

The “Spider” on the Web: The Ethos of Web Revisited

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ABSTRACT: *The Internet has transformed global communications in recent years, and networks based on the Internet Protocol (IP) will replace traditional circuit-switched telecommunications network to become the predominant networks in the first decade of the 21st century. The development of the World Wide Web led to the dramatic growth in the number of Internet users, and new services such as e-commerce, entertainment and mobile Web access seem certain to continue this growth. The paper highlights certain unique concepts of consumer navigation behaviour like **Flow** concept and Attention-Interest-Desire-Action (**AIDA**) Process, and introduces a new concept called the “**SPIDER Concept**.” The paper looks at how the Internet is continuing to evolve technically and also in its capability to offer new services for users and businesses.*

The Internet, and especially that portion known as the World Wide Web on the Internet, 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, and allows them to become active participants in the marketing process through its multi-activity medium of communication, with the help of the SPIDER concept. The paper focuses on the SPIDER Concept - a new concept for the success of Dotcom Business and Internet Commerce and relates it to Flow and AIDA, by taking inferences from the research of Csikszentmihalyi (1977; 1990) about the concept of “Flow – the process of optimal experience” in the free form farrago of Internet Commerce. The SPIDER concept is equally important and applicable to both demand and supply side perspectives of the Web, thus highlighting the commercialization aspect of the World Wide Web.

Key Words: Internet Protocol, World Wide Web, Flow, AIDA, e-commerce, SPIDER Concept

I. 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) 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, facilitated by machine interactivity,

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telepresence and time distortion, and it is an extremely gratifying state,” (Hoffman and Novak, 1996).

Bush (1945) has described "Hypermedia" as a Multimedia Hypertext. “Hypermedia CME” is defined as a dynamic distributed network, potentially global in scope, together with associated hardware and software for accessing the network, which allows consumers and firms to a) provide and interactively access hypermedia content called machine interactivity; b) communicate through the medium, which is known as person interactivity (Hoffman and Novak, 1996).

Past operationalizations of Flow have employed measures that ask respondents about "challenges" they perceive and their "skills" in meeting and overcoming the challenges. We believe that Flow is a multi dimensional concept of fourteen Flow-constructs and three Web usage variables, as given in our Comprehensive Flow Model of Network Navigation (Saxena et al., 2003a), which occurs in the multi-activity medium of the Web, characterized by the multiplicity of the users’ skills as applied to the virtual environments and multiple users’ perceptions of the challenges associated with the Web environments (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 (Chen, Wigand and Nilan, 1999).

In our Comprehensive Flow Model of Network Navigation (Saxena et al., 2003a), which is based on Hoffman and Novak’s (1996) dynamic 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 (where positive consequences are increased learning, perceived behaviour control (PBC), enjoyment / fun, exploratory behaviour, positive subjective experience, expected Web usage in the future (EXPUSE) / repeat consumption behaviour (RCB), etc., and where negative consequences are physical and cognitive fatigue, negative impact on the health of the user, negligence of alternative work, time distortion, etc.). 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., 2003b). Also, Saxena et al. (2003b) have defined various states of Flow as Perfect, Imperfect and Imperfect-Intensive Flow.

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 a concept called the “SPIDER Concept” as related to the Internet. This concept has played a significant role in explaining consumer behaviour in the marketing literature as well as in developing and formulating marketing strategies and policies.

Just as Flow is related to consumer navigation behaviour (CNB) in hypermedia CMEs, similarly, SPIDER concept is related to the success of electronic business and commerce. In other words, Flow occurs from demand side perspectives of electronic commerce while SPIDER occurs from supply side perspectives of the Web. Firms employ SPIDER concept in order to attract eyeballs and gain consumers’ attention so that the consumers achieve Flow in their respective Web sites ensuring repeat visits or repeat consumption behaviour (RCB) in hypermedia CMEs. The paper focuses on a new concept called “SPIDER concept” and explores its utility from both firm’s and consumer’s perspective in conjunction with CNB concepts of Flow and AIDA. In today’s Web environment where e-commerce is striving to find its foothold in the Indian context, there are a few ideas that, refined through our collective intelligence, may work out for the success of Internet Commerce and Dotcom Businesses in India (Saxena et al., 2004). These ideas form the basis of SPIDER, in addition to the already prevalent Flow and AIDA concepts in online environments. Before, we explore Web from both demand (consumers) and supply (firms) side perspectives, let us define SPIDER concept.

