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Evaluation of E-Trust Building Structures Interact With Transportation

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ABSTRACT

Transportation industry is the most dynamic components of any society. In the twenty-first century, with the growth of technology and the widespread use of the Internet and the emergence of e-commerce and e-business interaction and active transportation industry deserves to have a wide range of electronic services to the transportation community to take advantage of the investors of the new and varied experience in this industry. Since all the functions and facilities for transit passengers and goods is defined in two areas in this article, as well as e-commerce and transit systems and the interaction of the two fields is investigated, and then we will look in the field of trust in the e-commerce and e-trust structures in the transportation of passengers and goods.

Keywords: ITS- E-commerce - Transportation – Trust - Electronic Payment

INTRODUCTION

In today's world of commerce and businesses unrelated to cyber space and electronic services seems to be tied hand and foot. Since facilities in the realm of transportation services to the view can be divide into two categories; man and good services. The interaction of transportation systems and e-business area as well be classified into two categories. Electronic commerce and transportation industry have mutual needs rather than evidence of this claim, the staggering effects of transportation costs and administrative purposes, commercial and etc that every citizen annually must paid. With the other hand, the profitable market of Community Transit's needs make the role of e-commerce transactions stronger.

Overall, in man-related transportation facilities we have services such as electronic tickets, electronic toll payment systems, electronic sales, use e-government services and so on. Goods in transit as well, each of the four branches of the various modes of transit (rail ,road ,sea and air) use from e-commerce and also make a great market for investors. Transportation of passengers as well as technologies for all 4 modes of transportation to move towards greater efficiency in e-commerce are also provided. Customer's trust in the role as one of the main factors involved in e-business is no secret; So from this perspective, we will examine the intersection of commerce and transportation industry in detail.

THE ROLE OF TRUST IN E-COMMERCE SPACE

Trust plays an important role in Web services. Generally, web services and e-business can be successful only if virtual environments gain the trust of the public. The lack of trust is one of the reasons that prevent Internet users to communicate with Web services brand. The transportation industry, which now accounts for a large portion of resources and costs has required significant user trust in e-commerce services for the long-term goals set out in the strategy in *ITS* development.Hence it is necessary in all areas of activity, transportation systems, strategies should be reviewed so as to gain the trust of the public in addition to reducing costs, saving time and avoid wasting energy, and entrepreneurship in the virtual space, and attract business more profits.

E-trust icon in our countries newly designed is awarded to companies that have the necessary permits to enter the field of electronic commerce, standards are necessary to protect the financial security of their clients. The holder of the symbol, a symbol of the company's customers, in case of any problem in electronic transactions and online purchases possible interception and demanding their rights in tend [1].

Trust in the business relationship involves two dimensions:

A) Creditability: The credit amount that buyer believes the seller's expertise and ability to function properly

B) Goodwill: The buyer believes the seller incentives in the interests of the buyer [2].

The general structure of trust in e-business relationships can be expressed by:

Customer's trust in the product of two categories of e-services will be operating, personal factors and social factors. The individual factors include gender, age, education

and occupation, and social factors can be noted that the strength and reliability of risk-taking culture depending on the amount of the trust of the factors will be different.

BUILDING TRUST AND TRUST IN E-COMMERCE MANAGEMENT

Trust management is a new concept in Web services [3] The management can help us achieve these goals, hence the need to seek an approach to the overall management of trust in e-commerce systems do. Trust management is the operation, planning, implementation and control of the trust and the exchange of an organ or set of transactions to achieve the desired service quality in the virtual world. Building trust in cyber space electronic commerce is beneficial for all services and services for transportation systems in the passenger and goods are no exceptions, so deserving of deeply and earnestly, in line with the requirement for the trust of approaches be technically and psychologically. According to a study conducted by a team of researchers at the University of Shijiazhuang, China[3]one approach to building trust in cyber space management and engineering. *Junqing Sun* and his colleagues found that in cyber space, for causing service reliability, operation and intermediaries makes sense for them to be in their relationships with their colleagues and the trust they have for the other two groups. The proposed approach is shown below that the resulting plan was a model for the technique of trust in cyber space:

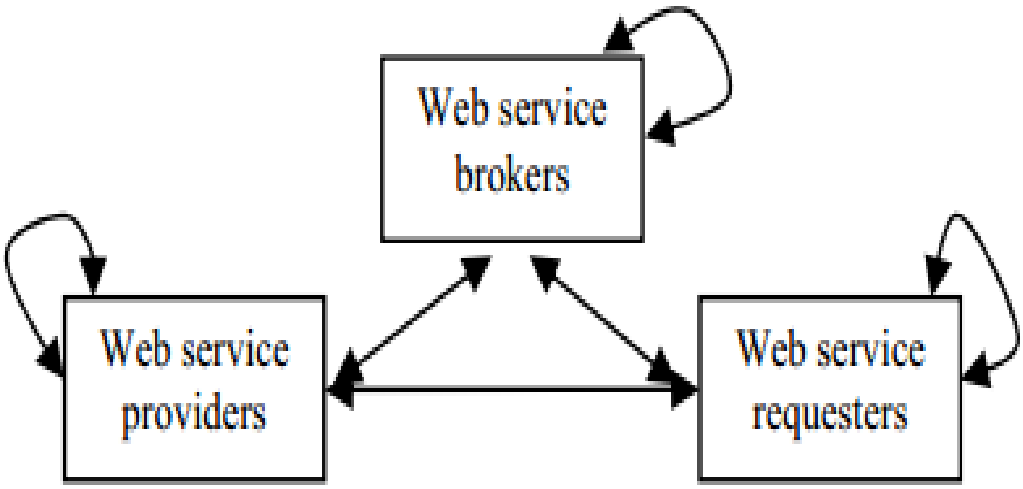

Figure 1. A multi agent model of trust relationship in web services.

In fact, the relationship between the formation of a network of web services, it can be called a trust network. Trust management as an activity for the collection, compilation, analysis and provision of safety signs to evaluate trust and decisions related to e-commerce relationships [4]., In fact, trust management strategy, implementation and evaluation of overall trust that an organ or set of web services to reach the lofty goals of their term. Trust management systems in commercial service website that allows users and providers to understand and assess the risks involved in the trade so will take at

least losses. A trust management strategy applicable to the following steps [3] suggested that are also applicable for electronic transactions in transportation and can be useful:

Step1.a) Trust initialization: To begin the process we need to Starter. For example, individuals *A* and *B* have ever met To establish a connection between them, we can arrange a meeting between them in cyber space that they trust each other and begin to communicate in this space.

Step1.b) Trust recommendation: An option to start the process of trust is introduced. For example, *C* to *A* to *B* will inform their trust, then *A* and *B* start a web business relationship with their reliable service, even though *A* and *B* have not yet physically meet each other*C* is also related to the set up of the trust.

Step 2) Trust assessment: Simultaneously with a relationship of trust between *A* and *B* was formed, the trust evaluation begins. The assessment is done in order to evaluate the degree of trust *from A* to *B,* based on a strict criteria in this regard. Assessments in Web space can be trusted to take decisions based on all the signs that a business relationship in cyber space can be collectedCyber space can trust each set *A* to set *B* either directly or with the aid of the trust had secured a set (in this example, set *C)* evaluation This assessment is a continuous process for managing trust in cyber space until the trust be set aside.

Step 3) Trust monitoring: While managing the trust in the of Web business services, trust control also frequently occurs because the set *A* always strives to achieve maximum benefit in these transactions before the lack of trust in the relationship happens Therefore, control of strategic actions to create a lasting relationship of trust in business services web.

Step 4) Trust adjustment: Some times, along with the process ,trust relationship between *A* and *B* must be adjusted and the adjustment due to the change of time, place and the service must be applied as long as there is trustTrade negotiations and agreements between A and B can amend their trust in each other.**Step 5)** Trust sustainability : Stable and unstable trust relationships with a lasting trust in the trust management strategy is an important goal for a web business services However, if a trust relationship with any reason can not be sustained, trust is lost and any managing would be meaningless in this context.

It should be noted that in this model, the evaluation and control of independent sets can trust or be trusted to manage intelligent systems (like control-based trust management systems).

