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Role of consumer personality in determining preference for online banking in India

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ABSTRACT In recent years, companies have been increasingly giving attention to upgrading their consumer services through the use of web-based technologies. This research paper attempts to study the role of personality in evaluating online banking in India. The personality dimension scale developed by Aaker and the attributes of online banking (like perceived ease of use, security and privacy, perceived usefulness, amount of information and perceived enjoyment) developed by Pikkarainen *et al* were adapted to measure the role of personality in online banking in India. Our research findings show that certain personality factors – such as those who are more imaginative, reliable, intelligent, up-to-date and charming – affect the consumers' evaluation of online banking in India. Using multiple regression tests, we attempted to predict the online banking attributes that are most important for different personality types. The banks should give importance to consumer personality while designing their websites. Personality of the consumers can play a significant role in the success of online banking in a developing country like India.

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INTRODUCTION

The growth in online banking has augmented the service interaction options available to consumers. It has made banking flexible and customized, where the consumers themselves are participants in service delivery and management. In India, with poor technological infrastructure and connectivity problems, online banking is looked upon with scepticism. Consumers are wary of the online banking services as it may entail financial losses, loss of confidential personal information and procedural delays. Their fears are not without justification, as poor technology infrastructure coupled with frequent disruptions in telecommunication networks makes online banking a challenge. The behavioural factors may further aggravate the concerns regarding technology acceptance of Indian consumers.

In past few years, there has been an increasing trend towards acceptance of technology for service dissemination. Durkin¹ states that there are increasing number of consumers interacting with the banks through remote channels. Online banking is poised to change the nature of banking in developing countries. India has large young consumers who are technology savvy and prefer the Internet for transactions. This may be considered a driving factor influencing the acceptance of online banking. The diffusion of new technologies with user-friendly service models is expected to improve the banking services.² The adoption of Internet-based models for transactions has led to 'virtualization', and affects the bank and consumer relationships.³ Byers and Lederer⁴ opine that consumer's preferences, attitudes and motives are governing factors for developing service delivery options. Technology helps in standardizing banking services⁵ and reducing operating costs.⁶ The use of technology in serving consumers efficiently not only reduces transactional costs, but also improves consumer

services.^{7,8} Consumers expect personalized, error-free and flexible services, and online banking promises to make banking convenient and hassle-free.⁹

Our research aimed at understanding the role of consumers' personality attributes in the use of online banking services. We adapted the constructs used by Pikkarainen *et al*¹⁰ for the online banking service attributes and the personality traits constructs developed by Aaker.¹¹ The purpose was to decipher the role of Indian consumers' personality in online banking behaviour. Our research results indicate that personality plays an important role in evaluating and assessing the various online banking attributes, and different personality types are influenced by different aspects of online banking. The online banking behaviour is influenced by attributes like ease of use, security, privacy, usefulness, amount of information and perceived enjoyment.¹⁰

This article focuses on the issue of online banking in India, which is considered one of the top emerging markets in the world. Although the western world is familiar with online banking, Indian consumers are still wary of this method of doing banking. This research paper sheds light on what kind of Indian consumer is open to using online banking services. The findings help create a profile of the new generation of Indian consumers who would be willing to move from face-to-face interaction to the more private and individualized online banking service. Results can be interpreted in different ways to target consumers for adopting online banking while it helps researchers see the changing profile of future consumers in one of the fastest growing economies of the world.

CONCEPTUAL FRAMEWORK

Online banking and consumer personality

Banking sector in the last two decades has witnessed a change and has rapidly accepted

technology as a vehicle to deliver consumer services. However, the use of technology is dependent on numerous factors, personality of the individual being one of them. Technology is considered to help in facilitating efficient consumer services at lower cost.^{6–8} There has been much research in the adoption of online banking in developing countries and consumer perceptions about its functionality in making banking convenient and flexible.^{10,2,9,12–18} The psychological and demographic characteristics affect consumers' acceptance of innovations.¹⁹ Adoption of modern technologies depends on consumer personal characteristics, as not all consumers adopt innovations at the same time.²⁰ Citrin *et al*²¹ demonstrate that adoption depends on the perceived risk and consumer receptivity towards the online medium. Moon and Kim²² state that the acceptance of new technology will differ according to the users and in the context it will be used. Technology Acceptance Model (TAM) proposed by Davis *et al*²³ suggests that use of technology depends on ease of use and its perceived usefulness by the consumers. TAM can be used to predict consumers' acceptance of technology.^{24–27} Technological innovation can pose a threat and risk to consumers by appearing complex to comprehend, and not easy to use.^{28,29} Research on acceptance of technology finds a strong relationship with consumers' evaluation of it being useful, ease of use, privacy and accessibility.^{14,23,30–32}

Individual differences play an important role in the adoption of technology and are the core motivations to consumers' behaviour.^{33,34} Davis *et al*²³ suggest that individuals' internal psychological constructs are important in adoption of technology, and also influence the external factors. The consumers' use of technology is largely influenced by psychological factors like personality,^{35,36} consumers' innovativeness characteristics^{13,37–39} and need for interpersonal interactions and relationships.^{40,41}

Consumers' willingness to take risk in online banking has been attributed to consumers' personal characteristics,^{15,37,39,42–44} and is linked with personality traits like consumers' innovativeness. Use of online banking eliminates the interaction with the service staff, and thus it may be perceived by some consumers as risky.⁴⁵ In financial services, the consumers prefer to be reassured about the transaction and may value face-to-face interactions.⁴⁶ Online banking involves risk-taking behaviour as it appears wrought with considerable uncertainty.⁴⁴ Ranaweera *et al*,⁴⁷ in their research on online shopping and consumer satisfaction, suggest that personality of consumers play an important role in online purchase intentions.

