the academic standard and customer satisfaction. That means customer is not always right.

In order to reach the target customers, most important efforts are customer behavior analysis and demographic analysis. By analyzing whole interviews, the researcher has identified few criteria demographics. The nationality; some of the interviewees mentioned that market segmentation efforts towards some specific countries. In this case, China and India seem to be the most popular target countries for the selected university. Second criteria is qualification of students. Some of the interviewees also mentioned that university concerns the quality level of their applicants. "Attracting the most talented and qualified students" is what they have emphasized on. In this case, selected university needs to focus only on students who achieved high grades in their previous courses. Last one is the collaborating with overseas university. The selected university also is collaborating with several partner universities around the world with which they exchange students. It can thus help them to better optimize their marketing opportunity.

**Technology.** From the interview, researcher analyzed that information based technologies put more responsibility on operation level. The conclusion of this part:

Companies should carefully consider technologies have used, in light of where in the corporate structure decisions should be made. For example, giving operational managers the authority to invest in new program requires training those managers have to understand financial decision-making and cash flows. If acquiring this knowledge is confidential or time-consuming, the university can step in and make the call. However, has a price, by making it necessary to install more sophisticated and more expensive communication systems to connect different levels of the organization?



## CHAPTER 5

### DISCUSSION AND CONCLUSION

The previous chapter presented an analytical comparison between theory and collected data. This chapter will present the Conclusion and Implications based on the analysis. Each research question will be answered, conclusions and implications listed thereafter.

#### 5.1 Research Question One

“What could be the impact of market intelligence to discover the new customers in new geographical area?”

**Discussion.** Perceiving marketing as a business and taking into consideration the importance of accurate, new and real-time data, organizations should acknowledge the value of creating the marketing information systems, experiments and focus groups. From the perspective of developing that an efficient marketing strategy, the market intelligence provides better insight into and according to literature review that hidden and unavailable data regarding customers, their impact on business and customer behaviour. It also offers an opportunity for businesses to create an image, offer information about products and services, develop relationships with profitable customers, better understand the customer service practices, ensure continuous service improvements with respect to customers' needs, etc.

However, in the higher education institute a student is not just a customer, as in the “the customer is always right” type of scenario could not work. The delivery of educational services is unquestionably different from the traditional transactions that take place when buyers have assumed to have sufficient information about the product to make fully informed decisions. As participants clearly mentioned that education institute must have balance between the customer satisfaction and service standard, which means academic standard.

First, understand the customer and customers' behavior; managers need to collect the data, which is base stage of making decision to move forward. Even participants claim that a far more effective approach is “... the moment we need to create data before we start to use it...”

**Interpretation.** With respect to traditional methods of market segmentation, managers should use the Market Intelligence, in order to define and understand the customers and competitors' customers, their motivation and behaviors.

Moreover, it is not enough to use regular marketing research or simple reports to fully understand the customers (especially in higher education institute) and adapt the marketing strategy (marketing mix) effectively.

In addition, it is important to conduct marketing research on the Web and to implement Market Intelligence methodology or other methods frequently, as to collect the real-time data. As participants clearly point out that "... customer's behavior changing faster than ever. We cannot use information from yesterday to tomorrow' customer..."

Finally, it is important to encourage organizations to use the MkI methodology as an interactive medium for establishing a connection with their customers. With the growth of the information technology innovations, it is necessary to be up-to-date with such advances, in order to take advantage of the full potential that the ICT and new business methodology offers. Most respondents see market intelligence merging more and more with business intelligence, and affecting business functions such as strategy planning, market research and marketing. From the findings, it is also interesting to note that the view regarding the impact of enterprise social networks relatively muted; even it has linked to co-creation, the trend with third highest significant impact on market intelligence. Especially social media and device mobility provide greater opportunities for market intelligence teams to collect more comprehensive and a wider variety of business related data, than was possible in the recent past. Data now includes pictures, street-views, video clips, gestures, references and even emotions. This allows market intelligence professionals to draw deeper and more detailed conclusions about their markets, making their contributions to strategic business decisions even more relevant. For market intelligence in particular, online crowd sourcing, user-groups and forums can generate valuable additional insights at little cost. This is big opportunity to extend a market in any industry. Everyone has social media communication tools and shares customer experience, knowledge and gathering the new service/product. Collecting opinions, statements and sentiments from large numbers of people has been a major step forward for market intelligence, providing different and often more holistic

views on buying behavior, appreciation of products or visibility of companies. It is also much easier to distribute relevant information to interest and user groups online, in formats that can be directly loaded into tools to do analysis. Examples include data in excel files or more sophisticated formats for analysis and comparison.

