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Development of an Enduring Involvement Scale Using Flow Concept in Hypermedia Computer Mediated Environments

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FOREWORD

The Internet has transformed global communications in recent years, and networks based on the Internet Protocol (IP) will replace traditional circuit-switched tele-communications network to become the predominant ones in the first decade of the 21st century. Today, Internet, especially that portion known as the World Wide Web, has the potential to change radically the way businesses interact with their customers. The Web frees customers from their traditionally passive role as receivers of marketing communications, gives them much greater control over the information search and acquisition process, and allows them to become active participants in the marketing process.

The research study titled "Development of an Enduring Involvement Scale Using Flow Concept in Hypermedia Computer Mediated Environments" has explored the consumer navigation behaviour in hypermedia computer mediated environments (CMEs). The central point driving this research is that hypermedia CMEs, such as, but not limited to the World Wide Web on the Internet, require the development and application of new marketing concepts and models. In this research study, the Web marketers, Web designers, research scholars, industry practitioners and all researchers in the area of "Internet Research" are introduced to the revolutionary new medium defined by hypermedia CMEs. This is because hypermedia CMEs possess unique characteristics, including machine-interactivity, telepresence, hypermedia, and network navigation, which distinguish them from traditional media and some interactive multimedia, on which conventional concepts and models are based.

This study has highlighted hypermedia CMEs as a combination of the elements of radio (audio), television (moving images), newspaper and magazines (text), and the computer (video display terminal) with hypertext links to form the basis for a unique computer-mediated environment. The approach of the study considers hypermedia CMEs to be large-scale (i.e. national or global) networked environments, of which the World Wide Web on the Internet is the first global networked implementation.

With the advent of the World Wide Web, economic entities such as business firms and consumers are converging to the new frontier for economic exchange: Electronic Commerce. Businesses are investing in infrastructure, content and transaction specific relationships paving the way for electronic commerce over the Internet. But the antecedent of any consumer related activities over the Internet requires a fundamental understanding of the "Involvement" construct as related to the Internet. The concept of involvement has played a significant role in explaining consumer behaviour in the marketing literature as well as in developing and formulating marketing strategies and policies.

The research would be of interest to academic scientists, Web marketers, Web designers, research scholars, as also industry practitioners.

PRABIR SENGUPTA
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Contents

Development of an Enduring Involvement Scale Using Flow Concept in Hypermedia Computer Mediated Environments

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The Flow concept has been thought of as essential to understanding consumer navigation behaviour in hypermedia computer-mediated environments (CMEs). Similarly, the antecedent of any consumer related activities over the Web requires a fundamental understanding of the "Involvement" construct as related to the Internet. Web-Involvement can be categorized as Enduring or Situational. The purpose of this paper is to: emphasize on Enduring Involvement (EI) as related to Web activities; find a relationship between Flow and EI; and develop an "Enduring Involvement Scale (EIS)" for measuring EI among the Web users.

The Enduring Involvement Scale (EIS) is in line with the Comprehensive Process (Flow) Model of Network Navigation and Flow Process Scale (FPS), already developed by the authors. Reliability and validity of the scale have been established.

The EIS has significant implications for academicians, marketing scientists, industry practitioners, and those who are interested in the commercialization of the World Wide Web and e-commerce.

Keywords: Flow, Enduring Involvement, Playfulness, Flow Process Scale, Comprehensive Process Model of Network Navigation

Executive Summary

THE research study is concerned with the consumer navigation behaviour (CNB) and marketing implications of commercializing hypermedia computer mediated environments (CMEs) of which the WWW on the Internet is the first and the most recent implementation. The study is multi-disciplinary in nature because it involves marketing (cyber strategy, hyper-marketing, cyber branding, etc.), information technology (hypermedia, hypertext, machine interactivity, world wide web, internet technologies, etc.) and behavioural aspects of consumer navigation.

Flow concept in a hypermedia CME is defined as the state of playfulness occurring during network navigation, which is (1) characterized by a seamless sequence of responses (hypertext) facilitated by machine interactivity and strength of telepresence, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing. By exploring Web users' Flow experience provoked by Web activities, it becomes possible to categorize the factors contributing to the occurrence of Flow. The knowledge obtained from this study provides basis for further exploration of this topic, and justifies the juxtaposition of the Web and the Flow concept as a powerful, timely and fruitful area of inquiry for both Internet marketers and psychologists.

The objectives of the study are to develop an Enduring Involvement Scale (EIS) using Flow concept in online environments, examine the research issues related to CNB and finally, to measure the Flow concept on the basis of the Flow-constructs and Web usage variables derived from the Comprehensive Flow Model for investigating CNB in Hypermedia CMEs.

The methodology of the study includes the analysis of the respondents of a sample of 471 regular Internet users in National Capital Region of India. Purposive Sampling technique has been used to select the sample.

Data have been collected using the two scales – "Flow Process Scale" and "Enduring Involvement Scale", which are developed to measure Flow and enduring involvement (EI) respectively, among Web users. This research paper highlights the development of EIS to measure enduring involvement in online environments. Data analysis has been carried out using various univariate, bivariate and multivariate statistical techniques.

The results of the study reveal that technical and non-technical graduate respondents possess higher playfulness, achieve Perfect Flow and experience more enduring involvement as compared to Post-Graduates and Doctorates. On the other hand, Post-Graduates and Doctorates possess higher skills, Web-navigational importance and achieve Imperfect Flow *vis-a-vis* Graduates. Among the occupational groups of consumers, students achieve Perfect Flow and enduring involvement more than academic and industry professionals. Managerial Professionals achieve Imperfect Flow better than the other occupational classes of consumers.