Consumer personality is supposed to influence not only the behavioural intentions, but also the consumer evaluations about products and brands.^{48,49} Landon⁵⁰ states that consumers show interest in products that are consistent with their personality and self-concept. Azoulay and Kapferer⁵¹ define personality as a clear construct that is dissimilar to the cognitive construct, skills and capabilities. Personality traits are inferred by individual's physical characteristics, attitudes, values and behaviour.⁵² Aaker¹¹ advocated that consumers' personality affects their evaluation of brands, and the choice of product is based on the congruency consumers feel with the product and their own personal characteristics. Consumers seek image-congruence in their purchase decisions^{53–55} as the choices are mirror to their personality.

We extended the individual's personality traits¹¹ to the online banking scenario. Individuals' personalities would reflect their attitudes and perceptions about online banking. Research on adoption of online banking has investigated different individual personality dimensions like self-efficacy and use of technology;^{56,57} consumer innovativeness trait^{19,39} and cultural

differences may affect the consumers' ability to take risk.⁵⁸

Online banking functional attributes

Online banking has gained prominence owing to the flexibility, convenience and hassle-free banking solutions it promises. It is supposed to facilitate convenient transactions and easy accessibility to information.^{2,13,59,60} Technology has improved the service quality and encounters,⁶¹ and consumers can have direct access to online banking from home, workplace, or any other place at their leisure.⁶² Malone *et al*⁶³ state that the Internet has not only brought cost savings to the companies, but has also enhanced communication with the consumers. Research highlights the benefits of online banking in terms of cost savings, customization, consumer satisfaction and efficient marketing,^{64,65} improved service^{65,66} and perceived usefulness.^{67,68} In an online setting, the consumer actively participates in the transactions⁶⁹ and acts as a co-producer in the service delivery.⁷⁰

Research suggests that the potential use of technology in boosting profitability through improved consumer interaction and service are the driving forces behind online banking.^{2,71–75} Technology is perceived by companies as a strategy that enables them to differentiate themselves from the competitors⁷⁶ and facilitates in improving their relationships with consumers.⁷⁷ Online banking has gained importance in the last few decades¹⁰ as it makes banking convenient to the consumers.⁹ Liao *et al*⁷⁸ in their study on online banking have suggested attributes like ease of use, image, compatibility, willingness and opportunity to explore online banking as factors encouraging online transactions. Jayawardhena⁷⁹ posits that consumers' acceptance of online banking is dependent on features like accessibility, website

interface and navigability, trust, attention, and credibility of the bank.

We had adapted the questionnaire from the research conducted by Pikkarainen *et al*¹⁰ on online banking. Their research findings identified five attributes for online banking – the perceived usefulness, security and privacy, perceived usefulness, amount of information, and enjoyment. We divided the constructs under the same sub-scales as followed by Pikkarainen *et al*,¹⁰ as we believed that as their research had been conducted in a developing country, the attributes would be relevant to India as well.

According to TAM, the acceptance of technology is dependent on its utility to the user, and consumers may be willing to learn new systems if it promises them additional benefits.¹⁰

Hypothesis 1: The personality traits of the individuals would have positive relationship with their perceptions about online banking attributes of perceived ease of use, security and privacy, perceived usefulness, amount of information and perceived enjoyment.

The acceptance of online banking would vary with consumer age groups. Different age groups of consumers would exhibit diverse attitudes towards adoption of innovations and online banking.^{14,45,80,81} The younger generation is more receptive towards new technology and is willing to adopt it in their lifestyle. The younger consumers value the 'convenience' attribute of online banking.⁵⁹ Research suggests that a typical user of online banking services can be identified as one familiar with Internet services, accustomed to using computers, educated, young and having a positive attitude towards technology.^{9,14,15,17,18,82}

Hypothesis 2: Different age segments of consumers would exhibit different perceptions about online banking attributes.

Hypothesis 3: Different consumer personalities would give preference to different attributes of online banking.

RESEARCH METHODOLOGY

The research design was exploratory in nature, and random sampling technique was used for data collection. This research study adopted the questionnaire developed by Pikkarainen *et al*¹⁰ in their research of online banking and the personality dimensions developed by Aaker.¹¹ The questionnaire comprised two sections; the first section of the questionnaire consisted of the 15 personality trait descriptors developed by Aaker.¹¹ The second section consisted of 21 constructs on online banking.¹⁰ The consumers were asked to fill in a structured questionnaire by indicating their agreement on a 5-point Likert-type scale (1 – strongly agree, 5 – strongly disagree). As most Indians are conversant with English, the questionnaire was administered in English. The consumers were contacted at various banks and were asked whether they used online banking. Only when the consumers affirmed that they used online banking were they requested to help us in the research and fill the questionnaires. The sample size was kept as 350, but we could only get 323 completed questionnaires for the analysis. The remaining 27 questionnaires were not returned by the respondents.

FINDINGS AND DISCUSSION

Reliability of the scale was ascertained by computing the Cronbach's α value of the scale items. The Cronbach's coefficient α helps in understanding whether the scale items cohere with each other.⁸³ Reliability coefficients of 0.70 or more are considered as a criterion for internally consistent scale constructs.⁸⁴ The Cronbach's α for the 36 constructs (15 for personality dimensions and 21 for online banking) was 0.927.

Table 1: Age classification

Age segments (years)	Frequency	Percent
20–30	278	86.1
30–40	23	7.1
40–50	10	3.1
50 and above	12	3.7
Total	323	100.0

The sample consisted of four age groups of consumers (Table 1).

