

# Management of information system essay sample

[Literature](#), [Russian Literature](#)



## 1. 0 Introduction

This report is written to propose the Chief Executive Officer (CEO) and Board of Director of Dimensi Expressway Berhad (DEX) on how MIS can be used to improve our highway management and maintenance. Every system practicing now has their strength and weakness together with the improvement in technology. Therefore, the Road Management and Maintenance System was not excluded and need to improve the system time by time. A systematic approach to management maintenance is needed for several reason; 1) Provide information on the current state of pavement and forecast future condition 2) Give objective alternatives for maintenance policies 3) Provide a sound basis fro resource allocation and optimal use of fund 4) Increase the effectiveness of management and provide savings in expenditure and 5) Provide an objective, rapid and repeatable system fro decision making.

The objective of this report are:

1. Proposed FOUR ways of how MIS can be improve DEX's highway management and maintenance, by including the process and method involved. 2. THREE reasons on whether DEX should integrate data from the company's social networking tools into ours MIS ( for highway management and maintenance) 2. 0 Development of MIS in Highway Management and Maintenance The rational and objective of this report to propose the Highway Management and Maintenance System. This system is capable of generating and providing comprehensive highway data through introducing and operating a unified location reference system in connection with existing

highway systems, and establishing a linkage between the digital map for highway management and a variety of highway-related data. Refer figure 1.

-4

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

Figure : 1 MIS element

-5

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

## 2. 1 Location Reference System for Highway

For the location expression, the kilometer posts were installed every 1 km for the upper and lower bound of highway. The location reference systems were defined to express all the highway information based on the kilometer posts. The goal is to ensure efficient locational information management of the highway data, which has been characterized by frequent route changes. The contents of kilometer post are; 1) Route number for highway, 2) The closest destination ahead, 3) Remaining distance to the destination and 4) upper bound marking. This MIS location reference system was designed to satisfied the needs of highway managers, highway users and system engineers. The

<https://assignbuster.com/management-of-information-system-essay-sample/>

kilometer posts installed to help the driver to figure out where he/she is while driving. Similarly, the system engineer can utilize location reference system efficiently and accurately for updating the highway related data in case of frequent highway alignment changes and the locational changes of highway facilities.

## 2. 2 Digital Maps for Highway Management

Expressing highway information on the digital map makes it easy to understand the information and lots of overlaid information can be analyzed by the Geographic Information System (GIS) techniques. Before development of the MIS, it was impossible to connect various information into the highway digital map. It is because each individual system did not have digital map to share. Through the highway digital map, it became possible to give visual information by expressing the highway related information on highway digital map. MIS became easier through easy location finding, and spatial queries made it possible to conduct various analysis.

The MIS Digital maps include various layers such as highway centerlines, administrative boundaries, bridges, rivers, and so on. In many cases, highway links can have one to many relationships. A link may have more than one attribute for pavement management. For example, at a certain location of one link, pavement data can be changed. In this case, highway link in the digital map should be divided according to the number changes. In order to solve this problem, a multi-attribute dynamic segmentation data model was designed and implemented in the MIS application software.

-6

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

## 2. 3 Highway Digital Photologging Database

In order to enhance efficiency and utilization of the MIS, a highway photologging system was developed. A highway visual image shows highway alignment information, road sign and roadside safety facilities. Visual image database will be added and integrated into the MIS. To collect highway visual images, highway photologging vehicle was developed. Highway photologging vehicle takes a visual images every 10m along the highway. The photologging system will also be integrated into the MIS to provide highway visual images to the highway management office.

This system to provide a visual inventory of highway such as roadway, roadside facilities and pavement conditions, to improve frequent vehicle crash locations, and to quickly view the site in case of emergency such as landslide, severe accident and etc. In highway photologging vehicle, two progressive-scan CCD cameras, 2 GPS (Global Positioning System) receivers, INS (Inertial Navigation System), DMI (Distance Measure Instrument), and signal synchronization device were installed. Proto-type highway photologging application software which has functionalities to stimulate the highway driving on different driving speeds, and to enlarge or reduce view scale and bright control and etc.

Figure 2

-7

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

2. 4 Electronic Toll Collection Systems for individual routes. Electronic Toll Collection (ETC) systems have been deployed in a few countries, and motivation for deployment is high. The deployment is aims to alleviate congestion around toll gates and to prevent theft by toll collectors. The toll plaza equipment consists of a lane controller, toll violation cameras, treadles, variable message signs (VMS), detector loops, and lane transponders. The lane controller coordinates all the information from each interacts and transaction with the Plaza Local Area Network (LAN). The Plaza LAN connect either direct connection or via wide are network (WAN) to the appropriate service center for the toll road in question. All this items called E-Z Pass, each of the participating E-Z Pass toll authorities maintain their own service centers that issue the transponders and maintain the accounts fro their local patrons.

