

## Service Quality in Internet Retailing: A Study on Land Transportation Services

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*Abstract:* - Retailing is expected to change with the rapid development of new online sales and distribution channels that literally can be used from anywhere and at anytime. Responding to the changes, retailers need to have a very good understanding regarding electronic customer relationship management (e-CRM) in gaining customers loyalty and satisfaction. Online channels such as online services and the Web are also impacting traditional retail business models. The information dissemination capabilities of the Internet are making consumers better informed and thus increasing their power when transacting and negotiating with retailers. E-retailing or Internet retailing is adding a new competitive dimension to retailing. The concept of service seems to be inextricably linked to Internet retailing. Internet service quality is viewed as a unique construct from customer satisfaction. Therefore, this study is to explore the internet service quality in service industry particularly in e-ticketing for transportation services. The primary data for this study was collected through web observation. Result shows that appearance and linkages are among the two most important determinants that should be used when measuring the quality of internet services. Through the findings, a guideline of the transportation websites regarding the important features could be developed. The findings show that e-ticketing websites would be an advantage to have all these features in order to increase user satisfaction in doing online transactions.

*Keywords:* - Internet Retailing; Electronic Customer Relationship Management; Service Quality; Customer Satisfaction, E-ticketing

### 1 Introduction

Internet retailing (also known as B2C, or Business-to-Consumer e-commerce) is a Web-enabled interface between a company and their target consumer for selling products and services on the Web, with the facility of online payment. The Internet has been provided with a platform to deliver CRM function on web, which is known as electronic customer relationship management (E-CRM). One of the primary activities of e-CRM is the customer service on the web. Since customer service quality is increasingly recognized as an important aspect of Internet retailing, many practitioners and academicians focused on how to improve online services to attract

potential customers and on how to retain current customers. Many organizations have encountered problems and challenges in furnishing Internet service quality.

Customers are still hesitant to make online purchasing due to problems associated with security, reliability, threat of fraud, and etc. Information search and purchasing on the Internet also require a level of computer literacy not required in a traditional retail space. Without this level of technical literacy, consumers can become frustrated and purchases maybe aborted [8].

The objective of this paper is to identify the e-CRM web site features of e-retailing offered in e-ticketing transportation services

namely train and bus that meet customer satisfactions. The purpose of this evaluation is to see on how transportation industry values the importance of e-CRM to its business. The findings would provide important inputs for those researchers on e-service quality and the ticketing websites could also implement all these features in order to increase user satisfaction in doing online transactions.

## 2 E-CRM AND INTERNET SERVICE QUALITY

Customer relationship management (CRM) is a comprehensive business and marketing strategy that integrates technology, process and all business activities around the customers [1, 2]. At its most basic level, there clearly is nothing more important than customer as a satisfied customers buy more, more loyal and more profitable over their lifetime [1].

Responding to the benefits provided by CRM and E-CRM, many businesses are implementing the internet service quality as the service will increase customers' satisfaction. According to [10], CRM is a strategy that provides seamless integration of every area of business that relates to customers namely marketing, sales, customers service and field support through integration of people, process and technology.

The concept of E-CRM involves the integration of web channels into the overall enterprise CRM strategy [9]. The objective of E-CRM is to drive consistency within all channels related to sales, customer sales and support, and marketing initiatives to achieve a seamless customer experience and maximize customer satisfaction, customer loyalty and revenue.

Developed from Internet marketing and the traditional service-quality literature, the concept of internet service quality in e-commerce ("e-service quality") can be defined as the consumers' overall evaluation and judgment of the excellence and quality of e-service offerings in the virtual marketplace [11]. In contrast to their evaluation of traditional service offerings, customers are

less likely to evaluate each sub-process in detail during a single visit to a Web site; rather they are likely to perceive the service as an overall process and outcome [12].

Research on consumer evaluations of online services is still in its early stages [12] and insights into the differences between evaluations of service offerings on the Internet versus the physical marketplace are still needed [7]. Zeithaml et al. [13] uncovered 11 dimensions of e-service quality which are reliability, responsiveness, access, assurance/trust, security/privacy, customization/personalization, ease of navigation, flexibility, efficiency, site aesthetics, and price knowledge. However, personal service was not considered critical in e-service quality except when problems occurred or consumers were making complex decisions [8].

Customers often divide service-quality dimensions into various sub-dimensions [5], and according to Brady and Cronin [4] a hierarchical conceptualisation of service quality is often appropriate. Therefore, Jessica Santos [11] proposed that e-service quality consists of an active dimension and an incubative dimension. The active dimension and the incubative dimension each consist of five or six related overlapping determinants. The active dimension can be defined as the good support, fast speed, and attentive maintenance that a Web site can provide to its customers [11]. While, the incubative dimension is defined as the proper design of a Web site, how technology is used to provide consumers with easy access, understanding and attractions of a Web site [11]. The majority of elements in the incubative dimension can be developed before a Web site is launched.