## 5.2 Research Question Two

“What could be the impacts of competitive intelligence to optimize the marketing strategic plan in Private University in Thailand?”

**Discussion.** The CI is the managerial activity of learning about environment (i.e. economic, political or social environment) and learning about their competitors in the market. The interview result that managers rely mostly make decision based on their personal or external sources for environmental information. According to literature review at all levels in organizations, managers conduct competitive intelligence scanning to sustain competitive position, managers must prepare to respond promptly to changes in customer preferences, competitor strategies, and technological advancements. CI must address the core issues of departments that have influence on the drivers of competitive outcomes. Specifically, CI needs to address mission critical issues for sales, marketing, and product development. The issue asserted here is the ability of the users of CI to transform whatever information they have gathered into an innovative product or service. The best way it will address sales and marketing is providing an innovative product or service in addition to formulating a formidable strategy. Therefore, CI provides knowledge of competitors, their marketing strategy, objectives, research activity, and strengths as well as weaknesses. The managers known that information helps to understanding their position with respect to major competitors in the global competitive environment. Another hand some of the information not shareable with every levels of management.

Strategic marketing is sometimes seen in a functional context, at other times as a more all-encompassing process or phenomenon. In the functional scope, as is reflected in and by the previously characterized antecedent groups A and B, either “strategic marketing” is an operational activity, with a specific stage in the value-adding process, or tactical nature attached to it. In a wider context, as reflected in and by antecedent groups C and D, strategic marketing is seen as a market oriented, long-term

process, attributed to a higher level of business planning, management, and organization structure than is the case with the other viewpoint.

The power of CI to contribute to product and service innovation lies in its ability to enable technological forecasting. Being competitive in the market, organization team must have strong knowledgeable labors and able to make effective decisions. In case, knowledge is most important key factor in the organization. If the organization is to remain competitive over time, the managers have to see a need to know more about new products and services, technology, and about current and potential competitors. One of the reasons that had attributed to the deployment of CI is because the market keeps changing as train. According to one of the interviewee's P#7, "...time wise our world is changing, business trend is changing as well as education industry...customer behavior changing faster than ever..." In addition, information and communication technology keep changing rapidly.

Without the knowledge of the products and services, the organization will not be able to deploy CI. According to one of the of the interviewees, we spend a lot of time to understanding the customers, when our customers and partners have initiated a new product and service so that can be educated of the challenges faced during the implementation and also get to know the benefits that the innovation bring into the organization.

**Interpretation.** The organization depends on their international partner for innovation, limiting them to exploit of CI. The organization uses forms of workshops to check whether customers could adopt the innovation that has had been presented by the international partner. Therefore, the relationship they have built with their external customer plays a bigger role during environmental scanning. When there is an innovation and act as quickly as possible. The organization should be able to realize the gap immediately. Therefore, that can either adopt or reject the innovation. The organization can utilize the customer as the tool to acquire information, instead of hosting events that can cost money and consume time a lot of time. Even though that organization needs to have big team.

Some of information, skills, knowledge and expertise are being shared in the organization aimed to improve and sustain CI products/services and some of the information not shareable. Not shareable information influences employee's

willingness to share information. Such factors are performance contract, organization perform on a centralized environment and information technology to share those information. Not being in position to innovate, was also another reason why employees do not share information that can help change the scope of the business of the organization. They wait to be told what to do. However, organization has realized that knowledge constitutes a valuable intangible asset for creating and sustaining competitive advantages.