The relationships among various Flow and EI Constructs of the Comprehensive Flow Model of Network Navigation suggest that individuals who find the Web to be too challenging are likely to turn to traditional media for their search activity, and somewhat less so for their purchase activity.

On the basis of these findings, it may be concluded that there is a significant relationship between the consumer navigation behaviour variables, and Flow and EI, in hypermedia CMEs.

A Comprehensive Flow Model of Network Navigation has been developed and tested. The model can be effectively extended beyond a general evaluation of Flow on the Web to Internet Simulation and modelling of Flow in specific online situations. The Comprehensive Flow Model embodies the components of what makes for a compelling online experience.

Introduction

The idea of Flow was conceptualized by Csikszentmihalyi (1977, p.36), who defined "Flow" as "the holistic sensation that people feel when they act with total involvement". Trevino and Webster (1992, p. 542) used Flow for Computer Mediated Communication (CMC). According to them, "Flow represents the extent to which (a) the user perceives a sense of control over the computer interaction, (b) the user perceives that his/her attention is focused on the interaction, (c) the user's curiosity is aroused during the interaction, and (d) the user finds the interaction intrinsically interesting." Flow in Hypermedia Computer Mediated Environments (CMEs) is defined as "the state of playfulness occurring during network navigation which is: (1) characterized by a seamless sequence of responses (hypertext) facilitated by machine interactivity, telepresence and time distortion, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing" (Saxena *et al.*, 2003b).

Bush (1945) has described "Hypermedia" as a Multimedia Hypertext. "Hypermedia CME" is defined as a dynamic distributed network, potentially global in scope, together associated with hardware and software for accessing the network, which allows consumers and firms to (a) provide and interactively access hypermedia content (i.e., machine interactivity); and (b) communicate through the medium (person interactivity).

In this paper, our focus is on high skills and challenges, which are assumed to be a requirement for experiencing Flow in hypermedia CMEs. The approach is to consider hypermedia CMEs as large scale (national or global) networked environments of which the World Wide Web is the first and the most recent implementation.

Past operationalizations of Flow have employed measures that ask respondents about "challenges" they perceive and their "skills" in meeting and overcoming the challenges. We think that these operationalizations are unlikely to be understood by respondents in all but the most mundane activities (e.g., playing a physical sport). We believe that Flow occurs in the multi-activity medium of the Web and as a result of high skills and challenges (Saxena *et al.*, 2003a).

From the review, it is evident that most of the existing Flow theories have not taken into account the fact that the Web is a "multi-activity" medium and Flow is a multi-dimensional concept and not a unidimensional one, as suggested by many researchers. Hence, we introduce the concept of "multi-activity" to the Web as a medium of communication in relation to the occurrence of Flow (Saxena *et al.*, 2003a). This is because Flow is defined as the congruence of high skills and high challenges of the users above a critical threshold level (Csikszentmihalyi and Csikszentmihalyi, 1988); and the rationality behind the concept of "multi-activity" applies to the dynamic perceptions of challenges perceived in a given situation and the skills a person brings to it.

Further, because the Web is the multi-activity environment, respondents' interpretation of "challenges" and "skills" is likely to be even more confused. Given the central role of challenges and skills in the conceptualization of Flow, we feel that there is a serious measurement problem in past research. Therefore, we take a more fundamental position and approach, by addressing a question of what users feel and experience when he/she is in the Flow state of the Web environment, and that the Flow is a multi dimensional concept of fourteen Flow-constructs (including eleven given by Hoffman and Novak, 1996) and three web usage variables, as given in our Comprehensive Process (Flow) Model of

Network Navigation (Saxena *et al.*, 2003a), which helps the user basically to overcome the limitations of the previous researches.

We agree that the wide range of descriptions of Flow provided in the literature (Novak, Hoffman and Yung, 2000), make it impossible to specify a simple unidimensional conceptual definition of Flow. We believe that the various Flow constructs in our Comprehensive Process (Flow) Model of Network Navigation can be neatly categorized into sets of antecedents and consequences of Flow. On the basis of our model, we define Flow: *"a multi-dimensional and context-specific concept in a multi-activity Web environment, which is intrinsically enjoyable, self-reinforcing, facilitated by machine interactivity and a state of enduring involvement where nothing else seems to matter."*

In our Comprehensive Process Model of Network Navigation, Flow consists of following fourteen Web constructs: (a) skills, (b) challenges, (c) interactive speed, (d) enduring involvement, (e) control, (f) arousal, (g) telepresence, (h) focussed attention, (i) optimum stimulation level (OSL), (j) playfulness, (k) Perfect Flow, (l) Imperfect Flow, (m) Web navigational importance, and (n) consequences of Flow. In conjunction with the Flow constructs, we have defined three Web usage variables: (a) log-in duration, (b) PC Vintage, and (c) expected Web usage in the future - EXPUSE (Saxena *et al.*, 2003a).

With the advent of the World Wide Web, economic entities such as business firms and consumers are converging into new frontier for economic exchange: Electronic Commerce. Businesses are investing in infrastructure, content and transaction specific relationships paving the way for electronic commerce over the Internet. But the antecedent of any consumer related activities over the Internet requires a fundamental understanding of the "Involvement" construct

as related to the Internet. The concept of involvement has played a significant role in explaining consumer behaviour in the marketing literature as well as in developing and formulating marketing strategies and policies.