Therefore, is important to see pattern of e-CRM features implemented on the websites and to compare between regions' e-ticketing websites.

## 3 Research Methodology

The evaluation of the transportations' website was based on a predefined set of checklist [11, 3, 6]. This checklist containing 41 features of

e-CRM was implemented by the organizations' website. Observations were on 51 bus transportations and 50 train transportations websites.

#### 4 Research Model

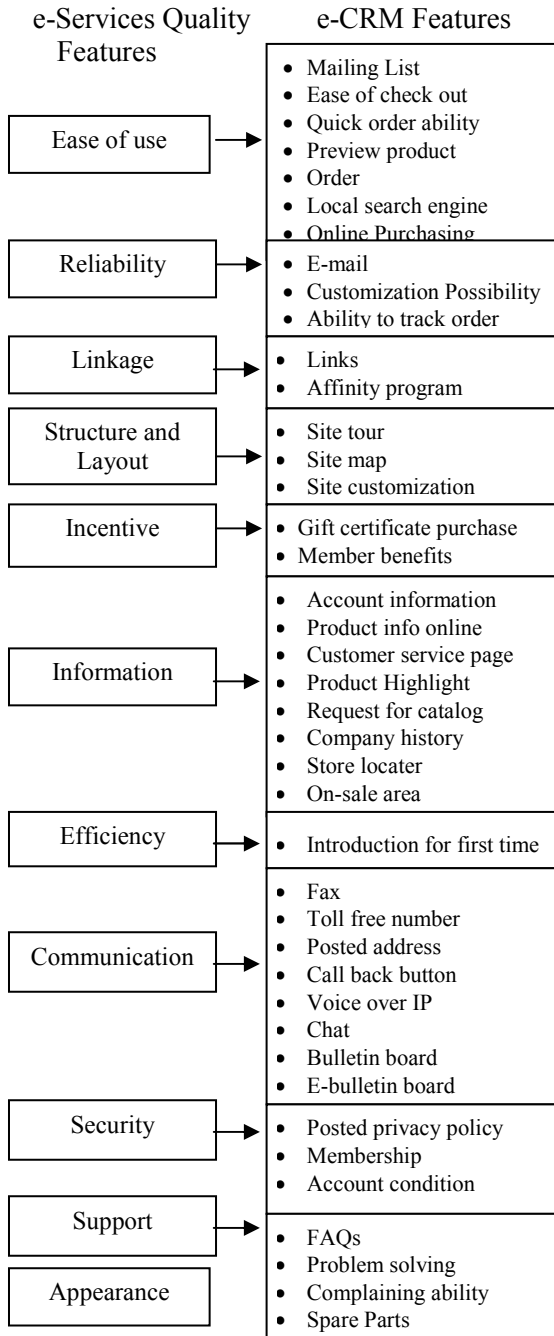


Fig. 1 Features of e-Services and e-CRM

All of the 41 e-CRM features observed were fitted to the 11 determinants of internet service quality studied. However, appearance which is a part of determinant of internet service quality however, is not a part of e-CRM feature. Figure 1 shows the summary of how the 41 e-CRM features were mapped into the 11 determinants. Of the 41 e-CRM features, speed of downloading feature is excluded from observation since the feature is subjected to different interpretation on different platform of evaluation.

#### 5 Findings and Results

This section discusses the result of the web observations.

##### 5.1 Demographic profile

52 bus and 49 train transportations websites were observed. The major websites for the purpose of this research involved mainly websites from Europe region, corresponding to the maturity of the consumers and businesses on this region on e-commerce web services as shown in Table 1.

Table 1 Web Observations by Region

	Bus		Train		Total	
	Freq	%	Freq	%	Freq	%
Asia	8	15.4	10	20.4	18	17.8
Euro	18	34.6	27	55.1	45	44.6
America	17	32.7	8	16.3	25	24.8
Africa	4	7.7	2	4.1	6	5.9
Australia	5	9.6	2	4.1	7	6.9
Total	52		49		101	