E-COMMERCE INTERACTION WITH INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

A. Ecommerce interaction with intelligent transportation systems in the passenger

Citizens daily make several trips that provides e-Commerce investment fields In this case [5] defines ITS application from a business perspective as follows:

TABLE 1 ITS APPLICATION FROM A BUSINESS PERSPECTIVE

ITS applications	Beneficiary		Costs
	First	The second	
Advanced Traffic Management Systems	Public , private agencies	Public agencies	Public agencies
Advanced Traveler Information System	Public, private agencies		Public, private Agencies
Obtain an electronic toll system	private agencies, public	Public agencies	private agencies, Public
Operating system for a commercial vehicle	private agencies	Public ,Public agencies	private agencies
Advanced public transit services	Public, Public agencies	————	Public agencies

Researchs on strategic planning project in Manitoba, Canada [5], through which the service is to provide users with intelligent transportation systems will prioritize electronic payment systems, clearance of commercial vehicles, public transport management and administrative processes of commercial vehicles were ranked first to tenth place, which indicates the important role of e-commerce technology in the transportation systemsBenefits recognized in each of the cases was as follows:

Management, public transportation and pay for these trips, providing public transit service easier, hasten the border inspection process and improve the efficiency of commercial vehicles provisioning trucks of the benefits of electronic clearance of goods administrative processes Interestingly, in this study, in a way that best serves the individual ranking services, public transit services, electronic payment services and commercial vehicles were third to fifth positions respectively.

Both types of services are expected to engage in e-commerce technologies and transportation systems have led to improved quality, reduced energy costs and reduce violationsexample, electronic payment services should be able to identify and remedy possible culprits for transport operators to provide electronic processing of transactions locally or centrally possible for operators to get tolls, and the electronic process to pay e-costs parking.

1) Electronic fare payment systems

For the development of payment systems, public transportation services, e-ticket is borned , and has changed the structures and methods of transportation companies by eliminating manual tasks and additional costs In this case [6] mandates a lot of needs to achieve an e-ticket sales system structure that can be classified as follows:

1. Classification, sell, send and revival e-tickets.
2. Help collect and validate databases based on wireless systems.

3. Management and control sell sites directly or indirectly to the structured transmission of data and sold tickets related information.

4. Structured data management and electronic ticket systems to help link with other information systems (planning services, maintenance management, analytical calculations)

Statistics, reports and resources sharing between the operators of transportation systems have been designed to fit into the structure. Studies on the benefits of electronic fare payment system was done in [7] as follows:

TABLE 2 THE BENEFITS OF ELECTRONIC FARE PAYMENT *SYSTEM*

Benefits of electronic fare payment systems		
Target	Influence	Example
User Satisfaction	Positive	__
Efficiency	Positive	Electronic fare payment smart card in California was caused by 9.5million dollars of lost revenue due to non-payment of rent to the return system.

Intelligent public transport fares can be paid more comfort for users and the costs dramatically by increasing the useful life of bankbill in the society. Recent Mobiles systems offered the ticket service and have 3 types of services we can utilize this technology in [6] is divided as follows:

1.Cell Phone Use: It is estimated that by 2015 more than half a billion people through mobile systems produced and buy tickets for travel by metro or bus, while the 2010 will be less than 100 million people around the world to act Purchase tickets by mobile devices, and the figures are expected to increase rapidly in the next few years. Recently in London with technology On mobile phones and bank cards palpable on the set of London Transport, the new system will replace the old system of tickets *NFC* or a closely related field, rather than switching to transfer data and files between mobile devices bluetooth devices to search for the contrary bluetooth does not need to spend time and the second machine can be used by simply. *NFC* enhances security procedures as required to confirm the device also supports connection. Most *NFC* applications, payment via smart phones

The previous system was common in this country, buy and receive tickets via mobile phone SMS was first used in 2001.

2.By barcoding system using SIM mobile phone: The security of the system with respect to the use of SMS, which is better known example of its use in 2005 for the Rugby World Cup in the United Kingdom were carried outTo use this technology to mobile operators in each country participating, barcoding system calls to create.

3. Using radio frequency identification system: In this way, the tickets will be sent via multimedia messaging serviceWith this system, mobile phone, a smart card without the need for direct contact needs.

1) Trust in the operation of electronic ticketing systems

Zuhal Tanrikulu and *Nurgen Celilbatur*[9] Department of Management Information Systems, *Bogazici* University, Istanbul, conducted research in which questions such as the following, were asked about reasons not to trust people on the E-ticket systems 52 questionnaires and 70 of them manually to the 51 questionnaires were distributed through e-mails manually, reliable, and therefore they were 121 valid questionnaires and the results were analyzed Nearly 50% of respondents were female and 50% male, and over 75% of them have college education and income distribution is quite scattered 85% of the Internet has been used once or more daily, and about 75% of their overall do internet shopping. Age number of participants in the range of 19 to 25 years was 50%.