We followed the factor analysis results of Pikkarainen *et al*¹⁰ and the constructs were divided according to their research study. A correlation test was run to understand the relationship between the personality dimensions and online banking attributes (Table 2) of perceived ease of use, security and privacy, perceived usefulness, amount of information and perceived enjoyment. There were six total variables under perceived ease of use; under security and privacy there were five variables; under perceived usefulness six; amount of information had two variables; and perceived enjoyment had two variables.

The Correlation results demonstrate that there exists a positive correlation between all the 15 personality factors and the 5 online banking attributes (perceived ease of use, security and privacy, perceived usefulness, amount of information and perceived enjoyment). However, for personality trait of 'Upper Class' and perceived usefulness, $r=0.105$ and $P=0.059$, the results show that there is no correlation between these two dimensions. Similarly, for personality trait 'Outdoorsy' the $r=0.076$ for perceived usefulness ($P=0.175$) and $r=0.185$ for perceived enjoyment ($P=0.185$), the results are not significant at 0.05 levels.

ANOVA test was administered to understand whether there existed any differences in consumers' evaluation of online banking based on their age groups (Table 3). We assumed that the younger age segment of consumer would be more

Table 2: Correlation between online banking attributes and personality dimensions

<i>Personality dimensions</i>	<i>Perceived ease of use</i>	<i>Security and Privacy</i>	<i>Perceived usefulness</i>	<i>Amount of Information</i>	<i>Perceived enjoyment</i>
<i>Down-to-Earth</i>					
Pearson correlation	0.197**	0.192**	0.168**	0.134*	0.149**
Sig. (two-tailed)	0.000	0.001	0.003	0.016	0.007
N	322	322	322	322	322
<i>Honest</i>					
Pearson correlation	0.176**	0.133*	0.110*	0.161**	0.147**
Sig. (two-tailed)	0.001	0.017	0.047	0.004	0.008
N	323	323	323	323	323
<i>Wholesome</i>					
Pearson correlation	0.217**	0.235**	0.173**	0.152**	0.199**
Sig. (two-tailed)	0.000	0.000	0.002	0.007	0.000
N	318	318	318	318	318
<i>Cheerful</i>					
Pearson correlation	0.253**	0.237**	0.288**	0.161**	0.256**
Sig. (two-tailed)	0.000	0.000	0.000	0.004	0.000
N	323	323	323	323	323
<i>Daring</i>					
Pearson correlation	0.238**	0.193**	0.193**	0.156**	0.163**
Sig. (two-tailed)	0.000	0.000	0.000	0.005	0.003
N	323	323	323	323	323
<i>Spirited</i>					
Pearson correlation	0.319**	0.216**	0.294**	0.164**	0.241**
Sig. (two-tailed)	0.000	0.000	0.000	0.003	0.000
N	323	323	323	323	323
<i>Imaginative</i>					
Pearson correlation	0.309**	0.150**	0.223**	0.185**	0.210**
Sig. (two-tailed)	0.000	0.007	0.000	0.001	0.000
N	322	322	322	322	322
<i>Up-to-date</i>					
Pearson correlation	0.231**	0.162**	0.175**	0.217**	0.294**
Sig. (two-tailed)	0.000	0.003	0.002	0.000	0.000
N	323	323	323	323	323
<i>Reliable</i>					
Pearson correlation	0.357**	0.158**	0.314**	0.208**	0.291**
Sig. (two-tailed)	0.000	0.005	0.000	0.000	0.000
N	323	323	323	323	323
<i>Intelligent</i>					
Pearson correlation	0.305**	0.159**	0.215**	0.251**	0.266**
Sig. (two-tailed)	0.000	0.004	0.000	0.000	0.000
N	323	323	323	323	323
<i>Successful</i>					
Pearson correlation	0.205**	0.158**	0.229**	0.164**	0.195**
Sig. (two-tailed)	0.000	0.004	0.000	0.003	0.000
N	323	323	323	323	323
<i>Upper Class</i>					
Pearson correlation	0.203**	0.180**	0.105	0.233**	0.116*
Sig. (two-tailed)	0.000	0.001	0.059	0.000	0.036
N	323	323	323	323	323
<i>Charming</i>					
Pearson correlation	0.297**	0.150**	0.275**	0.189**	0.232**
Sig. (two-tailed)	0.000	0.007	0.000	0.001	0.000
N	323	323	323	323	323

Table 2 continued

Personality dimensions	Perceived ease of use	Security and Privacy	Perceived usefulness	Amount of Information	Perceived enjoyment
<i>Outdoorsy</i>					
Pearson correlation	0.209**	0.162**	0.076	0.148**	0.074
Sig. (two-tailed)	0.000	0.004	0.175	0.008	0.185
N	323	323	323	323	323
<i>Tough</i>					
Pearson correlation	0.186**	0.116*	0.141*	0.180**	0.145**
Sig. (two-tailed)	0.001	0.037	0.011	0.001	0.009
N	323	323	323	323	323

**Significant at the 0.01 level (two-tailed).

*Significant at the 0.05 level (two-tailed).

Table 3: ANOVA: online banking dimensions and consumer age groups

Online banking dimensions	Sum of squares	df	Mean square	F	Sig.
<i>Perceived ease of use</i>					
Between groups	276.555	3	92.185	5.819	0.001**
Within groups	5053.315	319	15.841	—	—
Total	5329.870	322	—	—	—
<i>Security and Privacy</i>					
Between groups	4.260	3	1.420	0.082	0.970
Within groups	5537.926	319	17.360	—	—
Total	5542.186	322	—	—	—
<i>Perceived usefulness</i>					
Between groups	181.291	3	60.430	3.382	0.019*
Within groups	5699.538	319	17.867	—	—
Total	5880.830	322	—	—	—
<i>Amount of Information</i>					
Between groups	17.200	3	5.733	0.765	0.514
Within groups	2389.314	319	7.490	—	—
Total	2406.514	322	—	—	—
<i>Perceived enjoyment</i>					
Between groups	13.569	3	4.523	1.707	0.165
Within groups	845.353	319	2.650	—	—
Total	858.923	322	—	—	—

**Significant at the 0.01 level (two-tailed).

*Significant at the 0.05 level (two-tailed).

receptive towards online banking and willing to use it for financial transactions. The results are given in Table 4. The differences in consumers' perceptions are significant in two attributes: perceived ease of use and perceived usefulness.

