Telematics Business and Management in the Bahrain Market: Challenges and Obstacles

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ABSTRACT

The aim of this paper is to present and demonstrate the main challenges and obstacles facing Telematics companies entering the market in Bahrain. Telematics is part of Information and communication technologies (ICT) which plays a major role in the economic development of countries. However, there are many obstacles and challenges facing new businesses that venture into the small market of Bahrain; e.g. the small market size, competition and lack of financing channels (e.g. venture capital).

Keywords: Challenges, Dispatching, General Packet Radio Service (GPRS), Global Positioning System (GPS), Global System for Mobile (GSM), Information and Communication Technologies (ICT), Navigation, Personal Navigation Devices (PND), Telematics, Vehicle Telematics

1. INTRODUCTION

Telematics typically is any integrated use of telecommunications and informatics, also known as ICT (Information and Communications Technology). ICT plays a major role in the economic development of countries (Shirazia, Gholamib, An, & Higo, 2009). Basically, telematics is about the technology of sending, receiving and storing information via telecommunication devices (GSM/GPRS) along with controlling of remote objects (Information and communications technology, n.d.; Telematics, n.d.; Laurie, 2012). Moreover, telematics includes but is not limited to Global Positioning System (GPS) technology integrated with computers and mobile communications technology in automotive navigation systems (Hossaina, Chowb, Leunge, McLeod, Misic, Wongc, & Yangc, 2010).

The objective of this study is to present and demonstrate the main challenges and obstacles facing Telematics companies entering the market in Bahrain. This research will end up with listing the main challenges facing small ICT/Telematics companies entering such market in Bahrain and how they can face those challenges.

The materials in this paper are organized as follows; a summary of products and service based on Telematics are presented in section two.
Section three presents the main components of Telematics system. In section four we are going to talk about the importance of Telematics. Section five discusses the main challenges facing Telematics companies entering the market of Bahrain, and in section six we attempt to present ideas on how to face and overcome the challenges and limitations of the small market of Bahrain. Finally a conclusion and recommendations for future work is presented in section seven.

2. PRODUCTS AND SERVICES BASED ON TELERMATICS

There are many products and services based on Telematics system such as Fleet/vehicle Tracking, Dispatching and Navigation, Personal Tracking and Traffic Telematics.

2.1. Fleet/Vehicle Tracking & Management

Vehicle tracking/Telematics is a way of monitoring the location, movements, status and behavior of a vehicle or fleet of vehicles (such as Sedan cars, Trucks, Containers, Motorcycles, etc…) remotely to enhance the functionality, productivity and security of both vehicles and drivers (UK Telematics Online, n.d.). The tracker is basically a combination of a GPS module, GPS antenna and GSM/GPRS modem controlled by a microcontroller. This tracker will start transmitting GPRS packets (using internet protocols) through GSM network to a remote server/database. After that the user can monitor and track the movement of his fleet from his PC/web browser. The data which are received from the tracker will be turned into readable information by using reporting tools in combination with a visual display on computerized mapping software (GIS – Geographical Information System).

2.2. Dispatching and Navigation

Dispatching and in-vehicle navigation system (also called Personal Navigation Devices (PND)) is much convenient, safer and reliable solution for drivers to find their destinations without the need of having a paper based maps (Dispatch and navigation Garmin to Contigo, 2011). Moreover, by interfacing this system with the vehicle telematics/tracking system the call center will be able to dispatch jobs, monitor jobs and communicate with the driver by text messaging. This will ensure that the drivers are automatically routed to the precise customer location and provide the call center with up to the minute status information on their progress (Jobs monitoring & dispatch, 2011). Such real-time scheduling and dispatching technologies could provide improved services in high density urban and low density rural areas (Mulleya & Nelsonb, 2009).

2.3. Personal Tracking

GPS personal tracking are small tracking devices (similar to the vehicle tracker but without any external wiring) which can be carried in our pockets (GPS personal tracking, n.d.). This type of trackers can be used for a number of useful applications, including children and elderly tracking, sales person tracking, animals tracking and tracking of out-patients.

2.4. Traffic Telematics

With the rapid growth of road networks and total numbers of cars on the road, traffic problems seem inevitable with urbanization. With the advanced development of information and communications technologies (ICT) and Telematics, people can plan their routes in order to save their driving time and avoid areas of congested traffic and reach their places easily and conveniently (Lin1, Hsieh1, & Tzeng, 2010; Gerardoa & Leeb, 2009). To receive correct and real time traffic information, the driver should have a vehicle telematics/tracking device interfaced with a PND communicating with the Traffic administration telemetry network. This will help the drivers to realize the immediate road conditions, & comply with traffic signals. Such system can support emergency vehicles (e.g. ambulance, electricity, water and fire brigade and police).
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