Content Analysis for Internet Banking Portal Service Quality Dimensions

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Abstract: The purpose of this research paper is to identify important dimensions of internet banking portal service quality in India. This research adopts the dimensions of online service quality, internet banking service quality and web portal service quality to develop a framework that can be used to measure internet banking portal service quality. Ten important dimensions of internet banking portal service quality are identified using content analysis. These include information quality, website design, ease of use, reliability, security and privacy, interactive interrogation, personalization/customization, basic service quality, other financial products' service quality and added values. A pool of indicators for the antecedent factors of internet banking portal service quality stood out, acting as a guide for Indian public and private sector banks to improve their internet banking portal service quality.

Keywords: Service Quality, Internet Banking, Portal, Content Analysis.

I. INTRODUCTION & PROBLEM STATEMENTS

With the popularity of the internet, innovation in technology and the changing needs of customers, banking services have been undergoing tremendous transformation. In banking services new technological innovation is internet banking portal. Internet banking portal means that all stages of the financial transactions can be processed electronically. This is achieved by replacing personal interaction and physical facilities with technological solutions. As a consequence, customers are able to carry out different financial transactions at one site including paying bills, booking railway and air tickets, charging mobile phone and TV, donating money, paying tax, filing tax return, viewing bank statements, purchasing stocks and other financial products (e.g. insurance) etc...Thus, internet banking portals transfer the "all in one" principle from the old economy-to the internet (Bauer & Hammerschmidt, 2002; Jun & Cai, 2001).

Service quality is an important determinant in differentiating service offering and building competitive advantage, since the costs of comparing alternatives are relatively low in online environments (Santos, 2003).Because of this, service quality is a crucial issue for internet banking portals.

According to a report by global management consultancy McKinsey & Company, as many as 7% of account holders in India are using the Internet for banking transactions in 2011 and it is 7 fold jump since 2007 (McKinsey & Company Report, 2010). Today most of all Indian public and private sector Banks have internet banking portal and competition between Indian banks are very high. Therefore, Internet banking Portals are required to put more emphasize on service quality due to growing competition in banking industry in India.

In 2009-10 Indian public sector banks and Indian private sector banks have got 14.21% and 27.66% of growth in its total net profit respectively (McKinsey & Company Report, 2010). There is cut throat competition between Indian public and private sector banks in India and so this study included only top five public and private sector banks for measuring and comparing service quality of internet banking portal. In order to enhance customer loyalty, banks are required to put a strong emphasis on their customers' demands related to internet banking portal quality, which are steadily increasing over time due to the growing competition in the banking industry (Jun & Cai, 2001).

The most important step in providing a sophisticated level of service through internet banking portal is to identify and measure the dimensions of portal quality. Based on the understanding of the key service quality dimensions and the perception of customers toward internet banking portal service quality, managers may discover methods to improve customer satisfaction, build customer trust, and create loyal customers. Despite of these, there are very few efforts devoted to the area of service quality of internet banking portal. In view of this, the following research objectives of the study were formulated.

Research Objectives

The importance of service quality and the challenges facing Internet-based services necessitate insights on the part of managers about what attributes customers use in their evaluation of internet banking portal service quality. However, a rigorous measurement instrument of Internet banking portal service quality has not been available. In order to improve that condition, it is important to identify the salient internet banking portal service quality dimensions using content analysis.

LITERATURE REVIEW

Internet Banking Portal Service Quality

Web portal is an innovative self-service technologies that offer a single point of access to services and it has an almost unlimited content as well as applications and excellent retrieval facilities that enable “one-stop shopping”(Gounaris & Dimitriadis,2003;Jun & Cai,2001).

With the popularity of the internet, innovation in technology and the changing needs of customers, banking services have been undergoing tremendous transformation. In banking services new technological innovation is internet banking portal.

In the context of bank web portal, this means that all stages of the financial transactions can be proceed electronically. This is achieved by replacing personal interaction and physical facilities with technological solutions. As a consequence, customers are able to carry out different financial transactions at one site including paying bills, booking railway and air tickets, charging mobile phone and TV, donating money, paying tax, filing tax return, viewing bank statements, purchasing stocks and other financial products (e.g. insurance) etc...Thus, bank web portals transfer the “all in one” principle from the old economy-to the internet (Bauer & Hammerschmidt, 2002; Jun & Cai, 2001).

Development of simple banking websites into comprehensive bank web portals offering a variety of services in addition to traditional bank products and thereby enable customers to get many financial services from one source. Thus, the user no longer needs to make use of several different websites.