The ANOVA results posit that on two attributes of online banking, perceived ease of use and perceived usefulness, there were differences among the age groups. A *post*

hoc analysis was conducted to understand in which groups the difference was prominent. The results for perceived ease of use dimension show that $P=0.011$ between age groups 20–30 and 30–40 years, and was significant at 0.05 levels. Similarly for perceived usefulness the $P=0.034$ between 20–30 years and 40–50 years and was significant at 0.05 levels. The results show that younger consumers may perceive

Table 4: Multiple regression analysis: perceived ease of use as predictors to different personality types of consumers

Online banking dimensions	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	<i>B</i>	<i>SE</i>	β		
(Constant)	4.971	1.005	—	4.947	0.000
Daring	0.220	0.285	0.045	0.770	0.442
Spirited	0.257	0.330	0.050	0.779	0.437
Imaginative	0.588	0.268	0.135	2.193	0.029
Up-to-date	0.068	0.246	0.016	0.278	0.781
Reliable	0.984	0.272	0.221	3.612	0.000
Intelligent	0.673	0.310	0.131	2.175	0.030
Successful	−0.311	0.274	−0.068	−1.136	0.257
Upper Class	0.091	0.265	0.020	0.342	0.732
Charming	0.473	0.290	0.097	1.634	0.103
Outdoorsy	0.442	0.250	0.100	1.770	0.078
Down-to-Earth	0.196	0.276	0.042	0.713	0.477
Honest	−0.240	0.329	−0.045	−0.729	0.467
Wholesome	0.117	0.304	0.023	0.386	0.700
Cheerful	0.324	0.292	0.065	1.109	0.268
Tough	0.200	0.233	0.048	0.860	0.390

Dependent variable: Perceived ease of use.

*Significant at 0.01 levels.

online banking as easy to use and convenient. This is in line with earlier research, which states that consumer demographic characteristics like age, education and occupation play an important role in adoption of online financial services.^{14,17,45,80,81,85,86} Thus, consumers' use and acceptance of online banking would be affected by demographic factors,^{14,87} and consumers more accustomed to using computer may be comfortable with online banking services. As the younger consumer is more confident with technology, their acceptance of technology in financial transactions would differ from the older consumer groups.

The multiple regression tests were conducted for the five online banking dimensions in order to understand the significance of online banking dimensions in predicting the behaviour of different personality types. We run five multiple regression analysis tests.

In the first regression analysis, we took 'Perceived ease of use' attribute as a dependent variable, and studied it as a predictor of behaviour of different personality types. The results are shown in

Table 5. The regression analysis suggests that three personality types are affected by the 'ease of use' attribute of online banking. The personality types of consumers who are 'Imaginative, Reliable and Intelligent' can be influenced and motivated to try online banking services based on the ease of use it offers. The *P*-values for Imaginative and Intelligent personality traits are 0.029 and 0.03, respectively, which are significant at 0.05 levels. The *P*-value for 'Reliable' personality trait is 0.000, which is significant at 0.01 levels.

In the Regression analysis with 'Security and Privacy' as dependent variable, there were no personality types that considered it as an important attribute for online banking services (Table 6).

The Regression analysis test results for 'Perceived usefulness' show that consumers with personality traits of 'Reliable, Charming, and Wholesome' are likely to be affected by it. The consumers with these personality traits are likely to look at online banking as convenient and flexible. The banks can target these kinds of consumers with promotions that ensure them about the usefulness of online banking. The

Table 5: Multiple regression analysis: Security and Privacy as predictors to different personality types of consumers

Online banking dimensions	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	<i>B</i>	<i>SE</i>	β		
(Constant)	7.155	1.120	—	6.388	0.000
Daring	0.231	0.318	0.047	0.726	0.468
Spirited	0.237	0.368	0.046	0.644	0.520
Imaginative	−0.059	0.299	−0.013	−0.196	0.845
Up-to-date	0.031	0.274	0.007	0.113	0.910
Reliable	0.206	0.304	0.045	0.679	0.497
Intelligent	0.366	0.345	0.070	1.061	0.290
Successful	−0.086	0.305	−0.018	−0.281	0.779
Upper Class	0.449	0.295	0.097	1.521	0.129
Charming	−0.188	0.323	−0.038	−0.581	0.562
Outdoorsy	0.319	0.278	0.071	1.146	0.253
Down-to-Earth	0.418	0.307	0.087	1.360	0.175
Honest	−0.117	0.367	−0.021	−0.318	0.751
Wholesome	0.481	0.339	0.093	10.419	0.157
Cheerful	0.610	0.326	0.120	1.871	0.062
Tough	0.058	0.259	0.014	0.226	0.822

Dependent variable: Security and Privacy.

*Significant at 0.01 levels.