### 5.3 Research Question Three

“In order to optimize the market opportunity, how could Business Intelligence enhance the market by utilizing the MOA framework?”

**Discussion.** The first objective has met through literature review that linked MOA with BI.

The researcher observation, the structured data of operational systems, organizations are capturing and storing text data from their websites, call centers, surveys, e-mail, documents, social media, etc. There are more data sources, and the data is arriving at a higher velocity in higher education institute. This vast amount of structured and unstructured data contains a wealth of potentially useful information but creates challenges for capturing, storing, and analyzing it. It is therefore imperative for organizations to plan for and integrate big data into their BI strategy, architecture, technologies, processes, and activities. Admissions files will connect to financial aid information will connect to student services files will connect to academic records, and so on. The result will be data that can actually predict what that student might do next, and even calculate financial aid needs and shifting interests.

It sounds wonderful, and BI is already fulfilling its promise at some colleges and universities. Trouble is the BI's potential is so vast that it remains hard to get a simple understanding of it. Each vendor has its own definition of BI. Some claim that systems such as CRM (constituent/customer relationship management) and ERP (enterprise resource planning) are BI technology. Others say that data warehousing, decision support systems, online analytical processing, knowledge management, and web personalization are all part of BI.

From here, BI needs to become more than just a series of technologies that are rolled out throughout an organization, or a series of systems relied on to resolve a lack

of knowledge generation or knowledge sharing. Instead, BI needs to be a catalyst of information exchange and the development of knowledge within an organization.

Using BI model to defining internally related information to make a MOA analysis is might be easier than defining externally related information, which requires intervention that is more human. For this reason researcher considers (internal) strengths and weaknesses easier to define than (external) opportunities and threats. Moreover, defining competition's strengths and weaknesses requires definitely additional data sources to retrieve business intelligence out of them.

Especially DM tools can really unveil unexpected or hidden relationships in data, which could provide valuable information to companies. The less available information, the more human intervention is required for interpreting BI results.

**Interpretation.** A good marketing plan stems from a good knowledge base. Institutional leaders must. Therefore, continue to broaden their knowledge base of institutional marketing. Marketing of automobiles is not exactly the same as marketing of education, and institutional leaders must understand the difference. In this respect that this conference must become a yearly event and a tradition for those who wish to keep abreast of the rapid changes in the environment within which adult education programs operate.

An adult education program will benefit from a comprehensive, integrated marketing plan. A piecemeal, ad hoc, disjointed promotional strategy may yield some results; but a carefully planned marketing strategy will definitely yield more and better results.

Institutional leaders may consider establishing a marketing office and/or soliciting assistance from external consultants. At the preliminary stage, external consultants are very useful and cost effective. However, the ultimate goal must be to have in place a unit manned by marketing personnel. These staff must be people who understand the business of adult and continuing education and who possess solid marketing knowledge.

To yield good results, marketing activities must be funded adequately. Good marketing costs money, but throwing money at marketing without good planning is not a wise investment. In calculating benefits that may result in investing in marketing,

institutional leaders must remember that there are qualitative benefits that may not be as quantifiable as other ostensible benefits.

A good marketing plan must reflect the philosophy of the institution and the attitude of the management. Sensitivity to the marketplace must be communicated to all parts of the institution – the faculty and the staff, as well as senior administrators – because anybody; those people exposed to the consumer have the opportunity to influence the market. Therefore, these individuals must adopt professional, enterprising and positive attitudes towards their relevant publics.

Institutional leaders must understand that their marketing efforts have ethical implications. The ethical dimension requires that information be accurate and helpful to consumers attempting to choose among options.

Most BI systems have been around for about eight years, and most of the early adopters were in the retail sector.

#### **5.4 Main Research Question**

“How could Business Intelligence support to discover new market opportunities that make the successful marketing management at Private University in Thailand?”