Service quality is an important determinant in differentiating service offering and building competitive advantage, since the costs of comparing alternatives are relatively low in online environments (Santos, 2003).Because of this, service quality is a crucial issue for internet banking portals.

Content Analysis

Several content assessment methods have been described in the research methods literature (Nunnally, 1978). One common method which requires experts to categorize or sort items based on their similarity to construct definitions is content analysis. This can be conducted using experts in a content domain. Here, experts are presented with construct definitions without titles and are asked to match items with a corresponding definition. Content analysis is very useful in developing research scale.

Summary of literature review on online services

Sr. No.	Title of Research Paper	Author Name	Service Quality Dimensions
1.	A confirmatory factor analysis of the end-user computing satisfaction instrument.	Doll and Torkzadeh (1988)	Content, accuracy, format, ease of use, timeliness.
2.	What makes commercial web pages popular?- an empirical investigation of web pages effectiveness.	Dholakia and Rego (1998)	Frequency of changes, number of links to and from the web site, complexity and extensiveness, number of pictures, enhancements and number of advertising banners of other firms.
3.	A user-based design process for web sites.	Abelse et al. (1999)	Use, content, structure, linkage, search and appearances.
4.	Exploring the factors associated with web site success in the context of electronic commerce.	Liu and Arnett (2000)	System use, system design quality, information quality and playfulness.
5.	A proposal to assess the service quality of online travel Agencies: an exploratory study.	Kaynama and Black (2000)	Content and purpose, accessibility, navigation, design and presentation, responsiveness, background and personalization & customization.
6.	An integrative approach to the assessment of e-commerce quality.	Barnes and vidgen (2000)	Usability, design, information, trust, and empathy.
7.	E-satisfaction: an initial examination	Szymanski and Hise (2000)	Convenience, site design, and financial security.
8.	Developing a scale to measure the perceived quality of an internet shopping site (sitequal).	Yoo and Donthu (2001)	Ease of use, aesthetic design, processing speed, security.
9.	A conceptual framework for understanding e-service quality: implications for future research and managerial practice	Zeithaml et al. (2001)	Access, ease of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust, site aesthetics and price

			knowledge.
10.	Service quality and e-commerce: an exploratory analysis.	Cox and Dale (2001)	Accessibility, communication, credibility and appearance.
11.	Expectation and rankings of web site quality features: results of two studies on user perceptions.	Zhang and von Dran (2001)	Information content, enjoyment, privacy, user empowerment, visual appearance, technical support, navigation, organization of information, credibility, and impartiality.
12.	Taking the pulse of internet pharmacies.	Yang et al. (2001)	Ease of use, content, accuracy of content, timeliness of response, aesthetics and privacy.
13.	Key dimensions of business-to-consumer websites.	Ranganathan and Ganapathy (2002)	Information content, design, security and privacy.
14.	Webqual: a measure of web site quality.	Loiacono et al., (2002)	Ease of use, usefulness, entertainment, complementary relationship, customer service.
15.	Customer loyalty in e-commerce: an exploration of its antecedents and consequences	Srinivasan et al. (2002)	customization, contact interactivity, care, community, convenience, cultivation, choice, and character
16.	Consumer perceptions of internet retail service quality.	Janda et al (2002)	Performance, access, security, sensation and information quality.
17.	Consumer perception of e-service quality: from internet purchase and non-purchase perspectives.	Yang and Jun (2002)	Reliability, access, ease of use, personalisation, security, credibility and responsiveness.
18.	Dimensions of e-quality.	Madu and Madu (2002)	Performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, web store policies, reputation, assurance and empathy.
19.	Developing and validating an instrument for measuring user-perceived web quality.	Aladwani et al. (2002)	Specific content, content quality, appearance and technical adequacy.
20.	Understanding quality of service for web services	Mani and Nagarajan (2002)	Availability, accessibility, integrity, performance, reliability, regulatory and security.
21.	E-service quality: a model of virtual service quality dimensions.	Santos (2003)	Ease of use, appearance, linkage, structure and layout, content, reliability, efficiency, support, communication, security and incentives.
22.	Service quality dimensions of internet retailing: an exploretory analysis.	Yang et al. (2003)	Responsiveness, credibility, ease of use, reliability, convenience, communication, access, competence, courtecy, personalization, continuous improvement, collaboration, security/privacy and aesthetics.
23.	Etailq: dimensionalizing, measuring and predicting etail quality.	Wolfinbarger and Gilly (2003)	Web site design, reliability/fulfillment, privacy/security and customer service.
24.	Assessing service quality on the web: evidence from business-to-consumer portals.	Gounaris and Dimitriadis (2003)	Customer care and risk reduction benefit, information benefit and interaction facility benefit.
25.	A service quality frame work for web based information system.	Tan et al. (2003)	Access, ease of navigation, efficiency, flexibility, reliability, personalization,