According to Higie and Feick (1989), conceptualizing and measuring involvement has been a consuming endeavour of consumer behaviour researchers and social psychologists for more than thirty years (Higie, Price and Feick, 1987). Additionally, a rich paradigm of research has also accumulated regarding user involvement in the information systems field (Celsi and Olson, 1988; Johnson and Eagly, 1989; McQuarrie and Munson, 1987; Miniard *et al.*, 1991; Pratkanis and Greenwald, 1993; Zaichkowski, 1985). As there seems to be little theoretical or empirical research regarding involvement as related to the hypermedia CMEs, this paper builds on previous research in marketing, information systems, consumer research and social psychology pertaining to the involvement construct. A multitude of conceptualizations are available in the literature: enduring/situational involvement, cognitive/affective involvement, instrument/responsive involvement (Jain and Srinivasan, 1990). This diversity of views provides a wide perspective of the construct. Much of the diversity in definitions adopted by researchers in the involvement area begins at the conceptual level.

In this paper, we conceptualize Enduring Involvement in hypermedia CMEs to be multi-dimensional rather than unidimensional. Unlike products or services that were the focus of study in the marketing or consumer behaviour literature, it is our contention that hypermedia CME represents means to as well as ends with multifarious objectives. We define "Involvement" as "the level of perceived personal importance and/or intense interest evoked by a stimulus or stimuli within a specific situation".

TABLE 1

**DISTINCTION BETWEEN GOAL-DIRECTED
AND EXPERIENTIAL FLOW**

Goal-directed	Experiential
Extrinsic motivation	Intrinsic motivation
Instrumental orientation	Ritualized orientation
Situational involvement	Enduring involvement
Utilitarian benefits/value	Hedonic benefits/value
Directed (prepurchase) search	Nondirected (ongoing) search; browsing
Goal-directed choice	Navigational choice
Cognitive	Affective
Work	Fun
Planned purchases; repurchasing	Compulsive shopping; Impulse buys

Source: Hoffman, Novak and Duhachek (2002)

Hoffman, Novak and Duhachek (2002) have related Flow to Involvement and further, differentiated Flow into two types: Goal Directed Flow and Experiential Flow. Table 1 illustrates the distinction between Goal-Directed and Experiential Flow.

Table 1 clearly highlights the involvement construct and shows its relationship with the Flow concept. In addition, we use the construct of computer playfulness, as operationalized by Webster and Martocchio (1992) as an indicator of the experience of Web Flow. We believe, since Flow is a state where nothing else seems to matter, Experiential Flow has a stronger influence on consumer navigation experience with the Web than the Goal Directed Flow. Hence, we have taken Playfulness (as an indicator of Flow) construct in our Comprehensive Process (Flow) Model of Network Navigation. We have not assumed Flow to be a separate construct from Playfulness because we assume Flow to be a process, a concept, a consumer experience, a state and multi-dimensional in nature; having a set of 14 Flow-constructs and three Web usage variables (Saxena *et al.*, 2003a).

Our main emphasis, in this paper, is on Playfulness construct as an antecedent or indicator of Flow, as illustrated in our model (Saxena *et al.*, 2003a). In fact, during intense network navigation, both Play and Flow unite together to form one construct called "Enduring Involvement (EI)". There are two types of Web-Involvement: Enduring and Situtational. Enduring Involvement (EI) is defined as an Involvement, which stems from the individual and reflects a general and permanent concern with product class (Experiential Flow) while Situational Involvement reflects concern with a specific situation such as purchase occasion, e.g. Buying a wedding present, a car or any commodity through the World Wide Web (Goal Directed Flow). As stated earlier, Experiential Flow results in Playfulness and EI; and has a greater influence on consumer navigation behaviour because it is permanent in nature and not situational one. Hence, in studying the consumer navigation behaviour in hypermedia CMEs, EI should be measured and investigated in addition to the Flow concept.

Methods of Measuring Flow and Enduring Involvement (EI)

Keeping in view the limitations of the past work, all the researchers have tried to measure Flow without exploring EI in detail. We believe that in order to explore consumer navigation behaviour on the Web, both Flow and EI need to be measured and investigated. Hence, we have developed an Enduring Involvement Scale (EIS) for exploring consumer navigation behaviour in hypermedia CMEs.

There are three major approaches to measuring Flow that have been considered in empirical research:

1. Respondent provides a narrative description of a Flow

experience and then evaluates the experience using a survey instrument (Narrative/Survey).

2. Respondents who have participated in a selected activity are asked to retroactively evaluate their experience using a survey instrument (Activity/Survey).

3. In the Experience Sampling Method (ESM), respondents are paged throughout the day for one week period, and evaluated their activities at the time of being paged using a survey instrument.

The Narrative/Survey method was used by Privette and Bundrick (1987) to measure six "construct events" - events characterizing constructs from the theoretical and research literature. Respondents are given short descriptions of peak performance, peak experience, Flow, average events, misery and failure, and are asked to write a short narrative description of one of each of these experiences. From the point of view of Flow measurement, a major weakness of Privette and Bundrick's work is that Flow is always operationalized as "describe the last time you played a sport or game." Each of the six experiences has been evaluated on a 47-item "Experience Questionnaire". The objective is to understand the nature of the differences among these six construct events. Thus, the analysis of Flow is at a very general level. This methodology is not used to identify the extent to which Flow occurs for different people in different types of events.

The Activity/Survey method can also be used in laboratory experiments. Ghani, Supnick and Rooney (1991) randomly assigned undergraduate business students into face-to-face or computer-mediated groups, and had respondents complete questionnaires measuring Flow after their group experience. The Activity/Survey method is, in principle, useful for either

concurrently or retrospectively determining the experience of Flow for specific events.

