**Chapter I**

**The Problem and Its Background**

**Introduction**

In the world where everything is instant, computers plays a vital role in the society. It is used in almost everything and people interact with computer in daily aspect of life. Computers are used in helping a man's work faster and more efficient. It is also a tool in such a way that many innovations happen and it becomes the bedrock of our society in this present century.

Data is important in any form of Business and Information. They have the power to create possibilities in a business and today in 21st Century. Many company needs having a Database Management System in order to make their work easier and hassle free in such a way that it will be easy to manipulate business in spread sheets. To have a database in a Company is an asset in terms of efficient organizing and managing of data which are reflected in a current survey in 2016 wherein high demand of programming in SQL is ranked 1 (http://www.codingdojo.com/blog/9-most-in-demand-programming-languages-of-2016/). This means that SQL programming is really in demand for company’s need for database.

AdManCenter for Advancement of Man Inc. (AdMan Inc.) is a privately-owned corporation that is a Learning and Talent Service Provider, Event Manager and Consultancy company based in Tacloban City. The goal of the company is to Increase the Human Capital of the Eastern Visayas through high quality, meaningful, relevant, innovative, dynamic, and fun filled learning events. It is also a member of Philippine Society for Training and Development Foundation INC. (PSTD) that envisions to be a haven of learning and preferred brand choice as a service provider for Learning and Talent Development and Event Management Needs at a reasonable cost.

As a Learning and Development and Consultancy Service Provider, they offer a Blended Solution to all Learning and Development needs of every organization, from the business sector, to local government units (LGU), government agencies, non-government, institutions and the academe. Anchored on a Multi and Interdisciplinary strategy, it strives to foster a holistic approach to its personal and professional enhancement programs effectively advancing a Work-Life Balanced, Value Centric, Client Friendly and Value for Money Learning and Development Events. They also offer a training on demand service that allows to create learning and development program tailored to the specific needs of every discerning clients. The core team is composed of highly qualified subject matter experts/industry practioners as trainer-consultants , with their intensive work experience in their respective fields of expertise ensures that their training participants would only get the best and enjoy in depth analysis and perspectives of the topics at hand .Their competitive advantage is having lecturers/trainer-consultant as Industry Practitioners sharing their valuable insights on specific topics based on actual Industry Standards and Practices.

As an Event Management and Consultancy Company, they provide a dynamic, hassle free management of organization's learning events such as seminars, trainings, conference and the likes. Be it small groups to the big one, the company handle it all - AdMan Inc. They work to ensure an informative, motivating, memorable and fun filled managed events. Like any companies Adman Inc. has also many problems, one of which is poor Data Management such as security, efficiency of the system, storing and encoding of data, data redundancy, and monitoring. The company faces a great adversary in term of advertisement and contacting the trusted client and partners. The company believes on a B2C e-commerce that every customer must meet the desired satisfaction. In order for the company to efficiently manage its database, we, the researcher, proposed an Information Management System that will effectively address this problem.

**Project Context**

The current situation of the company is not going to boundary one of the problem facing is doesn't have a specialized database software that will address in the problem of profiling and the availability of data. Through this problem it causes a lot frustration and waste a lot resource due to this problem. Even so the company is a small scale there covered almost city, municipality, or town here in region 8. To meet the demand of the company, we the researcher will propose a database management system which will address to the company's needs.

This system is named ADMAN DARE which means Advancement of Man Data Access Recovery Engine. This system is specialized in profiling, and has some features of web development such as the web advertisement, and email blasting. Using web development, our proposed system will meet the first business benefit is to increase the company's popularity and this system support of following business benefits such as:

* reducing the time of processing data;
* reducing the complexity of data; and
* making the customer satisfaction at ease;

**Theoretical Framework**

In developing the proposed system, the different theories below have been applied by the researchers. These theories contribute to the completion of the study.

In the making of the system, the researchers will construct several designs in which it would conform to the area of the study. Based on George Miller's TOTE (Test - Operate - Test - Exit) Theory, there are operational feedback units that function on a self- regulated system. According to this theory, every individual could have a numerous TOTE's (Test - Operate - Test - Exit). Before this behavior occurs, there are must first be some input. Then, there must be criteria for testing the input; this is usually the comparison of some internal standards (T). Next, there must be responses for dealing with the incongruities (O). When the input does not match with the internal standards, some actions will be taken until the test against the internal standard is repeated (T). The TOTE (Test-Operates-Test - Exit) will only continue to cycle through iteration of TOT until the incongruity is resolute. Once the incongruities are being accomplished, the individual exits the loop with a resultant behavior that was based on congruity (E). Furthermore, the theory entails the vulnerability/openness of a system to carry out any changes that can be applied on some specification. Thus, the researchers considered the TOTE (Test - Operate - Test - Exit). This theory simply tells that there is no such thing as faultless system. Hence, it can be improved on a step by step process.