This section describes the main research question formulated, by keeping in mind the problem statement and research objectives. These effective relationships could be established through satisfying the needs, preferences, values and future desires of the management team as well as finding a way to explore new markets. Meanwhile, as it has been discovered in the analysis chapter, knowledge management plays a critical role in identifying, managing and disseminating knowledge, particularly in identification, customization and interaction processes with the customer. In addition, based on the concept of learning organization, all operations and activities from the process of management knowledge to the process of customizing services and programs and offering innovative solutions and decisions need to be well performed in a collaborative environment inside the university, which references to external environment such as political situation, law and rules, economy etc.

Based on this logic, the researcher has structured all the identified factors and elements presented in a conceptual framework. Theoretically a student-centric management system which provides the university with in-depth knowledge about their management decision making in order to reach their target customer as well as discover

new customer, and potential international students' needs, preferences, values, desires, expectations and problems, and consequently enables them to customize their programs and services in order to reach them. The researcher assumed this management decision oriented BI framework aims to support the marketing activities of selected university through exploring the new market.

### **5.5 Conclusion**

BI framework is a complex process that goes from the collection of data from the all management level of organizations, until the generated quality information to assist marketing and strategic decision-making. It is time for higher education institutes define their business dynamics through BI framework. In general, BI concept is applicable to the higher education sector, if decision makers consider their main meaning.

However, the practical ways in which they are applied to the higher education sector present a number of peculiarities, as discussed in the research paper. Not in the same way as in the business sector. The differences in types of products/services offered the scope of target market and the organization of specific marketing activities, which exist between the business and the higher education sectors. This is in accordance with interviewees' opinion, that approaches pointed confidential information or strategic information is not readily sharable to every department. However, there are not to be forgotten the lessons that higher education can learn from the business sector and it is up to the higher education sector to use the BI framework to the extent to which it makes sense and provides useful results.

At the moment it is considered that despite the existence of substantial literature on marketization of higher education and consumer behavior, the literature is incoherent and lacks theoretical models to reflect upon the particular context of higher education and the nature of its services. Research on many marketing activities, such as branding it has seen to be at a pioneer stage. The marketing field it is still to be developed and adapted for the higher education sector, without probably never been an applied in the same way as in the business sector.

### **5.6 Limitation**

First, due to the time limitations, the researcher did not manage to perform a practical implementation of the architecture and observe how it would actually perform

in a real environment. Limitations may include threats to trustworthiness, and a major threat to trustworthiness could be respondents' biases.

Secondly, the framework model validated by means of a case study and twelve interviews. The Private University in Thailand case pointed out some improvement opportunities, but researcher believe that subsequent validation research as well as a larger validation sample might yield improved feedback and uncover further issues in the architecture.

Research methods involving students were not considered because of the large sample size, and this research aims to consider perspective of decision makers.

Another limitation of this research, during the interviews detail of the marketing strategy recognized as a confidential information.

### **5.7 Further Application and Research**

BI covers all strategic needs. Nevertheless, while writing the second chapter researcher was almost astonished about the BI capabilities and business relevance. Especially data mining tools can really unveil unexpected or hidden relationships in data, which could provide valuable information to organizations. Further research can improve the conceptual framework and the other conclusions drawn at the end of this research. However, there are certain limitations to be considered.

First, how economic, political, social, cultural, environmental and organizational factors influence the high education institute.

Second, as already mentioned among the limitations, it will be very interesting to validate the system architecture based on significantly more cases and interviews.

Last, it would be very interesting to research how the current architecture, if implemented in an organization, can help capture and promote value from various areas. Recent business module in selected university culture and business ecosystems show a shift in companies' focus from purely economic and financial drivers, to social and environmental factors. Apart from efficient business processes, organizations now struggle to comply with ethical values, act in line with the interests of the community and endorse all their activities in environmentally friendly images.

Since BI in the area of higher education and particularly, as a tool for educational marketing activities, is a trailblazing concept that has not been scrutinized by many education institute, the scope is very new and untouched. Reviewing all the

references and citations used in this research, which are all within the twenty-first centuries can prove the novelty and freshness of this area. Thus, there is a broad area to be explored for higher education institutions and professionals interested in topics like “what are the key important factors to optimize the new market opportunity”, “business intelligence model in higher education institute”, “effective intelligence model to optimize the new market opportunity”, “market analysis framework in higher education institute”, “what are the key factors that improve the marketing strategy in high education institute”, etc. which could be a specific for further research.