The most commonly used method of measuring Flow is "Experience Sampling Method" (Csikszentmihalyi, 1977). The ESM is uniquely suited to measuring Flow and other states of consciousness occurring in activities in everyday life. Privette and Bundrick (1987) have made the distinction between Flow, peak experience and peak performance. Flow experiences are the experiences that occur on a regular, ongoing basis, rather than being unusual or atypical events of peak experience or peak performance.

We take a step forward from ESM by developing a Flow-Process Scale - FPS (Saxena *et al.*, 2003b), comprising fourteen Flow constructs and three Web usage variables. The Enduring Involvement Scale (EIS) consists of five EI factors for measuring EI on the basis of our Comprehensive Process Model of Network Navigation (Saxena *et al.*, 2003a). The FPS was developed on the basis of ESM, keeping in view the limitations of the previous researches and the methods used to measure Flow. The EIS seeks to remove the discrepancies in the measurement of EI in relation to understanding consumer navigation behaviour in hypermedia CMEs.

It is argued that Flow along with EI as represented by the Comprehensive Process Model of Network Navigation (Saxena *et al.*, 2003a), is a complex multidimensional concept that consists of directed relationships among a set of fourteen Flow-constructs and three key Web usage variables along with five EI factors of Playfulness (both as an indicator of Flow & EI) construct to measure Enduring Involvement among Web users. It is believed that "Flow Experience" depends on the congruence of high skills, high

challenges and an EI state of Playfulness where nothing else seems to matter (Saxena *et al.*, 2003b). Hence, EI is a pre-condition/antecedent for the occurrence of Flow, comprising five factors, namely (1) general information and entertainment, (2) specific information regarding products and services and e-Commerce, (3) education and knowledge based information, (4) information for personal interests and requirements, and (5) travel and tourism information. Thus the need to develop two scales – FPS (Saxena *et al.*, 2003b) and EIS is evident, in order to measure Flow and EI, respectively among the Web users.

Development of the Enduring Involvement Scale (EIS)

In order to measure five factors of EI, a pool of 40 items were developed. After item analysis and factor analysis, a total of 22 items were retained. Factor analysis was used for the construct validity of EIS. The method of principal axis factoring (PAF) with oblique rotation was applied, for the reason that "it is widely used (and commonly understood) and conforms to the factor analytic model in which common variance is analyzed independent of unique and error variance" (Tabachnick and Fidell, 1983, p. 397). Oblique rotations were performed to improve simple structure and to test the degree of interrelatedness among the factors.

The factor analysis (PAF with oblimin) of the enduring involvement scale yielded 5 factors, which accounted for 72.25 per cent of the variance. Items showing 0.50 or more factor loadings were retained. The 5 factors are named as: (1) General information and entertainment, (2) specific information regarding products and services and e-Commerce, (3) education and knowledge based

information, (4) information for personal interests and requirements, and (5) travel and tourism information. The factor loadings for individual items are given in Table 2.

Internal Consistency and Reliability of EIS

The internal consistency of the EIS is partially demonstrated from the intercorrelations of the factors comprising it. The intercorrelations of the five EI factors are presented in Table 3. For testing reliability, test-retest (after one month gap) method was applied on 50 respondents. Reliability of the EIS comprising 22 items (CRONBACH alpha) was found to be 0.89.

Final Survey: The final survey consisted of 22 items of EIS for exploring consumer navigation behaviour in hypermedia CMEs. The final version of EIS is given in Table 4. The EIS questionnaire is a seven-point likert type scale. Every item has seven-point response category. The categories are: (1) – lowest involvement, (2) and (3) - fall in the range of low involvement, (4) - undecided about the degree of involvement, (5) and (6) - fall in the range of high involvement and (7) – highest involvement. The categories carry the weights 1, 2, 3, 4, 5, 6 and 7 respectively. The scoring is reversed for negative items.

Description of Empirical Research

Methodology: Having developed the Enduring Involvement Scale (EIS), the next stage in the programme of research is to develop research hypotheses. In order to test the EI constructs, a sample size of 471 Indian consumers is taken and the results are subjected to the empirical analysis using SPSS package.

Such researches have been widely conducted abroad but

TABLE 2
FACTOR SCALES: DIMENSIONS OF EI

Factors	Items	Factor Loading
General Information and Entertainment	Fashion	0.753
	General entertainment	0.787
	Searching friends or life partners through net	0.869
	Online chat groups	0.898
	Online games, puzzles, contests, etc.	0.890
	Online job listings	0.792
Specific Information regarding Products & Services and e-Commerce	Information about commercial products/services and internet shopping	0.710
	Financial/ investment/ insurance/real estate/stock market information	0.858
	Health/medical information	0.791
Education and Knowledge Based Information	Information regarding conferences, forums, meetings, etc.	0.798
	Education, educational institutions and related information	0.813
	Research reports, projects and research-related information	0.687
	Knowledge-based information (cultures, peoples, governments, places, monuments, etc.)	0.652
	Online teaching and learning	0.631
	Audio and video conferencing through the internet	0.711
Information for Personal Interests and Requirements	Religious and rituals related information	0.850
	Foods and cooking related information	0.913
	Online home/rental listing	0.865
	Online telephone listings	0.513
	Online maps	0.745
Travel and Tourism Information	Railway/air reservations through net	0.606
	Travel and tourism information	0.626

TABLE 3

EI - FACTOR CORRELATION MATRIX

	EI-Factor 1	EI-Factor 2	EI-Factor 3	EI-Factor 4	EI-Factor 5
EI-Factor 1	.	0.11**	0.54**	0.20**	0.15**
EI-Factor 2	0.11**	.	0.36**	0.30**	0.57**
EI-Factor 3	0.54**	0.36**	.	0.19**	0.31**
EI-Factor 4	0.20**	0.30**	0.19**	.	0.27**
EI-Factor 5	0.15**	0.57**	0.31**	0.27**	.

