

Airlines websites evaluation around the world

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Abstract: This paper focuses on the airline industry on the Web and develops a customer-oriented airline site evaluation framework (ASEF). ASEF is specific-oriented towards the airline sites. It may be useful not only to users that purchase airline services via Internet but also to designers and developers of airline websites. It may be used as a guide in order to improve their services considering all quality criteria. Furthermore, the paper evaluates the sites of thirty major airlines across all over the world. Guidelines and proposals for sites' improvement are given.

Keywords: airline, e-booking, e-commerce, e-services, e-ticketing, e-tourism, evaluation, knowledge society, usability, portal, quality.

1 Introduction

Recently, we become witnesses to a major transformation of our lives into a global community which is based on the Internet. In a Knowledge Society, everyone would have access to knowledge and learning [1]. Not only the society but also the economy will be based on knowledge. Specifically, the airline industry is one of the most transformed in the web marketplace [2]. Airline customers are coming back to purchase online tickets primarily because of the satisfaction of the online booking process and a positive attitude towards using the online booking system [3]. Airline website attributes would be organized into the following factors: value-aided service, targeted information, advanced booking features, basic look and book features, trust and interaction, in-flight options, and frequent flyer programs [4]. Of these, basic "look and book" features were considered as most important by customers. Internet apprehension and customer satisfaction regarding airline websites are also important [5].

Knowledge accessibility, dissemination and exploitation are essential in the Knowledge Society. Managers need recommendations on effective website design. The past few years, we witnessed an increase in the number of academic studies concerning general website evaluation [6-12]. However, there are significant differences in the design of websites across different industry groups [13]. Several evaluation instruments with domain-specific quality criteria have been developed. Examples include the evaluation of bookstores [11, 14], university knowledge portals [15], job sites [16], and museum sites [17]. Regarding the airline industry, an evaluation instrument was the Perceived Airline Website Quality Instrument

(PAWQI) [12]. However, it did not provide specific airline industry-oriented criteria and the analyzed case was only for New Zealand. In this paper, we attempt to address the need for a customer-oriented Airline Site Evaluation Framework (ASEF) which combines criteria derived from evaluation methods and instruments developed in the past [18] but with a specific airline industry oriented way. Furthermore, we apply ASEF to evaluate 30 major airlines' sites from all around the world.

2 Airline Site Evaluation Framework (ASEF)

Driven by the need for a specific airline industry oriented evaluation framework we develop the Airline Site Evaluation Framework (ASEF). It consists of five categories: Finding, Interface, Navigation, Content, Reliability, and Technical aspects. Each category consists of several sub-categories, and each sub-category consists of several criteria:

1. **Site Finding**
 - 1.1. **URL intuitive, easy to remember and type**
 - 1.2. **Easy to find site using search engines**
2. **Interface**
 - 2.1. **Visually attractive site** (Effective use of White space, Effective & consistent use of Colors, Effective & consistent use of Background, Effective & consistent use of Buttons which are appropriately situated, Consistent Style of pages)
 - 2.2. **Flexibility** (Printable version of certain pages is available, Multilingual content, Customization of site content depending on user's country/continent, Special needs person accommodation/ non-discrimination)
 - 2.3. **Multimedia** (Multimedia usage takes into consideration user's hardware constraints, Widely available multimedia format, Multimedia help to the understanding of the site, Adequate media richness)
 - 2.4. **Text** (Consistent and easy to read Fonts, Easy to change the Size of fonts, Correct Spelling and Grammar)
3. **Navigation**
 - 3.1. **Structure** (Intuitive Organization & Structure, Easy Navigation, Help-Bar shows the steps of the transaction, Facilities (e.g. Icons) help Navigation, Friendly Orientation shows the progress of the transaction, Logical Site Map or Table of Contents)
 - 3.2. **Internet Booking Engine** (Easy to use Internet Booking Engine, Many search options are available to help user find preferable flight, Ability to search and book other services (car hire, hotel, etc.), Many search options are available to help user find preferable other services, No errors, In case of not finding flight (or other services), proposals of related flights (or other