##### 5.2 Web Comparisons between Regions

Referring to Table 2 (Appendix 1), collectively it is found that for all regions; the most applied e-CRM feature is *Product Info Online* (95%); meaning that mostly all observed websites have applied this feature. This is followed by *Order* (90%), *E-mail Us* (85%), and *Online Purchasing* (82%). Each region basically share similar pattern where these four features fall within the frequency of 80% and above except for Africa and Asia

region. Meanwhile in these websites, *Online Purchasing* is not ranked among the top features; the scores are 67% and 56% respectively. On the other hand, the least e-CRM features applied in all the websites are *Call Back Button* (0), *Voice Over IP* (1%), *Bulletin Board* (2%), *chat* (2%), and *site tour* (2%). The remaining features' scores ranged from 4% to 79%. Similar to the most applied features, each region basically share similar pattern where the five least applied features fall within the frequency of less than 5% except for Asia and Australia. For Asia websites, there are about 6% and 11% of the websites having bulletin board and chat features. Whereas for Australia 14% of its transportation companies provide site tours as part of their web features, contrary to other counterparts.

Further comparison was made to see the trend of each region. Analysis of differences between each score of the region and the collective total was used as shown in Table 3 (Appendix 1). From the table, it is found that Europe region is the highest likely to have similar pattern with the collective figures derived from the average of all regions. This does correspond to the fact that Europe's maturity in term of its consumers and businesses in the area of E-commerce. The differences between the Europe features' score and the collective total score are small compare with other regions. It ranges between -11% to +17%. The negative sign indicates that the frequency score in the compare region is smaller than the frequency score in the collective total, and positive sign indicates that the score in the compare region is higher than the collective total's. On the other hand, Africa region seems to deviate a lot from the collective total. This is shown in the differences range from -46% (Electronic Bulletin Board) to +59% (Quick Order Ability). Data in Table 3 is further summarized in Table 4.

Besides that, from the analysis, it is also found that there are a few features of eCRM and other common features that have different/diverse appreciation among the regions. Among the features are *Quick Order Ability*, *Affinity Program*, *Customer Service*

*Page*, *Toll-Free number*, *Privacy* (Assure customers that their information will not be shared with others), and *Practicality* (Offer the option of internal search). For example in *Quick Order Ability* (Table 2), collectively it is found that all African region websites implement this feature into their website as they perceive it important, whereas only 17% of Asia websites have this feature on their web. Other counterparts such as Australia, Europe and America have the frequencies range between 29% - 52%.

Table 4 Summaries of Range of Differences between Regions

	Range of differences (Score – Total)	
	Lowest than collective total	Highest than collective total
Africa	-46% (E- Bulletin Board)	59% (Quick Order Ability)
America	-10% (Affinity Program)	24% (Toll-Free Number)
Asia	-27% (Online Purchasing)	18% (Affinity Program)
Europe	-11% (Toll-Free Number)	17% (E-Bulletin Board)
Australia	-38% (Affinity Program)	32% (Site Map)

Comparing regions, it is found that Africa differs significantly with its counterparts. Many features that deemed important in many regions such as *Affinity program*, *Site map*, and *Electronic bulletin board* are not perceived important by transportation websites in this region. On the other hands, features that are perceived not much important by other regions such as *Introduction to first time user*, *Customer service page*, *Quick order ability*, *Practicality* (internal search engine), and *Store locator* are deemed necessary.

Table 5 Overall Score on 11 Determinants of e-Service Quality Website Attributes

E-Service Quality Determinants	Score (%)
Appearance	77
Linkages	54
Information	45
Ease of Use	44
Reliability	43
Efficiency	43
Security	43
Support	43
Communication	24
Structure and Layout	15
Incentive	14

By looking from the eleven determinants of internet service quality perspective, overall, it is found that *Appearance* determinant was observed to be the most concerned attribute in most of the websites. *Appearance* was also found to be the highest scored attribute. It seems that, for organizations, looking good and attractive is the first crucial point of connecting to the customers.

Table 5 summaries the overall score of each internet service quality determinants, ranking from the highest to the lowest. As mentioned earlier, *Appearance* (77%) was scored highest followed by *Linkages* (54%), *Information* (45%), and *Ease of Use* (44%). The lowest scored were *Incentive* (14%), *Structure and Layout* (15%), and *Communication* (24%).

## 6 Conclusion

It is interesting to see that most online ticketing Web sites do not seem to have many of the very basic features that experts consider important in forming relationship with customers. With reference to the findings, less than 10% of the web sites offer call back button or voice over IP (VoIP). Furthermore, in online ticketing transportation, organizations feel that in order to attract customers they should emphasize more on the look of the web site. This could be due to the reason that good appearance can certainly attract Web surfers for initial and repeat visits, whether the actual product is appealing or not. Through this finding, organizations may use the necessary features as a guideline for developing e-ticketing website.