Table 6: Multiple regression analysis: Perceived usefulness as predictors to different personality types of consumers

Online banking dimensions	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	<i>B</i>	<i>SE</i>	β		
(Constant)	7.255	1.097	—	6.614	0.000
Daring	0.109	0.312	0.021	0.349	0.727
Spirited	0.345	0.360	0.065	0.958	0.339
Imaginative	0.273	0.293	0.060	0.932	0.352
Up-to-date	−0.058	0.269	−0.013	−0.216	0.829
Reliable	1.116	0.297	0.238	3.753	0.000
Intelligent	0.126	0.338	0.023	0.372	0.710
Successful	0.260	0.299	0.054	0.868	0.386
Upper Class	−0.313	0.289	−0.066	−1.082	0.280
Charming	0.634	0.316	0.124	2.005	0.046
Outdoorsy	−0.219	0.273	−0.047	−0.803	0.423
Down-to-Earth	0.258	0.301	0.052	0.857	0.392
Honest	−0.563	0.359	−0.100	−1.568	0.118
Wholesome	0.061	0.332	0.011	0.183	0.855
Cheerful	0.865	0.319	0.165	2.711	0.007
Tough	0.300	0.254	0.069	1.183	0.238

Dependent variable: Perceived usefulness

*Significant at 0.01 levels.

P-value for Reliable personality trait consumers is 0.000, and for Cheerful personality trait it is 0.007, and is significant at 0.01 levels. For Charming personality the *P*-value is 0.046, which is significant at 0.05 levels (Table 7).

The consumers who have personality traits of ‘Intelligent and Upper Class’ would be most affected by the availability of information on websites about the online banking. The detailed information about product features and service options are

Table 7: Multiple regression analysis: Amount of Information as predictors to different personality types of consumers

Online banking dimensions	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	<i>B</i>	<i>SE</i>	β		
(Constant)	3.115	0.730	—	4.266	0.000
Daring	0.004	0.207	0.001	0.017	0.986
Spirited	-0.088	0.240	-0.026	-0.366	0.714
Imaginative	0.113	0.195	0.038	0.578	0.564
Up-to-date	0.237	0.179	0.084	1.326	0.186
Reliable	0.260	0.198	0.087	1.315	0.190
Intelligent	0.535	0.225	0.154	2.379	0.018
Successful	-0.109	0.199	-0.035	-0.548	0.584
Upper Class	0.411	0.192	0.135	2.139	0.033
Charming	-0.026	0.211	-0.008	-0.126	0.900
Outdoorsy	0.185	0.182	0.062	1.017	0.310
Down-to-Earth	0.120	0.200	0.038	0.599	0.550
Honest	0.108	0.239	0.030	0.453	0.651
Wholesome	-0.040	0.221	-0.012	-0.182	0.856
Cheerful	0.132	0.212	0.039	0.622	0.535
Tough	0.241	0.169	0.086	1.426	0.155

Dependent variable: Amount of Information.

*Significant at 0.05 levels.

Table 8: Multiple regression analysis: Perceived enjoyment as predictors to different personality types of consumers

Online banking dimensions	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	<i>B</i>	<i>SE</i>	β		
(Constant)	2.093	0.423	—	4.947	0.000
Daring	-0.033	0.120	-0.017	-0.277	0.782
Spirited	0.038	0.139	0.019	0.274	0.784
Imaginative	0.028	0.113	0.016	0.246	0.805
Up-to-date	0.261	0.104	0.155	2.518	0.012
Reliable	0.346	0.115	0.194	3.016	0.003
Intelligent	0.256	0.130	0.124	1.962	0.051
Successful	-0.039	0.115	-0.021	-0.336	0.737
Upper Class	-0.068	0.111	-0.037	-0.606	0.545
Charming	0.069	0.122	0.036	0.568	0.570
Outdoorsy	-0.046	0.105	-0.026	-0.441	0.660
Down-to-Earth	0.106	0.116	0.057	0.914	0.361
Honest	-0.139	0.139	-0.065	-1.006	0.315
Wholesome	0.066	0.128	0.032	0.513	0.608
Cheerful	0.277	0.123	0.138	2.250	0.025
Tough	0.129	0.098	0.077	1.316	0.189

Dependent variable: Perceived enjoyment.

*Significant at 0.01 levels.

likely to motivate them to use online banking. The regression analysis shows that information may be considered an important determinant for people who exhibit traits of being intelligent and of upper class. The *P*-value is significant at 0.05 levels, *P*=0.018 and *P*=0.033 for

Intelligent and Upper Class, respectively (Table 8).

The multiple regression test results for 'perceived enjoyment' dimension of online banking show that personality traits of Reliable has a *P*-value of 0.003, which is significant at 0.01 level; and for Up-to-date

and cheerful personality traits, the *P*-values are 0.012 and 0.025, which are significant at 0.05 level. The results state that people with personality traits of 'Up-to-date, reliable, and cheerful' are likely to be influenced by fun dimensions of online banking. If the enjoyment and fun element of bank websites is improved, there are chances that these types of consumers would use online banking.

Our research findings corroborate the earlier research on consumers' individual differences and adoption of technology.^{13,36–39} Different consumers are influenced by different features of online banking, and may be intrinsically motivated to try it for different reasons. More extrovert consumers are likely to take risk with new innovations. Earlier research shows that consumers' traits of innovativeness can be attributed to their individual characteristics.^{15,37,39,42–44} These traits affect the usage patterns and willingness to adopt online banking. The differences in perceptions and motivations would influence consumers' evaluations regarding the benefits of online banking and its role in facilitating transactions.