- services), Findings of the Internet Booking Engine are accurate and well described)
- 3.3. **Search Engine** (Internal site search engine is available and appropriate situated, Findings of the Internal Search Engine are accurate and well described)
 - 3.4. **Navigational Necessities** (No broken links, No “Under-Construction” and “Non-Updated Content” pages, Hyperlinks clearly described, well labeled and defined, Pages sized to fit in browser window, Easy to Return to Main page from every page, No pop-up pages, Easy access to Help from every page)
4. **Content**
- 4.1. **Services Information** (Full Itineraries information, Full Fare and Refund policy information, Full On-Flight Services information, Full Fleet and Airports information, Full Services for Special Passenger Categories and Pets information, Full Fare Rules, Contact information, Website Terms and Conditions, Carriage Conditions information, Full information regarding other services e.g. car hire, hotel)
 - 4.2. **Special Offers & Frequent Flyer Program** (Newsletter free subscription, Special online Prices for Flight services, Special online Prices for Other services e.g. car hire, hotel, Online free subscription to Frequent Flyer Program, Privileges for online buying tickets or other services, Personal Information and Services for a Frequent Flyer Passenger, Frequent Flyer Privileges and Rewards are valid for a network of airlines and other companies e.g. car hire, hotel.)
 - 4.3. **Company Information** (Complete and appropriately situated company information, Complete list and contact information of around the world offices)
 - 4.4. **Advertisement** (Advertisement of company’s products and services, Advertisement of other companies, Pleasant and appropriately situated advertisements)
 - 4.5. **Support of Website Users** (Feedback forms, Telephone numbers -Help Desk, E-mail addresses, Tool-free tele-assistance, Round the clock Help Desk)
 - 4.6. **Services for Website Users** (Current flight status information, Boarding-pass printing and quick check-in capability, VIP services)
 - 4.7. **Competency of the Provided Assistance** (FAQ and detailed Help explain every procedure, Help for any kind of users)
5. **Reliability**
- 5.1. **Registration** (Registration is Optional, Easy to register, Easy to Login, Easy to modify registered profile, Offers to registered users)
 - 5.2. **Transaction Procedure** (Full Current and Next transaction step information, Easy to Go Back or Exit from the transaction procedure, Procedure for purchasing other services e.g. car hire, hotel, is completed in the airline’s website)

- 5.3. **E-Ticketing** (Various alternative methods of payment, Acknowledgment of transaction can be printed and sent to customer via e-mail, SMS, etc.)
 - 5.4. **Paper Ticket** (Various alternative methods of payment, Various alternative methods of ticket delivery, Acknowledgment of transaction can be printed and sent to customer via e-mail, SMS, fax, or mail, No extra delivery charges and no extra charges for paper ticket)
 - 5.5. **Privacy Policy** (Full privacy policy statement available, No personal information is forwarded to third parties without user's agreement)
6. **Technical aspects**
- 6.1. **Loading Speed** (Fast Main page loading, Fast page loading, Consideration of non-broadband users)
 - 6.2. **Security** (Security protocols are used during the transaction, Well known security protocols used during the transaction, Security protocols are used during the user registration, Well known security protocols used during the user registration, Security systems accredited by authorization organizations)
 - 6.3. **Browser** (Cross-browser compatibility, Appropriate resolution and screen fitting)

3 Evaluation Results and Discussion

We evaluated the websites of 10 European airlines, 10 Asian airlines and 10 American and Oceania airlines. The evaluator is called to answer if and to what degree the evaluated website meets the "ideal" situation regarding each criterion. So, for each criterion, the evaluator gives three points if the reality fits in with the "ideal" situation; two points if the reality is close to the "ideal"; one point if the reality is far from the "ideal"; zero points if the reality has no relation with the "ideal". Regarding some criteria, the evaluator can give either three or zero points.

Starting, it was easy to find the sites. The average score for Finding was 5.67 (out of 6). Regarding the Interface, the European sites scored higher than the rest. BritishAirways.com achieved the highest score (46 out of 48). All sites scored low regarding Flexibility. Only 9 sites (BritishAirways.com, Lufthansa.com, KLM.com, AuA.com, Emirates.com, RegionalExpress.com.au, AmericanAirlines.com, AirCanada.com, and United.com) provided some accommodation for persons with special needs. So, further accessibility improvements should be offered by all sites in order to facilitate the access to the sites by people with disabilities and special needs. Some steps towards this direction would be the following: 1) the maintenance of a simple, consistent page layout throughout the site; 2) a simple background with enough contrast; 3) inclusion of text descriptions for graphical elements on the site; 4) resizable fonts; 5) provision of audio description and captions or transcripts of video; 6) inclusion of a guide about accessibility. Vision and speech as communication channels would be also exploited [19]. Users prefer simple and playful interaction [20].