The centers receive and correlate all of the transactions form the toll plazas it services and adjusts the accounts of the patron, then sending the transaction result back to the plaza within milliseconds. These centers interact when patrons from one use the toll services of another center. 3. 0

Social Networking for Highway Management and Maintenance Social networking Web sites such as Facebook, MySpace, and Twitter have impact daily life and social relationships in a profound way (Marcia Amidon Lusted, 2011). Businesses, large and small, are finding ways to involve employees, customers, and partners in shared, online, collaborative activities that perform distinct business functions (Rawn Shah, 2010). Social networking is a novel way of increasing a business by connecting with other people.

### 3. 1 Establish connectivity with people/ users.

Sites like facebook host a foundation for a mass audience and within any industry it is near impossible to please every customer open up a public opportunity for people to express their views or their problem in our services. Social networking allow businesses to reach customers on an individual level and address their inquires or request. While this can be a resourceful way to glean information on a customer's fro a service, be aware that customers can also use social networking platforms to -8

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

grievances on past experiences. It may require addressing specific concerns in an online forum should a customer use this approach.

### 3. 2 Social networking distraction trap

The threat from web-borne viruses and malware are often overlooked by the

company. Hackers are attracted to social networking sites because they see the potential to commit fraud and launch spam and malware attacks.

According to Facebook Company, there are tens of thousands of applications available for face book may make every effort to provide protection against malware, these third-party applications may not all be safe. Some of the application have the potential to be used to infect computers with malicious code which in turn can be used to collect data from the user's site.

Messaging on social networking sites is also a concern and the Koobface worm is. One example of how message are used to spread malicious code and worms. 3. 3 Viral social disadvantage

The wrong online brand strategy could put the company at a viral social disadvantage and may even damage ours' reputation, e. g when the company make a mistake offline, a few will know but when the company make a mistake in front of thousands users what will happen?. Social networking also can have a negative influence on worker productivity. Employees may waste valuable time using media channels such as Facebook and Twitter. They also use social media to attack the company's reputation.

#### 4. 0 Conclusion

Before the development of MIS in highway management and maintenance, there existed many problems in utilizing the highway data efficiently. It was difficult to indicate the same location among the highway management and maintenance system since each individual highway management and maintenance system has its own location expression with their own system. Similarly, it was hard to share highway data such as traffic volumes and



highway drawings among the system since there was no integrated database system and this caused overlapping data storage and overlapping data input effort. Lastly, -9

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

since most systems were developed a decade ago, they are non-GIS (Geographic Information System) based system.

#### 5. 0 Recommendation

Therefore, to solve this problems, first, new location reference system for the Highway was introduced by installing kilometer posts which were designed to have flexible adjustments to route change. Second, an integrated database was established by applying a unified location reference system to relevant data. Third, the Highway digital maps were utilized and reproduced in order to provide highway information in a visual format by presenting each system's highway analysis data in common digital map. Finally the client/server-based MIS application software and Web based MIS application software were develop. The development of MIS has brought a consistency of highway management and maintenance and user convenience are guaranteed by the adoption of a unified location reference system.

- 10

FAKULTIY OF BUSINESS AND MANAGEMENT

CBMS4303

MANAGEMENT OF INFORMATION SYSTEM

SAFINAH BINTI HASSAN ( 741129-06-5226 )

#### 6. 0 Reference

Marcia Amidon Lusted, (2011), Social Networking : Myspace, Facebook, & Twitter, Mari Kesselring, Minnesota USA.

Rawn Shah, (2010), Social Networking for Business : Choosing the Right Tools and Resources to Fit Your Needs, Pearson Education, Inc. New Jersey  
.....(2011) MTD Capital Bhd (MTDC), retrieve November 11, 2011. From <http://www.mtdcap.com>

.....(2011)

Plus Expressways Berhad, retrieve November 11, 2011. From

<http://www.plus.com.my>

.....(2011) GIS Solutions for Highway and Roadway Management, retrieve November 8, 2011. From <http://www.esri.com>

.....(2011) Highway Management Services Ltd., retrieve November 8, 2011. From <http://www.highwaymanagement.com>

...(1994) Management Information Systems: A Synthesis of Transit Practice, retrieve November 8, 2011. From <http://www.trb.org>