* means that 't' value is significant at 0.05 level.
** means that 't' value is significant at 0.010 level.

Note: EI signifies "Enduring Involvement".

TABLE 4

ENDURING INVOLVEMENT SCALE (EIS)

S. No.	Internet Activities
1.	Information about commercial products/services and internet shopping
2.	Education, educational institutions and related information
3.	Research reports, projects and research-related information
4.	Knowledge-based information (cultures, peoples, governments, places, monuments, etc.)
5.	Online teaching and learning
6.	Audio and video conferencing through the internet
7.	Information regarding conferences, forums, meetings etc.
8.	Financial/investment/insurance/real estate/stock market information
9.	Health/medical information
10.	Railway/air reservations through net
11.	Travel and tourism information
12.	Religious and rituals related information
13.	Foods and cooking related information
14.	Fashion
15.	General entertainment
16.	Searching friends or life partners through net
17.	Online chat groups
18.	Online games, puzzles, contests, etc.
19.	Online job listings
20.	Online home/rental listing
21.	Online telephone listings
22.	Online maps

cannot be generalized for Indian conditions. The respondents are selected from the regular Internet users who access the net for 1 hour per week (according to Gartner Group Survey on Surfing Behaviour, 2000). The study covers both primary and secondary data. Primary data are collected through questionnaires developed by the authors and personal interviews using structured questionnaires. Purposive Sampling Technique is used to select the sample.

The research study is confined to regular Internet users primarily located in the National Capital Territory (NCT) of Delhi. The Web site awareness, perceptions and preferences of the regular Internet users is considered, as they are generally aware of more Web sites. The final sample consists of 471 regular Indian Internet users comprising 99 Masters of Business Administration (MBAs), 48 Doctorates (PhDs), 118 Academicians, 47 Managers working in the private sector firms (Automobiles, Airlines and Information Technology), 113 Technical Professionals (engineers, diploma engineers) working in private sector and 46 employees of the government and public sector.

Research Hypotheses: The hypotheses that were made keeping in view the five EI constructs of the EIS in the Indian context as follows:

1. There is a significant difference in achieving EI among Students, Academia, Managerial, Technical and Government Professionals.

2. Educational background of the consumers has a significant impact on their ability to achieve EI.

Testing of Hypotheses: For testing the above research hypotheses, Duncan's Range test is applied. One way Analysis of variance is performed to find out the difference between the occupational and educational groups respectively, in their

TABLE 5
EI AMONG FIVE OCCUPATIONAL GROUPS OF CONSUMERS

Enduring Involvement Constructs	Occupation (G1) (Govt.) Mean	S.D.	Occupation (G2) (Managerial) Mean	S.D.	Occupation (G3) (Technical) Mean	S.D.	Occupation (G4) (Academic) Mean	S.D.	Occupation (G5) (Student) Mean	S.D.	G1 v G2	G1 v G3	G1 v G4	G1 v G5	G2 v G3	G2 v G4	G2 v G5	G3 v G4	G3 v G5	G4 v G5	F Value	Signi level
General Information and Entertainment	2.62	1.12	4.47	1.54	4.06	1.89	3.25	1.84	4.79	2.10	*	*	*	*	*	*	*		*	*	18.66**	S
Specific Information regarding Products & Services and E-Commerce	3.92	1.15	5.05	1.76	3.64	1.78	3.74	1.71	2.41	1.47	*			*	*	*	*		*	*	28.17**	S
Education and Knowledge Based Information	4.40	0.83	5.06	1.37	4.73	1.50	5.30	1.27	5.16	1.39	*		*	*	*		*	*			5.48**	S
Information for Personal Interests and Requirements	2.52	1.09	2.70	1.21	2.43	1.31	2.27	0.85	2.48	1.12											1.32	NS
Travel & Tourism Information	4.89	1.68	5.05	1.72	4.19	1.78	4.48	1.85	3.81	1.95				*			*			*	5.96**	S

* p < 0.050, ** p < 0.010

'*' signifies relationships between two groups

"Signi Level" means "Level of Significance"

'S' means the value is significant while 'NS' means that the value is not significant at 0.05 level of significance.

TABLE 6
EI AMONG FOUR EDUCATIONAL GROUPS OF CONSUMERS

Dimensions	G1 (Grad. Non-Tech)		G2 (Grad. Tech)		G3 (Post-Grad.)		G4 (Ph.D.)		G1v G2	G1v G3	G1v G4	G2v G3	G2v G4	G3v G4	F Value	Signi level
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.								
General Information and Entertainment	5.12	2.07	4.28	1.93	3.70	1.96	3.48	1.84	*	*	*		*		9.77**	S
Specific Information regarding Products and Services and E-Commerce	2.34	1.61	3.40	1.84	3.59	1.79	3.75	1.59	*	*	*				7.45**	S
Education and Knowledge Based Information	4.67	1.42	4.89	1.44	5.04	1.30	5.28	1.31			*		*		2.66*	S
Information for Personal Interests and Requirements	2.40	0.94	2.42	1.26	2.51	1.14	2.36	0.89							0.46	NS
Travel and Tourism Information	4.89	2.13	3.99	1.95	4.30	1.80	4.46	1.69	*						3.13*	S

$*$ p < 0.050, $**$ p < 0.010

'*' signifies relationships between two groups.

"Signi Level" means "Level of Significance"

'S' means the value is significant while 'NS' means that the value is not significant at 0.05 level of significance.

ability to achieve EI. Results of the analysis are presented in Tables 5 and 6.