			security/privacy, responsiveness, assurance/trust, site aesthetics, quality of information.
26.	Online service quality dimensions and their relationships with satisfaction: a content analysis of customer reviews of securities brokerage services.	Yang and Fang (2004)	Reliability, responsiveness, competence, ease of use, security and product portfolio.
27.	Comfort your online customer: quality, trust, and loyalty on the internet.	Ribbink et al. (2004)	Assurance, ease of use, e-scape, responsiveness and customisation.
28.	Critical service quality encounters to the web: an exploratory study	Sweeney and Lapp (2004)	Instructions and explanations, structural design and layout, navigation system, depth, correctness/currency, presentation appropriateness, control and speed.
29.	Customers' perceptions of online retailing service quality and their satisfaction.	Jun et al., (2004)	Reliable, access, ease of use, attractiveness, security, credibility.
30.	Measuring customer perceived online service quality: scale development and managerial implications.	Yang et al., (2004).	Reliability, access, ease of use, attentiveness, security and creditability.
31.	E-s-qual: a multiple-item scale for assessing electronic service quality.	Parasuraman et al. (2005)	Efficiency, availability, fulfillment, privacy.
32.	A model of web site quality assessment.	Moustakis et al. (2006)	Relevance, usefulness, reliability, specialization, architecture, navigability, efficiency, layout and animation.
33.	Quality of electronic services: conceptualizing and testing the hirarchical model.	Fassnacht and Koese (2006)	Graphics quality, clarity of layout, attractiveness of selection, information quality, ease of use, technical quality, reliability, functional benefit and emotional benefit.
34.	Service quality in multichannel services employing virtual channels	Sousa and Voss (2006)	Virtual fulfillment, efficiency, system availability and privacy
35.	Perceived e-service quality: measurement Validity and effects on consumer satisfaction and web site loyalty.	Cristobal et al. (2007)	Web design, customer service, and assurance and order management.
36.	Buying environment characteristics in the Context of e-service.	Kim et al. (2009)	Convenience, customization, information, communication, web appearance and entertainment value.
37.	Measuring service quality in e-retailing.	Collier and Bienstock (2009)	Process, outcome and recovery.
38.	The antecedents and consequents of relationship quality in internet shopping.	Chung and Shin (2010)	Convenience, site design, informativeness and security.

Summary of literature review on internet banking services quality

Sr. No.	Title of Research Paper	Author Name	Service Quality Dimensions
1.	Service quality in the banking sector: the impact of technology on service delivery.	Joseph et al. (2009)	Convenience/accuracy, feedback/complaint management, efficiency, queue management, accessibility and customisation.
2.	The key determinants of internet bank service quality: a content analysis.	Jun and Cai (2001)	Reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration, continuous improvement, content, accuracy, ease of

			use, timeliness, aesthetics, security and diverse features.
3.	An empirical investigation of the Turkish consumers' acceptance of internet banking services.	Polatoglu and Okin (2001)	Reliability, access and saving.
4.	Internet-based e-banking and consumer attitudes: an empirical study.	Liao and Cheung (2002)	Convenience, user experience, User friendliness, user involvement, system security and transactions speed.
5.	Consumer expectations of online information provided by bank web sites.	Waite and Harrison (2002)	Transection technicalities, decision making convenience, interactive interrogation, speciality information, physical back-up and technology thrill.
6.	Service quality in internet banking: the importance of customer role.	Broderick and Vachirapornpuk (2002)	Reliability, efficiency, responsiveness, assurance, ease of use and information.
7.	Measurement of service quality in internet delivered services: the development and validation of an instrument.	Jayawardhena (2004)	Access, website interface, trust, attention and credibility.
8.	Internet banking in the UK: why are there not more customers?	White and Nteli (2004)	Security, convenience, speed, timeliness of the service and product variety/diverse features.
9.	The measurement of end-user computing satisfaction of online banking services: empirical evidence from Finland.	Pikkarainen et al. (2006)	Content, accuracy, format, ease of use and timeliness.
10.	The use of e-sq to establish the internet bank service quality table.	Wu et al. (2008)	Efficiency, reliability, privacy, compensation, responsiveness, contact, sense of beauty and individualization.
11.	Internet banking and quality of service: perspectives from a developing nation in the middle east.	Sohail and Shaikh (2008)	Efficiency and security, fulfilment and responsiveness.
12.	Exploring e-service quality: a study of Irish online banking.	Loonam and O'Loughlin (2008)	Web usability, security, information quality, access, trust, reliability, flexibility, responsiveness, self-recovery and personalisation/customization.
13.	An examination of the relationship between service quality dimensions, overall internet banking service quality and customer satisfaction: a New Zealand study.	Rod et al. (2009)	Online customer service quality, online information system quality and banking service product quality.
14.	Service quality evaluation in internet banking: an empirical study in India.	Khan et al. (2009)	Reliability, accessibility, user-friendliness, privacy/security, efficiency, responsiveness and fulfillment.
15.	Measuring the service quality of internet banking: scale development and validation.	Ho and Lin (2010)	Customer service, web design, Assurance, preferential treatment, information provision.
16.	Exploring customer perception of e-banking services.	Chuang and Hu (2010)	Transaction technicalities, decision making convenience, interactive interrogation, specialty information, security and exploration.
17.	The youth market for internet banking services: perceptions, attitude and behavior.	Chau and Ngai (2010)	Usability, information, interaction and technical quality.
18.	Customer satisfaction factors (CSFs) with online banking services in an Islamic country Iran.	Sadeghi and Hanzaee (2010)	Convenience, accessibility, accuracy, security, usefulness, image and web site design.