II. THE SPIDER CONCEPT

The fallout is happening. Dotcoms are pulling down the shutters. Some have gone bust. Venture capitalists are demanding their pound of flesh. Pessimists scream: “The dotcom bubble has burst.” Others predict that only one in every ten dotcoms will survive. So just what does it take to be one in that ten? The Answer is **SPIDER** concept, an abbreviation that has a few pointers or ideas that won’t necessarily guarantee success, but will help one get there. If one has a dotcom, then one should master this SPIDER concept in relation to one’s ability to achieve Flow (the process of optimal experience).

The “S” of SPIDER Concept

Speed – Speed kills, but not on the Web. When it comes to the Web, we love life in the fast lane. The faster the pages download, the more likely your customers will achieve Flow. Study after study shows that online users will abandon Web sites that load too slowly. Speed alone isn't the sole ingredient of a successful site, but it is part of the mix.

Slow pages translate into unimpressive revenues. There is a de-facto rule that page loads should be no slower than six to eight seconds. That rule is too forgiving -- sites should deliver pages no slower than 4 seconds (www.zonaresearch.com/deliverables/white_papers/wp17/index.htm). For example, take Google.com. The home page of Google.com is almost blank using the concept of “less is more” with present bandwidth constraints and less impediments, leading to a site loading average of less than 4 seconds and providing perceived behavioural control to customers navigating the Web. This translates into a wonderful experiential behaviour and help customers achieve Flow.

In order to increase the speed of downloading the Web pages, the following factors must be considered:

- Images
Optimizing images is the best way to improve the download speed of the Web pages. A good rule of thumb is to strive for no one image being larger than 10 Kb (GVU, 1997).
- HTML
Once you have your images down to a reasonable size, HTML should be streamlined. Once the images are optimized, they should be transferred to your HTML with the height and width specified in the image tag. This will allow the browser to continue rendering the Web page while the image downloads in the background.
- Page size
Limit your page total size (including images) to about 30 Kb for speedy downloads. According to Seventh Georgia Tech GVU WWW survey, 50% of the pages on the Web are 32 Kb or less (GVU, 1997).
- Tables
Nested tables are a common cause of slow pages. They are so tempting to use as they

improve the layout enormously, but they take a long time for the browser to render. It's not that the page did not download, but with multiple tables in tables, the browser has to work harder to display the page. It cannot display any part of the page in the tables until it has figured out how to render all the tables that are nested.

- Web Server

If you have optimized your graphics and HTML and kept the page size to a minimum and it still takes forever to load, check out the Web server. Is it getting more hits than it can handle? It might be time to upgrade the machine or the connection between it and the world, if it isn't showing the required bandwidth.

The “P” of SPIDER Concept

Personalization, Presentation and Privacy

Make Personalized sites – Stickiness of eyeballs is what every dotcom is aiming these days. And one good way of creating “stickiness” is to help a user personalize the site to his taste. Items such as the news he receives, or the background colour of the site (skins), or even the font and general layout, help in building that personal touch with the customer. Indiainfo.com and few other sites offer a certain degree of personalization, which is again, a very important parameter of achieving Flow.

Presentable shop front - If the site has an e-business model that trades in consumer goods or any kind of B2C e-commerce, try to package (or present) the products in a manner that makes it easy for a consumer to choose. Take colorplisonline.com, for example. It gives the user the option of easily mixing and matching his clothes. Faster decision making usually also results in extrinsic and intrinsic motivation, thus leading to Flow experience and repeat buys (RCB).