Based on the results obtained from this study factors can be mentally cause people to buy not e-tickets and they do not trust have the subdivision. Both factors with the greatest impact on the concerns of individuals in the privacy and security respectively. In this way they cultivate their minds the idea that if a problem occurs in online shopping, they do not know what that should be The next factor to this lack of trust, lack of face to face communication him with their purchase. The next element of doubt in getting tickets before the price increase has been in the facility and costs It can be concluded that the tickets online retailers should consider these factors to trust people with improving the quality of facilities and services, in order to try to trust people.

The practical implementation of the results obtained , the main factors that lead to customer trust is to lose. These factors are prioritized as follows:

1. To ensure the security of transactions
2. Having safeguards for the privacy of the seller
3. Sale the Tickets on time and precisely
4. Have control over the buying process
5. Sellers have physical stores

The most common design issues that could affect the customer's trust is fast, convenient and sustainable use of the Website and attention and display of user comments, and actions of the most important factors of the website sale of Tickets.

2) Electronic Toll Systems

Electronic toll system (*ETC*) is a widespread technology that is used for road pricing policies. This technology among officials and proprietors per capita cost of road congestion in urban areas and freeways and expressways known complications [10].Communication technology-based systems and road vehicles using electromagnetic waves, infrared waves, or global positioning system is formed [6]. To be exempt from this method of identifying the piece is installed on the machine.

Install gates *ETC* urban and rural is easy for large cities such as Singapore, London, Stockholm and Milan have experience in mass transit. In general engineering systems consists of two parts: hardware and software facilities. Of hardware and hardware that includes hardware line is toll station. The hardware part consists mainly of the roadside antenna units, electric barriers, high-speed computer networks and is the sum of the single effects. The software also includes software and software line station complications [11]. *ETC* is one of the most successful applications of *ITS* Which has

many benefits including reducing delays, improving throughput and capacity, reduce fuel consumption and reduce emissions at the receiving side. Studies on the benefits of electronic toll payment system [7] was published as follows:

TABLE 3 THE BENEFITS OF ELECTRONIC TOLL PAYMENT SYSTEM

Electronic Toll interests		
Target	Influence	Example
Safety	Negative	Inaccuracy in Florida drivers 48 percent increase in accidents at the sites of these stations is
Mobility	Very positive	Delay of vehicles using this system in New Jersey has declined by as much as 85%
Capacity	Positive	Studies in New York shows a line using the ETC capacity of 450 vehicles per hour to 1,000 vehicles per hour has been
User Satisfaction	Not specified	———
Efficiency	Positive	Based on changes in traffic conditions in New Jersey at a cost of approximately $ 19 million in delays and 1.5 million dollars in savings on fuel is
Environment	Positive/ Negative	Models calculated based on the EPA carbon monoxide sites 7.3%), hydrocarbons (7.2% reduction for high-speed production and NOX 33.8% increased

B. E-commerce and intelligent transportation systems interact in goods

Application of Intelligent Transport Systems ITS Commercial vehicles may facilitate communication between the driver and the agency supervisor will. Including the licensing of the electronic record, the electronic exchange of information between agencies overseeing inspections (for better inspection), electronic imaging systems, and several others who played a role in the safety and security of the driver and the fleet will be noted.

The use of electronic credentials, compared to the state-approved driver must wait for the print paper credentials will be better act quickly to reduce the time and increase the income of the driver will [7].

These systems are effective in tracking times and other equipment such as containers and general cargo efficiently and ports will be waterfront. Studies indicate that the use of electronic systems Menu Bar using methods such as smart cards and crafts activities led to the automatic exchange of information goods between manufacturers, carriers and airports which have in turn reduces the contribution of It's a cycle and it is expected that this system effectively spread.

Studies also show that the application of intelligent systems which has resulted in the time required to pass time (delivery) truck production units, about 4 minutes (for cargo) and the time required to deliver the amount of time at the airport 3 minutes (per shipment) decrease. Tracking equipment installed in the fleet vehicles (trailers) location

trigger system integration technology (GPS) with the Internet is that it can bring safety , security, reliability and management (cost-optimized) will be remote-controlled trailers.

CONCLUSION

Given the active role of electronic commerce in the business world of today and the potential for transit, especially in intelligent transportation is essential to economic experts and investors pay special attention to issues common to the two sectors. From the above discussion it is concluded that conventional structures trust in e-commerce space can also be useful in transportation, causing further the goals of the National transportation Smart.

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