MANAGEMENT IMPLICATIONS

Selnes and Hansen⁸⁸ suggested that technology acts as an enabler in improving the service delivery and facilitating easy interaction with consumers. As online banking is still in the introduction stage in India, banks have to instill confidence in consumers to motivate them to try the services. Research conducted on the adoption of online banking in other developing countries recommends that awareness towards online banking influences consumers' acceptance and use of the services.^{15,17,18,44,68} The consumers' attitude towards online banking is not only governed by environmental issues, but also psychological attributes. The differences in personality of the consumers may motivate or demotivate them to try new services. In order to tackle the individual differences,

customized services can be provided by the banks, and consumers' fears need to be handled in a compassionate manner. The website features of interactivity, easy navigability and availability of information are important dimensions affecting online banking usage. The banks must address these issues with respect to consumers' individual differences, so that consumers feel comfortable with bank websites. In India, online banking presents potential opportunities as telecommunications and Internet penetration is increasing and costs are becoming affordable for consumers. If the service levels are improved and consumers' individual priorities are given importance, online banking adaptation would improve.

LIMITATIONS AND FUTURE RESEARCH

The sample consisted of more than 86 per cent of the respondents aged between 20 and 30 years. As our objective was to study Indian consumers using online banking, we only selected respondents who were using online banking. It was found that people who were using online banking were between age groups of 20–40 years, and the older people were not availing the online banking services. We could only contact very few people in the age groups of 40 years and above who were using online banking. Thus, other than the personality dimensions, we feel that age of the consumers also plays a significant role in adoption of online banking.^{14,17,18} If the sample had various age groups equally represented we believe our results may have been different. There is large representation of younger generation in the sample, which makes it biased.

The results show that Indian consumers do not segregate the various functionalities of online banking into different attributes. A future research can attempt to understand the online banking attributes most important to them. It may relate to

understanding the features of the websites on banks and the dimensions most important to them. It may relate to the features like information search, navigability, hyperlinks and instructions and help available to the consumers. A comparison can also be done regarding websites of public and private sector banks. The personality dimensions of the consumers can be applied to study which type of online banking website features like interactivity, navigability, playfulness, information availability and animation appeal to which type of consumers. This may also relate to the concept that consumers feel assured with the banking services that are attuned to their personality traits.

REFERENCES

- Durkin, M. (2007) On the role of bank staff in online consumer purchase. *Marketing Intelligence & Planning* 25(1): 82–97.
- Akinci, S., Aksoy, S. and Atilgan, E. (2004) Adoption of internet banking among sophisticated consumer segments in an advanced developing country. *International Journal of Bank Marketing* 22(3): 212–232.
- Harden, G. (2002) E-banking comes to town: Exploring how traditional UK high street banks are meeting the challenge of technology and virtual relationships. *Journal of Financial Services Marketing* 6(4): 323–332.
- Byers, R. and Lederer, P.J. (2001) Retail bank services strategy: A model of traditional, electronic, and mixed distribution choices. *Journal of Management Information Systems* 18(2): 133–156.
- Quinn, J.B. (1996) The productivity paradox is false: Information technology improves service performance. In: A.T. Swartz, D.E. Bowen and S.W. Brown (eds.) *Advances in Services Marketing and Management*, Vol. 5, Greenwich, CT: JAI Press.
- Hewer, P., Howcroft, J.B. and Durkin, M. (2003) Banker–consumer interactions in financial services. *Journal of Marketing Management* 19(9–10): 1001–1020.
- Bitner, M.J., Brown, S.W. and Meuter, M.L. (2000) Technology infusion in service encounters. *Journal of the Academy of Marketing Science* 28(1): 138–149.
- Durkin, M. (2004) In search of the Internet–banking consumer: Exploring the use of decision styles. *The International Journal of Bank Marketing* 22(7): 484–503.
- Sathy, M. (1999) Adoption of online banking by Australian consumers: An empirical investigation. *International Journal of Bank Marketing* 17(7): 324–334.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H. and Pahnla, S. (2004) Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research Volume* 14(3): 224–235.
- Aaker, J. (1997) Dimensions of brand personality. *Journal of Marketing Research* 34(3): 347–356.
- Tan, M. and Teo, T. (2000) Factors influencing the adoption of internet banking. *Journal of the AIS* 1: 1–42.
- Polatoglu, V.N. and Etkin, S. (2001) An empirical investigation of the Turkish consumers' acceptance of internet banking services. *International Journal of Bank Marketing* 19(4): 156–165.
- Karjaluoto, H., Mattila, M. and Pentto, T. (2002) Factors underlying attitude formation towards online banking in Finland. *International Journal of Bank Marketing* 20(6): 261–272.
- Mukherjee, A. and Nath, P. (2003) A model of trust in online relationship banking. *International Journal of Bank Marketing* 21(1): 5–15.
- Wong, X., Yen, D.C. and Fang, X. (2004) E-commerce development in China and its implications for business. *Asia Pacific Journal of Marketing and Logistics* 16(3): 68–83.
- Laforet, S. and Li, X. (2005) Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing* 23(5): 362–380.
- Poon, W.-C. (2008) Users' adoption of e-banking services: The Malaysian perspective. *Journal of Business & Industrial Marketing* 23(1): 59–69.
- Im, S., Bayus, B.L. and Mason, C. (2003) An empirical study of innate consumer innovativeness, personal characteristics, and new-product adoption behavior. *Journal of the Academy of Marketing Science* 31(1): 61–73.
- Rogers, E. (1962) *Diffusion of Innovations*. New York, NY: Macmillan.
- Citrin, A.V., Sprott, D.E., Silverman, S.N. and Stem, D.E. (2000) Adoption of internet shopping: The role of consumer innovativeness. *Industrial Management & Data Systems* 100(7): 294–300.
- Moon, J.W. and Kim, Y.G. (2001) Extending the TAM for a World-Wide-Web context. *Information & Management* 38(4): 217–230.
- Davis, L.D., Bagozzi, R.P. and Warshaw, P.R. (1989) User acceptance of computer technology: A comparison of two theoretical models. *Management Science* 35(8): 982–1003.
- Chin, W.C. and Todd, P.A. (1995) On the use, usefulness and ease of use of structural equation modeling in MIS research: A note of caution. *MIS Quarterly* 19(2): 237–246.
- Doll, W.J., Hendrickson, A. and Deng, X. (1998) Using Davis's perceived usefulness and ease-of-use instruments for decision making: A confirmatory and multi-group invariance analysis. *Decision Science* 29(4): 839–869.
- Wang, Y.S., Wang, Y.M., Lin, H.H. and Tang, T. (2003) Determinants of user acceptance of internet banking: An empirical study. *International Journal of Service Industry Management* 14(5): 501–519.