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**APPENDIX A**  
**SEMI-STRUCTURED INTERVIEW QUESTIONS**



How does the education institute differentiate itself in order to compare with other business organizations?

In your opinion, what are the key important factors for managing an education institute?

What is the mission of your university?

Do you see any opportunity to extend a business in education institute?

In order to gain that goal/mission, what will be general marketing strategy in your university?

How do you define the target customers (Students) of your university?

In your opinion, how does manager identify the co-operators in higher education institute?

What kind of information (marketing, financial, management etc.) that managers need to share in organization?

How does your university communicate with/share information between management levels?

Do you think the current communication channel between your university and your customers is effective enough to deliver the marketing message?

If not, in your opinion what action did/will you take to resolve the problems?

In the perspective of management, how does your university maximize the market opportunity?

Would you like to add any comments?

#### Business Intelligence

How do you think essential information that an international university needs to determine on the making any decision?

Do you have any information technologies to acquire the necessary information for manager decision-making?

How does this information help you to explore market opportunity and enhance the overall performance on the marketplace?

What are the criteria for evaluating the result of management decision making?

A large, light gray watermark logo is centered on the page. It consists of a stylized, thick-lined letter 'S' that curves and loops. The 'S' is set against a background of two gray triangles: one in the top-left corner and one in the bottom-right corner, meeting at the center.

**APPENDIX B**  
CONSENT FORM – GENERAL

Project title: Using Business Intelligence to discover new market  
opportunity: A case study of Private University in Thailand

Researcher's name:

Supervisor's name:

I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.

I understand the purpose of the research project and my involvement in it.

I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.

I understand that I will be audio-taped during the interview.

I understand that the tape will be retained and stored by the researcher. The tape will only be used for transcribing in a form of computer database by the research.

Softcopies of transcript will be stored in the personal computer with password protected. All records (notes, tapes, and transcripts) will be stored in a locked file cabinet in a locked room. Only the researcher and supervisor will have access these materials.

I understand that I will not have any payment for taking part in this project.

Name of participant: \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

I have provided information about the research to the research participant and believe that s/he understands what is involved.

Researcher's

Date:

signature: \_\_\_\_\_



**APPENDIX C**

**ONLINE CONVERSATION PARTICIPANTS**

## Participants



Colin, M. Product Management Exclusive, Ottawa, Canada



Marc, J. BI and DW Professional Co-Chair, New York City, USA



Juan Carlos, G.A., Director Desarrollo de Negocio BITAM Europa en Bitam, Madrid Area, Spain



John Maynen, Senior Business Architect at STA Group, Chicago, USA



Mathew Tarbuck, Enterprise architect at Conexam, Canada



**APPENDIX D**  
ONLINE CONVERSATION



**Colin Moden**

Product Management Leader | UI Design | Programming Background | Trainer

+ Follow

The terms "Market Intelligence" and "Competitive Intelligence" really describe what you are trying to achieve, but not how you get it. The term "Business Intelligence" has become attached to a set of software products that pull data from databases and present it in to people as charts, reports, visualizations, dashboards, etc. Since the data available in corporate databases is mostly their own history, that's what BI tools tend to present. But BI tools actually provide very little intelligence, they present data with the hope that the person looking at the report will be able to deduce insight & intelligence from it.

Unlike • Reply privately • Flag as inappropriate • 11 days ago



**Marc Jellinek**

BI DW Professional

Unfollow

Business Intelligence is a generic term involving data management of large data sets that are expected to be aggregated and sliced. Extensions to the traditional definition may include data mining, data trending and other types of statistical analysis.

BI tends to include only transaction level data, reference data and external data (enrichment) that is quantifiable as dimensions (nouns) and measures (numerics).

BI tends to include the processing engines (relational databases and multi-dimensional database) as well as presentation layers (Business Objects, Excel, etc)

"Competitive Intelligence" [http://en.wikipedia.org/wiki/Competitive\\_intelligence](http://en.wikipedia.org/wiki/Competitive_intelligence) is broadly defined as defining, gathering, analyzing and distributing information about products, customers, competitors and any aspect of the environment (physical, legal, logistical, relationship, etc) that supports decision making.