The results in Table 5 show that there is a significant difference in achieving EI among five occupational groups. The only exception is the involvement factor - Information for Personal Interests and Requirements. Enduring Involvement is more pronounced in factors such as General Information, Entertainment, E-commerce, Education and Knowledge based Information, etc. The EI Factor - Information for Personal Interests and Requirements shows no significant difference among consumers belonging to five occupational groups because of the presence of situational orientation. The customer browses through the Internet and exits the Web navigation once his/her purpose of browsing/searching the net for personal interests is over. Thus, the orientation is not of repetitive nature. The Web influences the buyer's decision-making process. As a result, EI is less prominent in this factor. That is why, perhaps, the factor shows no significant difference among consumers belonging to five occupational groups.

This discussion has important implications for the adoption of CMEs, particularly for those seeking to understand EI in relation to Flow. Hoffman and Novak (1996) argues that Goal-Directed Flow activities, such as home shopping and home banking, are not likely to be attractive to the users of a CME. On the other hand, Experiential Flow activities, such as browsing online magazines, simple chat rooms, and exploration of a Web corporate home page for a topic with which the consumer exhibits EI or intense involvement, would be attractive to the Web users and will stimulate adoption.

Bloch et al. (1986) suggests that there is likely to be two segments of consumers who navigate a CME:

- Those who exhibit EI with an interest area, and

- Those who are navigating because they exhibit EI with computers. This segment is engaged in nondirected search for recreational purposes (Bloch, Sherrell and Ridgway, 1986; Csikszentmihalyi, 1983; Miller, 1973)

The results in Table 6 show that there is a significant difference in achieving EI among various educational groups. The only exception is the involvement factor - Information for Personal Interests and Requirements, where no two groups are significantly different at 0.05 levels of significance. This may be, because EI is less pronounced and prominent in this factor. Both the hypotheses have been supported by the results of the study, to a large extent.

The data support the first research hypothesis suggesting that the EI occurs more in students who access the Web for experiential (playful/fun) activities like e-mail, entertainment, online chatting, etc. than other occupational classes of consumers – e.g. Academia and Industry Professionals, who generally access the Web for task-oriented or goal-directed activities, as shown in Figure 1. Also, among the EI constructs – E-Commerce is generally practiced more by Industry Professionals than Students and Academia. Managerial Professionals are primarily accessing Web for travel and tourism information and e-commerce while Academia is using Web for education and knowledge-based information.

The data support the second research hypothesis suggesting that the EI occurs more in non-technical graduates who access the Web for fun and experiential activities than other educational classes of consumers – e.g. postgraduates and doctorates, who generally access the web for task-oriented or goal-directed activities, as shown in Figure 2. Postgraduates and Doctorates access Web for education and knowledge-