Keep privacy private – To many dotcoms, it is very tempting to sell their customer database in the interest of advertising and additional revenues. That is an outright privacy violation. However, many do it subtly. But if your customer begins to get spammed (receiving a lot of junk mail) and realizes that his name popped out of your database, you could just lose a valuable customer. Spam is the net's biggest bugbear. Agreed in the interest of revenues, a few customer profiles can be shared with advertisers, but keep e-mail IDs confidential.

The “I” of SPIDER Concept

Information, Internet Freedom, Interactivity and Inventory control

Information is the essence of Internet commerce. In many cases, a real estate Web site, for example, offers houses of different sizes and prices, allowing the consumer to select the one that suits his needs. This concept, of moving freely among distinct options, addresses the essence of Internet Marketing – because freedom of choice echoes the freedom of the Internet. A single sponsor marketing campaign loses credibility online.

Interactivity and Vividness are the content characteristics and primary antecedents of Flow. For example, sites like *Amazon, Yahoo, Khoj, Lycos, Infoseek and Excite* are the most popular. *Yahoo* has an awareness level of 93% and a usage level of 82% while *Khoj*, the only Indian site, has a high level of usage at 25%, though its awareness stands at 46% in the Indian context, according to the MBL Research and Consultancy Group’s 2001-02 Internet User Survey. This is attributing to the fact that all these sites offer great interactivity to their consumers and result in Consumer Delight. On the other hand, according to the survey, *AltaVista* has an awareness of 52% while it has a low usage at 18% because interactivity level is too low. Hence, for any dotcom to be successful, interactivity is essential to help the consumers achieve Flow. Hoffman and Novak (1996) have defined two types of interactivity: personal interactivity and machine interactivity leading to telepresence and then, Flow.

Inventory watch – For an online e-tailing business, it is very critical to watch inventory. Customers shopping on the Web expect the product to be delivered to them within the promised time. If the product is not in inventory, either notify the customer or else display it on the site. This will reduce customer dissonance and anxiety – the negative consequences of Flow. A lot of dotcom companies are now backward integrating into ERP systems to control inventory. And also make sure that one has sound logistics support, as in the end, it’s the dotcom that gets affected.

The “D” of SPIDER Concept

Desire – Build desire, do not presume it. The true encyclopedic, the dedicated surfer, is not going online to purchase. He has dipped into the electronic universe to look and learn, to enjoy and increase his knowledge, to explore some of those impulses that comprise the spectrum of human interest and hence results in achieving Flow. Advertisers who persist in waving banners, running ads along the border of the screen, or working brand names into content will only create animosity

(initially) and indifference (eventually), thus resulting in negative consequence of Flow. Desire for goods and services must be built. *Example:* A magnificent full animation site about racing cars, conveying the thrill of motion and performance, with unbranded vehicles zooming through their paces.

Properly executed, this site would stoke the engine of the viewer's desire, leaving him lusting for more. At this point, near the Web page's conclusion, the logos for certain high-performance sports cars appear, preferable still vibrating with an engine's hum. Ferrari. Porsche. Lotus. Corvette. The consumer, stepped in arousal and Flow, will have no choice but to select one or more of these mean machines sites and link up to the roar of the Pitch.

The “E” of SPIDER Concept

Education, Expectation monitoring and Euphoria delivery to consumers – It's more the rule than the exception that in order to attract traffic, one must educate the consumers, monitor their expectations on a regular basis and hand out some kind of a freebie, thus in the process, increase their skills, learning and result in a positive subjective flow experience – known as “Consumers’ Euphoria,” which means, going beyond the consumers’ expectations and creating “delight.”. The freebies could range from simple T-shirts right down to cars (as in the case of *Indiainfoline.com*), for people who register on the site. Or it could also be in the form of free software downloads. However, one has to draw the line at what one expects the customer to eventually pay for. And stick to that decision. There are a number of sites that have 30-day trial offers, which usually are a hit with consumers.