The Customer Focus Theory deals with the gathering and analyzing the customer requirement, collection and utilization of customer information, receiving and utilizing the customer satisfaction rating, and improvement of customer relationship, (Brigham Young University, 2012).

This theory will help the researchers to identify the needs of the client's needs in which essential giving solution and developing the system.

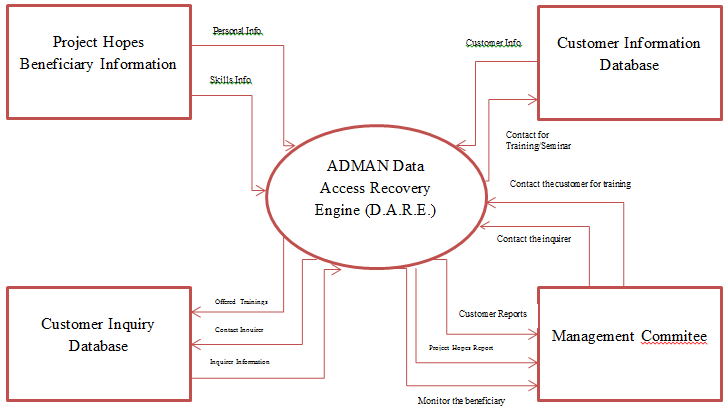
The Business to Business (B2B). E-Commerce Theory, according to useoftechnology.com, states that a business sells a product or services to another business is like a mutual relationship which will enhance their knowledge in their field of work. These theories will help the researcher to the process of the client organization.

The Component Object Model-Client (COM-Client) programming, is a framework that is been introduced by Microsoft to enable inter-process communication object creation in a large programming language. It means that every any application can interact with any application (6) in a network or every new application can interact with the old application (MSDN.com).

This programming model will help the researcher to meet the standards of the Client and increase efficiency in user adaptability.

**Conceptual Framework**

The flowchart below shows the flow of the system the researchers will implement.



**Figure 1. Conceptual Framework**

The inputs used were the information collected from the surveys of Center for the Advancement of Man (AdMan). We used surveys, downloaded materials, thesis books, and online articles for reference. After we identified the flow of the process, the researchers will determine the overall scope and the problems encountered in the system. After data gathering, the enhancement of the current system will follow. The opinion from the administration will also be considered as inputs for the final output. The output will be the result of careful analysis and discussion of the proponents and the organization. The output will be the AdMan Data Access Recovery Engine (D. A. R. E.).

**Objective of the study**

This study aimed to design and develop a Database Management System for ADMAN Inc. Tacloban that will provide fast and secure access of the data and generation of reports. More specifically, this study aimed to answer the following questions:

1. What are the problems encountered by the ADMAN Inc. staff when storing data in terms of the following:
   1. Time?
   2. Specification?
   3. Integrity?
2. What are the different record keeping procedures done in the organization in terms of:
   1. Beneficiary?
   2. Potential Customers?
3. What system can be developed to improve the processes at the ADMAN Inc. Tacloban Office?

**Scope and Limitations**

This study aims to develop a database management and information system that would help improve the process of ADMAN.

The scope of the system includes the following: to create a profile of customers/potential customers, to monitor the status of the beneficiary, to advertise the company’s events, to create graphs, to generate reports, to secure the data, to upgrade the performance of the current system and to establish a scalable database management system.

The study will be limited to the ADMAN beneficiary. The dissemination of information about trainings or seminars. Going out to the community, surveying, participating in seminars or trainings and interviewing of participants won’t be included in the scope of the system. Moreover, the study aims to develop a software based on existing technologies in the organization. The study will not go further on tallying the data.

**Definition of Terms**

The following are the terms were used in this study:

**D-A-R-E** the complete meaning of this is Data Access Recovery Engine

**User-Friendly** means it is easy to use and faster to learn

**Likelihood** is a probability of something or chance of the possible result of what you are going to do.

**Beneficiary** is the company give a special offer to develop of their skills, talents, and work ethics

**Dissemination** is to inform many people for an event or something.

**Integrity** is the state of being complete of this information.

**Potential Customer** is an interested person, which is interested to offer of the company

**Customer** is the one who has already transaction to the company.

**Partners** is a organization that the company is tied up to and have a mutual relationship.

**CHAPTER II**

**Related Literature**

The field of Knowledge Discovery in Databases (KDD) has generated a great deal of interest recently (Piatetsky-Shapiro and Frawley 1991, Fayyad, Piatetsky-Shapiro Smyth and Uthurusamy 1996). The fundamental goal of KDD, the nontrivial extraction of structure and patterns from databases, is very like data exploration. KDD research primarily focuses on automated data analysis, using decision trees, linear and nonlinear regression, classification, nearest-neighbor techniques, and pattern-matching methods (Fayyad, Piatetsky-Shapiro and Smyth 1996).