19.	The influence of consumer's perceived service quality on the continued interaction of online banking.	Xirong and Jin (2011).	Ease of use, reliability, enjoyment and control.
20.	The study of influencing online banking information security products service quality factors based on customer perception.	Qiu-dan et al. (2011)	Usability, reliability, information quality, personalized, responsiveness, security, after-sales service and service process tracking.
21.	E-service quality dimensions and their effects on e-customer satisfaction in internet banking services.	Zavareh et al. (2012)	Efficiency, availability, responsiveness/ contact, ease of use, fulfillment and security/trust.

Summary of literature review on web portal service quality

Sr. No.	Title of Research Paper	Author Detail	Service Quality Dimensions
1.	Exploring consumer evaluations of e-services: a portal site.	Van Riel et al., (2001).	Core services, supporting services and user interface.
2.	Customer satisfaction with e-services: the case of an on-line recruitment portal	Liljander et al. (2002)	Site design and content, trust, empathy, and security.
3.	Assessing service quality on the web: evidence from business to customer portal.	Gounaris et al. (2003)	Customer care and risk reduction benefit, information benefit and interaction facilitation benefit.
4.	Measuring service quality of e-banking portal.	Bauer et al. (2005).	Security & trust, basic services quality, cross buying services quality, added value, transaction support and responsiveness.
5.	Development and validation of an instrument to measure user perceived service quality of information presenting web portals.	Yang et al. (2005)	Usefulness, ease of navigation, quantity of information, customization, technical adequacy, privacy and security.
6.	Measuring users perceived portal service quality.	Kuo et al. (2005)	Empathy, ease of use, information quality and accessibility.

Internet Banking Portal Service Quality Dimensions:

The following 49 dimensions related to internet banking portal service quality were identified from the literature review in the area of online, internet banking & web portal service quality. Summary of online service quality dimensions is given in the table 1.

Table 1: Summary of Online Service Quality Dimensions

Sr. NO.	Name of Online Service Quality Dimensions	Sr. NO.	Name of Online Service Quality Dimension
1	Accessibility	26	Interaction
2	Aesthetics	27	Interactive Interrogation
3	Assurance	28	Personalization/Customization
4	Attention	29	Preferential Treatment
5	Banking Service Product Quality	30	Privacy and Security
6	Basic Service Quality	31	Quality of Information
7	Collaboration	32	Quality of Layout
8	Content	33	Relevance
9	Convenience	34	Reliability
10	Core Services	35	Responsiveness
11	Credibility	36	Risk Reduction Benefits
12	Cross Buying Service Quality	37	Sense of Beauty
13	Customer Care	38	Site Design And Content

14	Customization	39	Specialty Information
15	Decision Making	40	Speed
16	Diverse Features	41	Supporting Services
17	Ease of Navigation	42	Timeliness
18	Ease of Use	43	Trust
19	Efficiency	44	Understanding The Customer
20	Enjoyment	45	User Experience
21	Feedback	46	User Friendliness
22	Format	47	User Involvement
23	Graphics Quality	48	Website Design
24	Individualization	49	Website Interface
25	Information Quality		

Content analysis is performed to comprise the selected online service quality dimensions into internet banking portal service quality dimensions. Experts in a content domain categorized dimensions based on their similarity to construct definitions. Here, experts are presented with construct definitions without titles and are asked to match items with a corresponding definition.