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## Appendix 1

Table 2 Scores of Observed Features by  
Regions

	Diff. bet. Score of Each Region with Total (%) (Score – Total)					
	Tot	Af	Am	As	Au	Eu
Productinfoonline	95	83	100	89	100	96
Order	89	100	92	89	86	87
Emailus	84	100	84	78	86	87
Onlinepurchasing	83	67	92	56	86	89
Appearance	79	83	80	61	71	84
Postedaddress	79	83	80	61	100	82
Co.historyprofile	76	83	88	61	71	76
Links	68	67	72	67	71	64
FAQs	69	67	80	56	86	67
Storelocator	66	100	68	67	86	60
Problem solving	64	67	72	44	43	71
Complaining ability	57	50	64	56	43	58
Membership	48	50	52	39	29	51
E-bulletin board	46	0	40	33	29	62
Fax	47	67	56	44	57	38
Quick orderability	41	100	52	17	29	38
On-sale area	42	33	44	44	57	40
Local search engine	40	33	36	22	57	47
Sitemap	40	0	40	17	71	47
Affinity programs	38	0	28	56	0	44
Track order status	35	33	44	39	29	29
Posted privacy policy	33	33	32	33	14	36
Cust service page	32	67	48	17	43	22
Ease of check out	31	33	44	17	14	31
Account condition	28	33	44	22	0	24
Intro to 1st time user	28	83	24	22	57	20
Account info	25	33	32	22	14	22
Member benefits	23	17	20	17	14	29
Product highlight	19	33	36	6	43	9
Customization	17	33	20	6	14	16
Toll-free number	16	0	40	0	43	4
Preview product	17	17	16	17	43	11
Mailing list	9	0	8	11	0	11
Request for catalogs	9	0	8	17	14	7
Replacement	9	0	12	0	29	9
Site customization	4	17	4	6	0	2
Gift cert purchase	4	0	0	0	0	4
Site tour	2	0	4	0	14	0
Chat	2	0	0	11	0	0
Bulletin board	2	0	4	6	0	0
Voice over IP	1	0	4	0	0	0
Call back button	0	0	0	0	0	0

Note: Af- Africa, Am- America, As – Asia, Au – Australia, Eu - Europe

Table 3 Differences between score of each  
region with total

	Diff. bet. Score of Each Region with Total (%) (Score – Total)					
	Tot	Af	Am	As	Au	Eu
Productinfoonline	95	-12	5	-6	5	0
Order	89	11	3	0	-4	-3
Emailus	84	16	0	-7	1	2
Onlinepurchasing	83	-16	9	-27	3	6
Appearance	79	5	1	-18	-7	6
Postedaddress	79	5	1	-18	21	4
Co.historyprofile	76	8	12	-15	-4	0
Links	68	-1	4	-1	3	-4
FAQs	69	-2	11	-13	17	-2
Storelocator	66	34	2	1	20	-6
Problem solving	64	3	8	-20	-21	7
Complaining ability	57	-7	7	-2	-14	0
Membership	48	2	4	-9	-19	4
E-bulletin board	46	-46	-6	-12	-17	17
Fax	47	20	9	-2	11	-9
Quick orderability	41	59	11	-24	-12	-3
On-sale area	42	-8	2	3	15	-2
Local search engine	40	-6	-4	-18	17	7
Sitemap	40	-40	0	-23	32	7
Affinity programs	38	-38	-10	18	-38	7
Ability to track	35	-2	9	4	-6	-6
Posted privacy policy	33	0	-1	0	-19	3
Cust service page	32	35	16	-15	11	-10
Ease of check out	31	2	13	-14	-17	0
Account condition	28	5	16	-6	-28	-4
Intro to 1st time user	28	55	-4	-6	29	-8
Account info	25	8	7	-3	-11	-3
Member benefits	23	-7	-3	-7	-9	6
Product highlight	19	14	17	-14	23	-11
Customization	17	17	3	-11	-2	-1
Toll-free number	16	-16	24	-16	27	-11
Preview product	17	0	-1	0	26	-5
Mailing list	9	-9	-1	2	-9	2
Request for catalogs	9	-9	-1	8	6	-2
Replacement	9	-9	3	-9	20	0
Site customization	4	13	0	2	-4	-2
Gift cert purchase	4	-4	-4	-4	-4	1
Site tour	2	-2	2	-2	12	-2
Chat	2	-2	-2	9	-2	-2
Bulletin board	2	-1	3	-1	-1	-1
Voice over IP	1	-2	2	4	-2	-2
Call back button	0	0	0	0	0	0

Note: Af- Africa, Am- America, As – Asia, Au – Australia, Eu - Europe