Regarding Navigation, the American & Oceania sites outperformed in all the subcategories except in the Structure subcategory where the European sites achieved the highest average. The major drawbacks were the Internet Booking Engines, and the lack of internal search engine on their main page. United.com achieved the highest score (61 out of 63). CathayPacific.com was the only one to score perfectly regarding Navigational Necessities

Regarding the Content, there were not large differences among the geographical segments' averages. However, many sites did not take serious attention on the Special Offers & Frequent Flyer Program subcategory. More specifically, half of the sites did not considered special offers for online customers, and most of the Frequent Flyer Programs were not organized well. However, Lufthansa.com, Iberia.com, AuA.com, Ana.co.jp, Emirates.com, AirCanada.com and United.com achieved the best score in this sub-category. Regarding the Services for Web Site Users subcategory, all European sites scored high by offering Boarding Pass Printing and Quick Check-In Capability for the site users. Finally, regarding the Support for Web Site Users and the Competency of the Provided Assistance subcategories, only seven sites (Lufthansa.com, KoreanAir.com, Cathaypacific.com, AirNewZealand.com, Delta.com, AirCanada.com and United.com.) achieved the perfect score in this sub-category. Regarding the Services for Website Users sub-category, European sites scored higher than the rest mainly because they offered Boarding Pass Printing and Quick Check-In. Only seven sites (Lufthansa.com, KoreanAir.com, Cathaypacific.com, AirNewZealand.com, Delta.com, AirCanada.com and United.com) achieved the perfect score in the Support of Website Users and the Competence of the Provided Assistance sub-categories. This fact is alarming because the provided help to the site users is of vital importance. If an online customer does not get support and help from a site whenever he wants it and the way he wants it, then he will just click to another site. AirCanada.com was the only site that achieved the perfect score (87 points) regarding Content. It would be considered as a reference guide for Content.

Regarding Reliability, the Asian sites achieved the highest average score by gaining extra points especially in the Transaction Procedure and the Privacy Policy subcategories. Most sites did not achieve good scores in the Transaction Procedure subcategory with the exception of Lufthansa.com and Emirates.com. Most sites did not offer alternative methods of payment except from credit cards. Moreover, almost all sites did not offer both forms of ticketing (paper ticket and e-ticket). These insufficiencies should be resolved and the sites should provide more alternative methods of payments like prepaid cards, electronic writ, electronic money, cash on delivery etc. Furthermore, they should consider that some customers value both forms of ticketing as important. In the Reliability category, only Lufthansa.com, CathayPacific.com, Emirates.com and Ans.co.jp succeeded in getting more than 45 points (out of 51).

Regarding the Technical Aspects, Asian sites achieved the highest average (26.5 out of 30). The best sites were: AuA.com, Qantas.com and AirNewZealand.com. As expected, almost all sites achieved high scores in the Security subcategory. However, there were some problems in the Loading Speed and Browser subcategories especially for the European sites. Finally, the sites should support all major browsers (e.g. Internet Explore, Mozilla Firefox, Netscape Navigator and Opera).

Overall, American & Oceania sites (average score= 227.5) as well as European sites (average score=227.2) scored higher than the Asian sites (average score= 218). The United.com (264 points), AuA.com (258 points) and Emirates.com (257 points) were the best sites as they approached the maximum possible score (285 points). They would be considered as best practice cases by web developers and airline managers who want to build a reliable, customer-oriented and easy-to-use site.

4 Conclusions

This paper contributes to the literature on the evaluation of airlines sites by providing an airline site evaluation framework. Designers and developers of airline sites would use this framework to evaluate the current status of their sites and take appropriate actions in areas where they face inefficiencies.

In addition, 30 airlines sites were evaluated using this framework. Although there were not significant differences among geographical regions, some sites outperformed. These sites would be considered as guides for improved site design. However, most airlines sites should take into serious consideration the persons with special needs. Also, flexibility in various ways (e.g. method of payment, ticket type, ticket delivery, seat selection, meal selection) should be supported. Specifically for booking, a user would be able to declare a time span of several days and times in order to find the cheapest flight. Governments would require airlines to develop websites with various capabilities (e.g. fonts' enlargement, text to speech conversion, voice commands) for people with special needs. Governments should also ensure that personal data would not be used by anyone without the person's authorization.

Future research could examine the improvements made over time. Also, a single airline site would be evaluated by many users of various ages, educational and social levels in order to discover any differences in their preferences. Finally, the concepts presented in this framework could be extended to other market domains.

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