This can include data gleaned from competitors public regulatory filings, PR announcements, etc as well as rumor and hearsay (I hear Microsoft is considering buying Nokia and hiring Elop as CEO, replacing Balmer).

"Market Intelligence" [http://en.wikipedia.org/wiki/Market\\_intelligence](http://en.wikipedia.org/wiki/Market_intelligence) may include information relative to a company's markets (size of the market, customer profiles) as well as a customer's place in the market in terms of success (Android leads the phone market with X number of units sold vs. Apple with y number of units sold) and positioning within a market (thing Gartner Magic Quadrant).

If there was a Venn diagram, all three would intersect. BI would intersect (but not cover) MI and CI as it is constrained to those things that are numerically quantifiable.



+ Follow

### Juan Carlos García Alcazar

Director Desarrollo de Negocio BITAM Europa en Bitam

Hi Zaya,

BI is the technology that help you to make a decisión; the other concepts are área that you need understand to manage your goals.

Business Intelligence is the name to refers all the technologies that improve your capacities to make a better decisión, and that not only mean to manage data and to visualize it, but everything that you need to manage your Making Decisión Process (expectations, communication, responsibilities management, Project management, experience, etc.

Competive intelligence, Market intelligence, and other "intelligences" like Business Intelligence not like tecnología, are áreas that you need knowledge to manage your interest, your needs, your goals.....; that mean, that you need to know the market or the competence or....., to manage your company

And BI as tecnología is the tecnología that provide you the tools to meke better your decisión, integrating data, visualizing it....., etc

Regards

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+ Follow

### John Maynen

Senior Business Architect at STA Group

I would agree with Mathew except that I might characterize market intelligence and competitive intelligence as inputs to business intelligence.

Sears has data on the shopping habits of tens of millions of customers, from which they can model behaviors. The mother of a two year old this year will likely be the mother of a three year old next year. Knowing what mothers of three year old children buy and where they live can aid Sears in optimizing their product mix and inventory levels.

Bed Bath & Beyond alters their product mix based upon nearby stores. If they are near a Macy's they change their product mix to be either complementary to or competitive with Macy's product mix.

Another area you can look at is store performance. It used to be about raw numbers, but data can change the context. If you have a store that falls 10% in sales in a market that fell 20% in population, and another that rose 10% in sales in a market that grew by 20% (in this oversimplification), which store performed better?

Opportunities can also be found in simply deciding how to best compete. Price is one factor. Product quality and selection is another. Customer service is another.. By knowing your competitors strengths and weaknesses, you can position yourself to be a stronger competitor.

Another common approach using competitive intelligence is that if you know who your competitors customers are, you can pursue their competitors. If your competitor is doing work for Safeway, you look to do business with Safeway's competitors.

The examples I've given so far are focused on looking horizontally, but looking vertically up and down the supply chain can also reveal opportunities. And there are often niche markets that are ignored, overlooked, and underestimated.



+ Follow

### Mathew Tarbuck

Enterprise Architect at Conexiam

John is certainly correct in his ascertain. If we take market intelligence to be the combined intelligence of all participants in the market, then this would certainly be an input into the business and hopefully used for the purpose of business improvement. It is this application of systems thinking that makes business intelligence such an exciting and yet challenging domain.

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**Bruno Carneiro**

Independent ETL Consultant at Data Power Team

[+ Follow](#)

Zaya,

I am not an expert, but by I believe that bussiness intelligence is based on internal data, where the own company systems are the source. The goal is improve what the company already do, making better decisions to keep increasing or stop decreasing.

Market intelligence is base on external data, where the market are the source. The goal is to analyze other oportunities, new areas, changing company trends , absorbing new clients.

This is my shot, but I really don't know any tool for market intelligence.

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**NAME** Sainzaya Chuluuntuya

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### **EDUCATION**

2014 Master of Business Administration, Stamford International  
University, Bangkok, Thailand

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