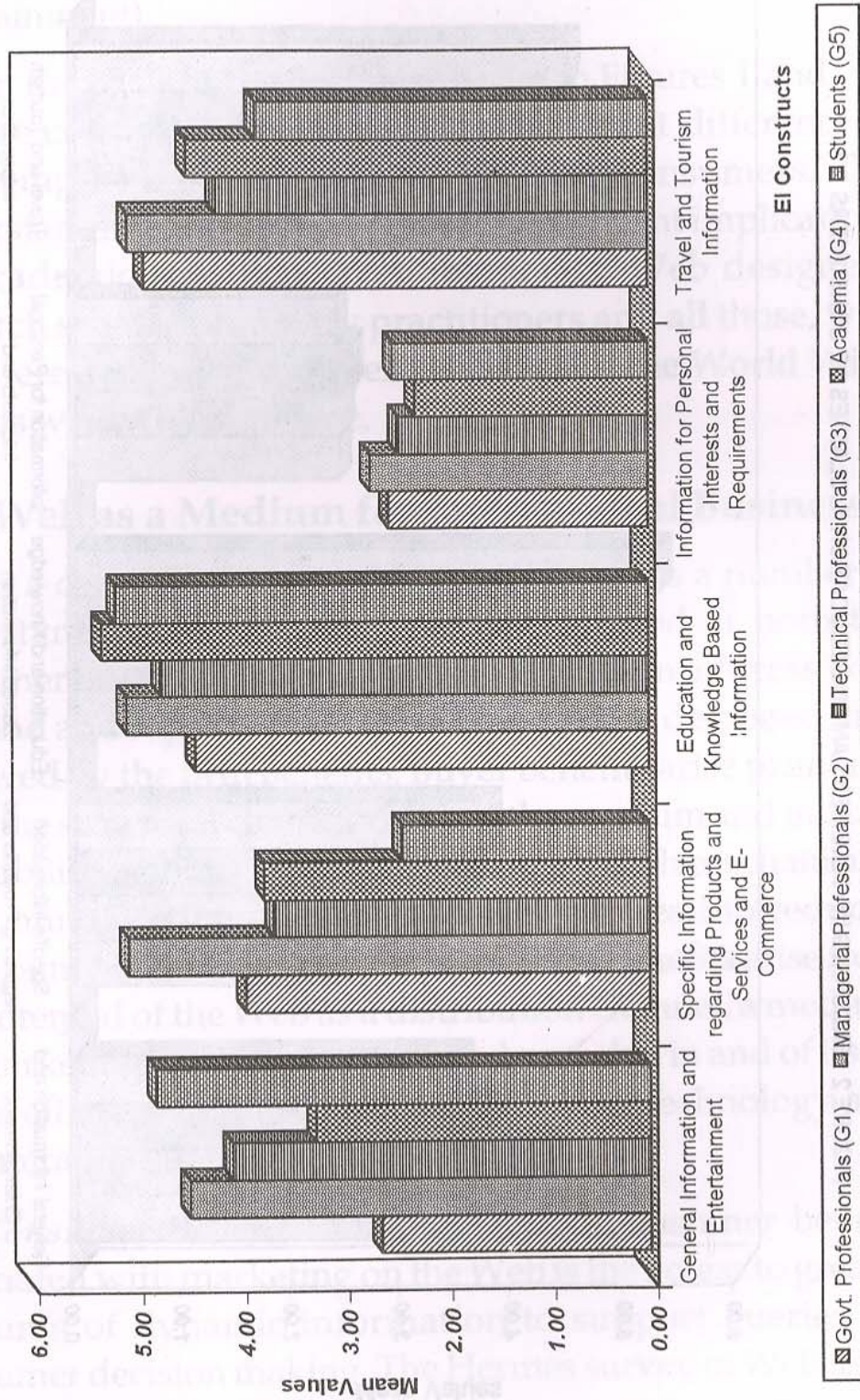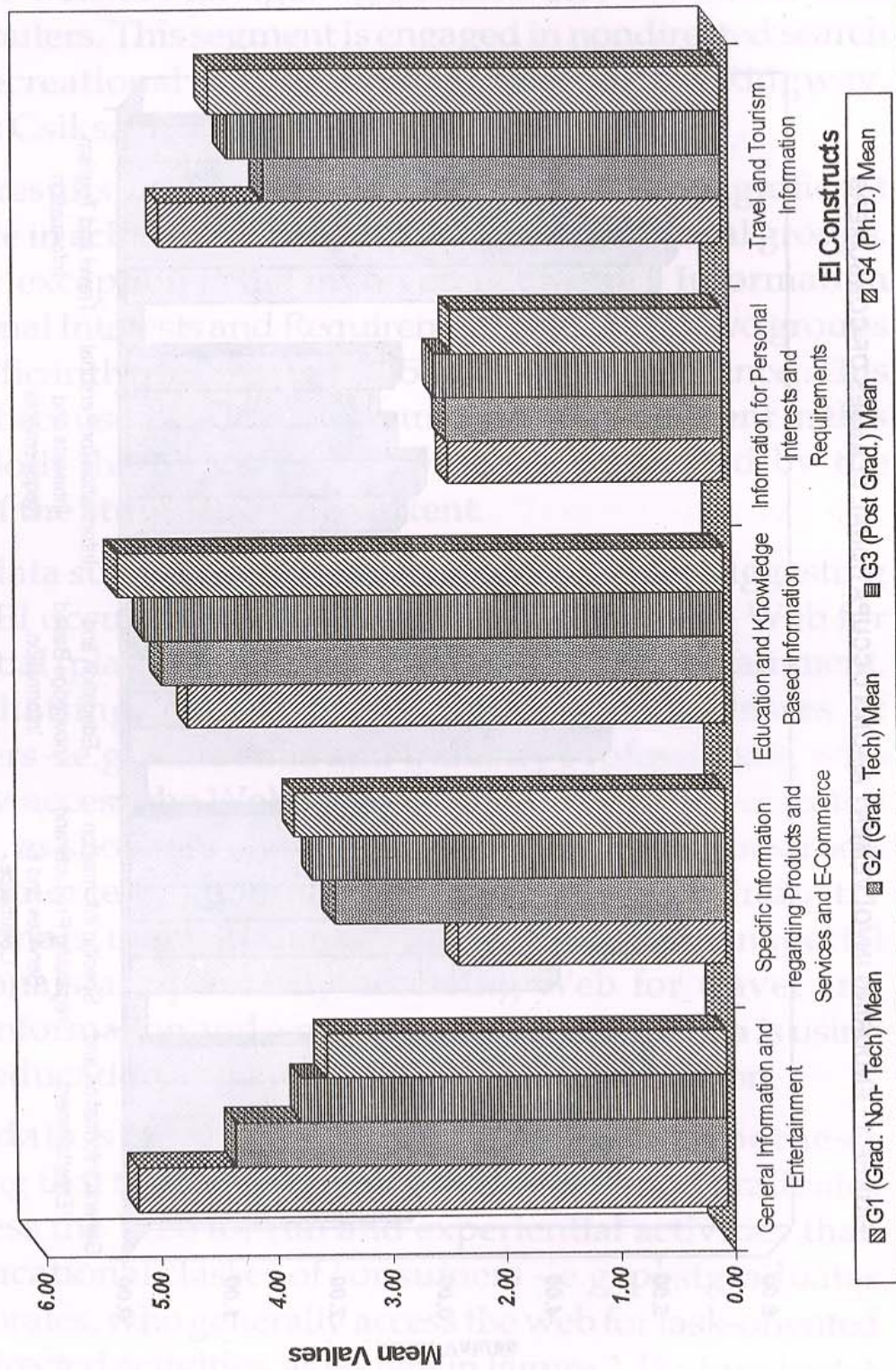FIGURE 1 : ENDURING INVOLVEMENT AMONG OCCUPATIONAL CLASSES OF CONSUMERS

FIGURE 2 : ENDURING INVOLVEMENT AMONG EDUCATIONAL CLASSES OF CONSUMERS

based information while Non-Technical and Technical Graduates access Web for general entertainment (infotainment).

On the basis of the findings shown in Figures 1 and 2, it may be concluded that there is a significant difference in achieving EI among various classes of consumers. The understanding and usage of EIS has significant implications for academic scientists, Web marketers, Web designers, research scholars, industry practitioners and all those, who are interested in the commercialization of the World Wide Web as well as e-commerce.