- 27 O'Cass, A. and Fenech, T. (2003) Web retailing behaviour: Exploring the nature of internet users' web retailing behaviour. *Journal of Retailing and Consumer Services* 10(2): 81–94.
- 28 Teo, T.S.H. and Pok, S.H. (2003) Adoption of WAP-enabled mobile phones among internet users. *Omega* 31(6): 483–498.
- 29 Laukkanen, P., Sinkkonen, S. and Laukkanen, T. (2008) Consumer resistance to internet banking: Postponers, opponents and rejectors. *The International Journal of Bank Marketing* 26(6): 440–455.
- 30 Karahanna, E., Straub, D.W. and Chervany, N.L. (1999) Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly* 23(2): 183–312.
- 31 Abbate, A. (1999) For small banks, future lies in technology and tight focus. *American Banker* 164(17): 8.
- 32 Kolodinsky, J.M., Hogarth, J.M and Hilgert, M.A (2004) The adoption of electronic banking technologies by US consumers. *The International Journal of Bank Marketing* 22(4): 238–259.
- 33 Majchrzak, A. and Cotton, J. (1988) A longitudinal study of adjustment to technological change: From mass to computer-automated batch production. *Journal of Occupational Psychology* 61(1): 43–66.
- 34 Dabholkar, P.A. and Bagozzi, R.P. (2002) An attitudinal model of technology-based self-service: Moderating effects of consumer traits and situational factors. *Journal of the Academy of Marketing Science* 30(3): 184–201.
- 35 Alavi, M. and Joachimsthaler, E.A. (1992) Revisiting DSS implementation research: A meta-analysis of the literature and suggests for researchers. *MIS Quarterly* 16(1): 95–116.
- 36 Harrison, A.W. and Rainer Jr, R.K. (1992) The influence of individual differences on skill in end-user computing. *Journal of Management Information Systems* 9(1): 93–111.
- 37 Lassar, W.M., Manolis, C. and Lassar, S.S. (2005) The relationship between consumer innovativeness, personal characteristics, and online banking adoption. *International Journal of Bank Marketing* 23(2): 176–199.
- 38 Liljander, V., Gillberg, F., Gummerus, J. and Van Riel, A. (2006) Technology readiness and the evaluation and adoption of self-service technologies. *Journal of Retailing and Consumer Services* 13(3): 177–191.
- 39 Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafé, C. and Sanz-Blas, S. (2009) The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing* 27(1): 53–75.
- 40 Bateson, J.E.G. (1985) Self-service consumer: An exploratory study. *Journal of Retailing* 61(3): 49–76.
- 41 Dabholkar, P.A. (1992) Role of affect and need for interaction in on-site service encounters. *Advances in Consumer Research* 19: 563–569.
- 42 Gattiker, V.E. (1992) *Technology-mediated Communication*. New York, NY: W. de Gruyter.
- 43 Gefen, D. and Straub, D.W. (1997) Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS Quarterly* 21(4): 389–400.
- 44 Gerrard, P. and Cunningham, J.B. (2003) The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing* 21(1): 16–28.
- 45 Flavian, C., Guinaliu, M. and Torres, E. (2005) The influence of corporate image on consumer trust: A comparative analysis in traditional versus Internet banking. *Internet Research* 15(4): 447–470.
- 46 Curran, J.M. and Meuter, M.L. (2005) Self-service technology adoption: Comparing three technologies. *The Journal of Services Marketing* 19(2): 103–113.
- 47 Ranaweera, C., Bansal, H. and McDougall, G. (2008) Web site satisfaction and purchase intentions: Impact of personality characteristics during initial web site visit. *Managing Service Quality* 18(4): 329–348.
- 48 Sirgy, M.J. (1982) Self-concept in consumer behavior: A critical review. *Journal of Consumer Research* 9(3): 287–300.
- 49 Belk, R.W. (1988) Possessions and the extended self. *Journal of Consumer Research* 15(2): 139–168.
- 50 Landon Jr, E.L. (1974) Self concept, ideal self concept, and consumer purchase intentions. *Journal of Consumer Research* 1(2): 44–51.
- 51 Azoulay, A. and Kapferer, J.-N. (2003) Do brand personality scales really measure brand personality? *Journal of Brand Management* 11(2): 143–155.
- 52 Park, B. (1986) A method for studying the development of impressions of real people. *Journal of Personality and Social Psychology* 51(5): 907–917.
- 53 Grubb, E.L. and Hupp, G. (1968) Perception of self, generalized stereotypes and brand selection. *Journal of Marketing Research* 5(1): 58–63.
- 54 Dolich, I. (1969) Congruence relationships between self images and product brands. *Journal of Marketing Research* 6(1): 80–84.
- 55 Ericksen, M.K. and Sirgy, M.J. (1992) Employed females' clothing preference, self-image congruence, and career anchorage. *Journal of Applied Social Psychology* 22(5): 408–422.
- 56 Venkatesh, V. and Davis, F.D. (1996) A model of the antecedents of perceived ease of use: Development and test. *Decision Sciences* 27(3): 451–481.
- 57 Agarwal, R., Sambamurthy, V. and Stair, R.M. (2000) Research report: The evolving relationship between general and specific computer self-efficacy – An empirical assessment. *Information Systems Research* 11(4): 418–430.
- 58 Gefen, D. and Straub, D.W. (2004) Consumer trust in B2C e-commerce and the importance of social presence: Experiments in e-products and e-services. *International Journal of Management Science* 32(6): 407–424.
- 59 Howcroft, B., Hamilton, R. and Hewer, P. (2002) Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *International Journal of Bank Marketing* 20(3): 111–121.
- 60 Pikkarainen, K., Pikkarainen, T., Karjaluoto, H. and Pahnla, S. (2006) The measurement of end-user computing satisfaction of online banking services:

- Empirical evidence from Finland. *International Journal of Bank Marketing* 24(3): 158–172.
- 61 Beaton, A., Lee, N. and Coote, L.V. (2007) Self-service technology and the service encounter. *The Service Industries Journal* 27(1): 75–89.
- 62 Suominen, M. (2001) E-banking in the Nordic countries – its emergence and perspectives. In: J. Krummow and T.A. Lange (eds.) *Management Handbook eBanking*. Stuttgart, Germany: Schäffer-Poeschel Verlag.
- 63 Malone, T.W., Yates, J. and Benjamin, R.I. (1987) Electronic markets and electronic hierarchies. *Communications of the ACM* 30(6): 484–497.
- 64 Jayawardhena, C. and Foley, P. (2000) Changes in the banking sector – The case of Internet banking in the UK. *Internet Research: Electronic Networking Applications and Policy* 10(1): 19–30.
- 65 Bitner, M., Ostrom, A. and Meuter, M. (2002) Implementing successful self-service technologies. *Academy of Management Executive* 16(4): 96–108.
- 66 Mols, N.P., Bukh, P.N.D. and Nielsen, J.F. (1999) Distribution channel strategies in Danish retail banking. *International Journal of Retail & Distribution Management* 27(1): 37–47.
- 67 Hu, P.J., Chau, P.Y.K., Sheng, O.R.L. and Tam, K.Y. (1999) Examining the technology acceptance model using physician acceptance of telemedicine technology. *Journal of Management Information Systems* 16(2): 91–112.
- 68 Venkatesh, V. and Morris, M.G. (2000) Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly* 24(1): 115–139.
- 69 Bendapudi, N. and Leone, R. (2003) Psychological implications of customer participation in co-production. *Journal of Marketing* 67(1): 14–28.
- 70 Vargo, S. and Lusch, R. (2004) Evolving to a new dominant logic for marketing. *Journal of Marketing* 68(1): 1–17.
- 71 Gardener, E., Howcroft, B. and Williams, J. (1999) The new retail banking revolution. *The Service Industries Journal* 19(2): 83–100.
- 72 Devaraj, S., Fan, M. and Kohli, R. (2002) Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics. *Information Systems Research* 13(3): 316–333.
- 73 Chau, P.Y. and Lai, V.S.K. (2003) An empirical investigation of the determinants of user acceptance of internet banking. *Journal of Organizational Computing and Electronic Commerce* 13(2): 123–145.
- 74 DeYoung, R., Lang, W.W. and Nolle, D.L. (2007) How the internet affects output and performance at community banks. *Journal of Banking & Finance* 31(4): 1033–1060.
- 75 Acharya, R.N., Kagan, A. and Lingam, S.R. (2008) Online banking applications and community bank performance. *The International Journal of Bank Marketing* 26(6): 418–439.
- 76 Easingwood, C. and Storey, C. (1996) The value of multi-channel distribution systems in the financial services sector. *Service Industries Journal* 16(2): 223–241.
- 77 Hawke, A. and Heffernan, T. (2005) The outcomes of interpersonal liking in lender–consumer relationships in the Australian banking sector. Paper presented at ANZMAC Conference, Perth.
- 78 Liao, S., Shao, Y., Wang, H. and Chen, A. (1999) The adoption of virtual banking: An empirical study. *International Journal of Information Management* 19(1): 63–74.
- 79 Jayawardhena, C. (2004) Measurement of service quality in internet banking: The development of an instrument. *Journal of Marketing Management* 20(1/2): 185–207.
- 80 McKnight, D.H., Chudhury, V. and Kacmar, C. (2002) The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *Journal of Strategic Information Systems* 11(4): 297–323.
- 81 Ribbink, D., van Riel, A.C.R., Liljander, V. and Streukens, S. (2004) Comfort your online customer: Quality, trust and loyalty on the internet. *Managing Service Quality* 14(6): 446–456.
- 82 Machauer, A. and Morgner, S. (2001) Segmentation of bank customers by expected benefits and attitudes. *International Journal of Bank Marketing* 19(1): 6–17.
- 83 Cronbach, L.J. (1951) Coefficient alpha and the internal structure of tests. *Psychometrika* 16(3): 297–334.
- 84 Nunnally, J.C. (1978) *Psychometric Theory*. New York, NY: McGraw-Hill.
- 85 Modahl, M. (2000) *Now or Never: How Companies Must Change to Win the Battle for the Internet Consumer*. New York, NY: Harper Business.
- 86 Kimiloğlu, H. (2004) The 'E-literature': A framework for understanding the accumulated knowledge about internet marketing. *Academy of Marketing Science Review* 6, <http://www.amsreview.org/articles/kimiloglu06-2004.pdf>.
- 87 Beckett, A., Hewer, P. and Howcroft, B. (2002) An exposition of consumer behaviour in the financial services industry. *International Journal of Bank Marketing* 18(1): 15–26.
- 88 Selnes, F. and Hansen, H. (2001) The potential hazard of self-service in developing customer loyalty. *Journal of Service Research* 4(2): 79–90.