Gillan (1993) analyzed humans interacting with simple graphic displays, and identified searching for a spatial location of a variable indicator on a graph,encoding a value of an indicator, performing arithmetic operations on encoded values, comparing spatial relations and responding. It was observed that computational processes were used, and their ordering depended on the graph in addition to the question to be answered(goal). Encoding a value is equivalent to generating a representation. These tasks all existing Springmeyer’s taxonomy.

Information systems (IS)are combinations of hardware, software, and telecommunications networks that people build and use to collect, create, and distribute useful data, typically in organizational settings. Hardware refers to physical computer equipment, such as the computer monitor, central processing unit, or keyboard. Software refers to a program or set of programs that tell the computer to perform certain tasks. Telecommunications networks refer to a group of two or more computer systems linked together with communications equipment. (Information Systems Today - Managing in the Digital World, fourth edition. Prentice-Hall, 2010.)

Internet architecture, together with other improvements in software architecture and development tools, has turned IT into a far more powerful tool for strategy. It is much easier to customize packaged Internet applications to a company's unique strategic positioning. By providing a common IT delivery platform across the value chain, Internet architecture and standards also make it possible to build truly integrated and customized systems that reinforce the fit among activities. (**Michael E. Porter)**

A database is a collection of related data. By data, we mean known facts that can be

recorded and that have implicit meaning. For example, consider the names, tele-

phone numbers, and addresses of the people you know. You may have recorded this

data in an indexed address book or you may have stored it on a hard drive, using a

personal computer and software such as Microsoft Access or Excel. This collection

of related data with an implicit meaning is a database. (Fundamentals of Database Systems, sixth edition. ElmsriNavari,2011)

A Data archiving is the sort of paperwork jargon that many employees will be confronted within workplace. It is the process by which inactive information may- or may not – be used again in the future but nonetheless should be stored until the end of its retention schedule. Archived data allows employees to retrieve back up information independently without having to rely on the expertise third parties and it is vitally important for information management and can give a business greater control over their information processes, as a business grows it will create more data – data that needs to be meticulously managed and monitored for it to be utilized properly. Keeping tabs on this data can prove problematic for businesses that never put an archiving system in place. (Secure Data Management Ltd., 2016)

A Data security is critical for most businesses and even home computer users. Client information, payment information, personal files, bank account details - all this information can be hard to replace and potentially dangerous if it falls into the wrong hands. Data lost due to disasters such as a flood or fire is crushing, but losing it to hackers or a malware infection can have much greater consequences. Thorough data security begins with an overall strategy and risk assessment. This will enable you to identify the risks you are faced with and what could happen if valuable data is lost through theft, malware infection or a system crash.

**Related Systems**

Health information systems refer to any system that captures, stores, manages or transmits information related to the health of individuals or the activities of organisations that work within the health sector. This definition incorporates things such as district level routine information systems, disease surveillance systems, and includes laboratory information systems, hospital patient administration systems (PAS) and human resource management information systems (HRMIS). Overall, a well-functioning HIS is an integrated effort to collect, process, report and use health information and knowledge to influence policy and decision-making, programme action, individual and public health outcomes, and research. Sound decision-making at all levels of a health system requires reliable health statistics that are disaggregated by sex, age and socioeconomic characteristics. At a policy level, decisions informed by evidence contribute to more efficient resource allocation and, at the delivery level, information about the quality and effectiveness of services can contribute to better outcomes. (phinnetwork.org)

A geographic information system (GIS) is a computer system for capturing, storing, checking, and displaying data related to positions on Earth’s surface. By relating seemingly unrelated data, GIS can help individuals and organizations better understand spatial patterns and relationships.

(nationalgeographic.org/encyclopedia/geographic-information-system-gis/)

A marketing information system (MIS) is a management information system designed to support marketing decision making. It brings together many kinds of data, people, equipment and procedures to help an organization make better decisions. American academic [Philip Kotler](https://www.boundless.com/marketing/definition/philip-kotler/) has defined it more broadly as "people, equipment, and procedures to gather, sort, analyze, evaluate, and distribute needed, timely, and accurate information to marketing decision makers. " Not to be confused for a management information system, marketing information systems are designed specifically for managing the marketing aspects of the business. (boundless.com)

Content Management System (CMS)is an application (more likely web-based), that provides capabilities for multiple users with different permission levels to manage (all or a section of) content, data or information of a website project, or internet / intranet application. Managing content refers to creating, editing, archiving, publishing, collaborating on, reporting, distributing website content, data and information. (comentum.com/what-is-cms-content-management-system.html)

A quality management system (QMS) is a formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps coordinate and direct an organization’s activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis.  Quality management systems serve many purposes like improving processes, reducing waste, lowering costs, facilitating and identifying training opportunities, engaging staff, and setting organization-wide direction. (asq.org/learn-about-quality/quality-management-system/)