The Web as a Medium for International Business

As a commercial medium, the Web offers a number of important benefits which can be examined at both the customer and firm levels. In this way, we can address both demand and supply issues. Buyer benefits are discussed first, followed by the firm benefits. Buyer benefits arise primarily from the structural characteristics of the medium and include availability of information, provision of search mechanisms, and online product trial, all of which can lead to reduced uncertainty in the purchase decision. Firm benefits arise from the potential of the Web as a distribution channel, a medium for marketing communications, and a market in and of itself. These efficiencies are associated with Web technology and the interactive nature of the medium.

Consumer Benefits: One important consumer benefit associated with marketing on the Web is the access to greater amounts of dynamic information to support queries for consumer decision making. The Hermes survey of Web users found gathering purchase-related information was the most preferred Web activity (Saxena *et al.*, 2003a). Further, the

interactive nature of the Web and the hypertext environment allow for deep, nonlinear searches initiated and controlled by customers. Hence, marketing communications on the Web are more consumer-driven than those provided by traditional media. In addition, recreational uses of the medium, manifested in the form of non-directed search behaviour, can be an important benefit to consumers intrinsically motivated to use the medium (Hoffman & Novak, 1996).

The ability of the Web to amass, analyze, and control large quantities of specialized data can enable comparison in shopping and accelerate the process of finding items. The Web facilitates trial and provides instant gratification; customers can test products online which may stimulate purchase. There is also the potential of wider availability of hard-to-find products and wider selection of items due to the width and efficiency of the channel.

In addition, the advantages for industrial consumers are reduced costs to buyers from increased competition in procurement as more suppliers are able to compete in an electronically open marketplace. This increase in competition leads to better quality and variety of goods through expanded markets and the ability to produce customized goods.

Firm Benefits: Firm benefits emanate partly from the use of the Web as a distribution channel. *First,* the Web potentially offers certain classes of providers' participation in a market in which distribution costs or cost-of-sales shrink to zero. This is most likely for firms in publishing, information services or digital product categories. For example, digital products can be delivered immediately; hence such businesses may encounter massive disintermediation or even the eventual elimination of middleman. Moreover, buyers and sellers can access and contact each other directly, potentially eliminating

some of the marketing cost and constraints imposed by such interactions in the terrestrial world. This may also have the effect of shrinking the channel and making distribution much more efficient (mainly due to reduced overhead costs through such outcomes as uniformity, automation, and large-scale integration of management processes). Time to complete business transactions may be reduced as well, translating into additional efficiencies for the firm. However, such potential efficiencies must be tempered with market realities.

Second, business on the Web transfers more of the selling function to the customer, through online ordering and the use of fill-out forms (Hoffman *et al.*, 2002), thus helping to bring transactions to a conclusion. This permits a third benefit in the form of capture of customer information. The technology offers the firm the opportunity to gather market intelligence and monitor consumer choices through customers' revealed preferences in navigational and purchasing behaviour in the Web. However, there are many social, legal and techno-logical issues and drawbacks at the present level of technology which prevent firms from fully capitalizing on this benefit.

The simplest implementations involve engaging customers through the use of email buttons located strategically on the site. More sophisticated implementations may involve fill-out forms and other incentives designed to engage customers in ongoing relationships with the firm. The objective of such continuous relationship-building is double-pronged: to give consumers information about the firm and its offerings and to receive information from consumers about their needs with respect to such offerings. Hence, effective customized advertising, promotion and customer service (Saxena *et al.*, 2003b) are the fifth benefit that the commercial Web offers to the firm.

Operational benefits of Web use for industrial sellers are

reduced errors, time, and overhead costs in information processing; reduced costs to suppliers by electronically accessing on-line databases of bid opportunities, online abilities to submit bids, and online review of awards. In addition, creation of new markets and segments, increased generation of sales leads easier entry into new markets (especially geographically remote markets) and faster time to market is facilitated (Hoffman and Novak, 1996). This is due to the ability to reach potential customers easily and cheaply and eliminate delays between the different steps of the business subprocesses.

Discussion and Conclusion

In this paper, we have developed the Enduring Involvement Scale (EIS) on the basis of our Comprehensive Process Model of Network Navigation (Saxena *et al.*, 2003a) with the following approaches:

1. EIS is developed considering the fact that the "Web" is a Multi-activity medium of communication and Playfulness construct is an indicator of Flow. Also, EI during playfulness is a pre-condition for the occurrence of Flow. In order to study the consumer navigation behaviour in hypermedia CMEs, both Flow and EI need to be explored.

2. There are five EI Constructs involved - (1) General information and entertainment, (2) Specific information regarding products and services and e-Commerce, (3) Education and knowledge based information, (4) Information for personal interests and requirements, and (5) Travel and tourism information.

The Enduring Involvement Scale (EIS) is supported by empirical analysis done on the basis of the five EI constructs within the medium, built upon an extended concept of Flow in hypermedia CMEs. The hypotheses regarding the

relationships of EI and classes of consumers were largely supported. However, the EIS needs to be further validated.

We would also like to mention some limitations to this research. The sample, we have used is non-representative, and is biased towards long-term sophisticated Web users, as compared to the general population of Web users. There is greater heterogeneity in skill and challenge levels among recent Web users than there is for long-term Web users.

To conclude, we have provided evidence that the EI constructs for using the Web can be reliably measured with the help of EIS. We have argued that in order to understand Web users' inner experiences on the Web, we must first collect some baseline data and build more reliable and valid measurements of the factors and conditions associated with EI activities in online environments.

It is important to note that on the basis of the EIS, not only the EI but also various EI constructs have an impact on the understanding of consumer navigation behaviour and experience in hypermedia CMEs.

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