49 online service quality dimensions were comprised in 10 internet banking portal service quality dimensions using content analysis. For content analysis, suggestions of experts of services marketing area and operational definition of all dimensions were used. The table 2 shows list of online service quality dimensions with same operational definition.

Table 2: List of Online Service Quality Dimensions with Same Operational Definition

Internet Banking Portal Service Quality Dimensions	Other Online Service Quality Dimensions With Same Operational Definition
Information Quality	Content, Information Quality, Quality of Information, Relevance, Timeliness and Decision Making.
Website Design	Aesthetics, Quality of Layout, Sense of Beauty, Site Design and Content, Website Design, Website Interface, Format, Enjoyment, User Experience, Graphics Quality and User involvement.
Ease of Use	Convenience, Ease of Navigation, Ease of Use and User Friendliness.
Reliability	Speed, Reliability, Efficiency and Accessibility.
Security And Privacy	Trust, Risk Reduction Benefits, Privacy and Security, Assurance and Credibility.
Interactive Interrogation	Interaction, Interactive Interrogation, Feedback, Responsiveness and Customer Care.
Personalization/Customization	Specialty Information, Attention, Personalization/Customization, Preferential Treatment, Customization, Individualization and Understanding the Customer.
Basic Service Quality	Banking Service Product Quality, Basic Service Quality, Core Services
Other Financial Products' Service Quality	Cross Buying Service Quality, collaboration
Added Values	Diverse Features, Supporting Services

After grouping 49 dimensions into one group, proper names were given to the group of dimensions after taking help of experts. Definition of all internet banking portal service quality dimensions is given in the following table:

Table 3. Internet banking portal service quality dimensions

Sr.No.	**Dimension**	**Description**
1.	Information Quality	Information quality dimension is related to ability of internet banking portal to provide sufficient, real time & accurate information and valid hyperlink for accessing information to users.
2.	Website Design	This dimension includes visually appealing and well-designed web pages, fonts in proper size and color, well labeled hyperlink and easy browsing on internet banking

		portal.
3.	Ease of Use	This dimension makes search out, navigation and connectivity to other website very easy on internet banking portal for the users.
4.	Reliability	Reliability of internet banking portal means the ability of it to provide services as per commitment. This dimension includes provide correct services at first time to users and accessibility of internet banking portal from anywhere and 24 * 7 hours.
5.	Security And Privacy	Privacy involves the protection of personal information of internet banking portal users and security involves protecting users from the risk of fraud and financial loss from the use of credit cards or other financial information.
6.	Interactive Interrogation	This dimension provides opportunity and ability to share opinions & information on internet banking portal and ask problem or query about products and services on it. This dimension also includes facilities of electronic complaint form on internet banking portal.
7.	Personalization/Customization	This dimension is related to ability of internet banking portal to provide customized or personalized services to users. It includes recommendation of financial and nonfinancial products to users as per their personal needs and providing personalized investment tips, news and response to customer queries.
8.	Basic Service Quality	This dimension of internet banking portal service quality includes service quality of classic bank products such as payment processing (cash management, transfers, viewing bank statements), online request for credit card, debit card, check book or loan, online stock treading and online fixed deposit facility.
9.	Other Financial Products' Service Quality	This internet banking portal service quality dimension includes availability and performance of financial products like, insurance, mutual fund, gold ETF etc… on it.
10.	Added Values	This dimension is related to entertainment and non-financial products' services of internet banking portal. Entertainment includes connectivity with social networking websites and availability of news room and chat room on internet banking portal. Non-financial products' services of internet banking portal includes services like, railway or airline ticket reservation, hotel reservation, online shopping, donation facilities, paying bills online (e.g.Telephone, credit card, electricity etc…), recharge of mobile phone, TV and data card, paying income tax etc…

CONCLUSION OF THE STUDY

This research identifies important internet banking portal service quality dimensions. These dimensions were: (1) Information quality, (2) Website design, (3) Ease of use, (4) Reliability, (5) Security and privacy, (6) Interactive interrogation, (7) Personalization/Customization, (8) Basic service quality, (9) Other financial products' service quality and (10) Added values.

Implications of the Study

A pool of indicators for the antecedent factors of internet banking portal service quality stood out, acting as a guide for Indian public and private sector banks to improve their internet banking portal service quality.

Future Research

In this research, only important internet banking portal service quality dimensions were identified using content analysis. It would be interesting and beneficial to confirm these dimensions and to develop scale for measuring internet banking portal service quality.

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