E-mail reigns – The number one communication medium on the Internet is now e-mail. A number of companies use e-mail for direct marketing. Now advanced mailing capabilities are available that use encryption, and digital certificates to authenticate users, as well as, maintain privacy. Many dotcoms now outsource their e-mail software from permission-based e-mail companies. This takes the pressure off the dotcom from having to run and maintain an e-mail service.

The “R” of SPIDER Concept

Relationship Marketing and Repeat Consumption Behaviour (RCB) – On the Internet, one can lose a customer at a click of a mouse. Having some kind of online help makes a difference to the surfing experience – Flow. E-mails sent to the customer support team should be answered within a

span of three hours. Some bigger companies are investing heavily in eCRM (electronic customer relationship management). Or they outsource it from a number of eCRM companies that are cropping up. Relationship Marketing is more than a concept for Web based businesses where **recognizing, rewarding and reaching** the key (loyal) customers is as important as **sensing, servicing and satisfying** the key customers using the power of virtual medium or multi-activity medium of communication of the Web.

All the Control Characteristics (Skills and Challenges), Content Characteristics (Interactivity and Vividness) and Process Characteristics (Goal-directed search and Experiential or non-directed search) result in the positive and negative consequences of “Flow” and thus have a direct influence on the repeat visits to the Website or RCB. Thus, in order to achieve Flow by the consumers, it is essential that the dotcoms must follow the SPIDER concept and hence improve their profitability through Internet commerce and RCB.

Anathematizing as it sounds, it may well become the basis for successful Internet commerce. Build desire, then satisfy it, but always with panoply of choice. Simulate the vast freedom that Internet engenders, promise the immediate gratification of choice, and the dotcom will generate a Web audience, large enough to bring profitability and success.

III. WEB AUDIENCE SEGMENTATION ON THE BASIS OF FLOW AND SPIDER CONCEPTS

Users consume the Web in more diverse ways than offline media is consumed. To achieve intimacy between the brand and Web users, Web site design must build in customer experiences that can appeal to this circumstantial diversity. A key to further dimensionalize a brand on the Web is to segment the Web audience into behavioral and perceptual segments, which will help in meeting the expectations of a particular user at a particular moment.

EMERGENCE OF FOUR BEHAVIOURAL SEGMENTS

From the classification of Web audience, there emerges the four behavioural segments on the basis of (a) the user’s pre-existing level of brand knowledge (awareness and perception); and (b) the degree to which the user knows exactly what he/she is looking on the Web (Seeking vs. Surfing). Seeking customers are Goal-directed customers who are seeking solutions for their problems from the Web. On the other hand, Surfing customers are experiential customers, who seek enjoyment / fun from the Web.

Saxena et al. (2001) presented the Web audience segmentation as shown in the grid (Figure 1), which depicts two dimensions and the four quadrants, each representing a different context in which customers approach the website. The segments are as follows:

- **Adventurer:** He/she is knowledgeable, about the company but just surfing. Ways to intrigue this customer into staying on Web site includes entertainment, special promotion offers and participation in virtual community activities e.g. an adventurer spends time with the Nissan brand (www.nissanmotors.com) with features such as virtual joy ride.
- **Wanderer:** A wanderer has little or no knowledge of the company and is not looking for help. He/she is using the Web as a general resource or for entertainment or sometimes even for social interactions. Wanderer's heavy reliance on word-of-mouth suggests a strategy of netting your existing customers intrigue these Web users.
- **Expert:** An expert is not only knowledgeable about the company but also knows what he/she is looking for. The site must get him/her there fast. Ways to build your brand with the expert include fast downloads, no brainier navigation, clear and intuitive site maps and precise search capabilities.
- **Investigator:** The investigator is looking to the Web for a solution to a problem but does not specifically know, who or what will solve it. Ways to help the investigator include consultative navigation that asks the fewest questions necessary to deduce solutions and immediately visible, robust search tool that links needs with appropriate product and services.

The Figure 1 depicts the emergence of four behavioural segments: Adventurers, Wanderers, Experts and Investigators.

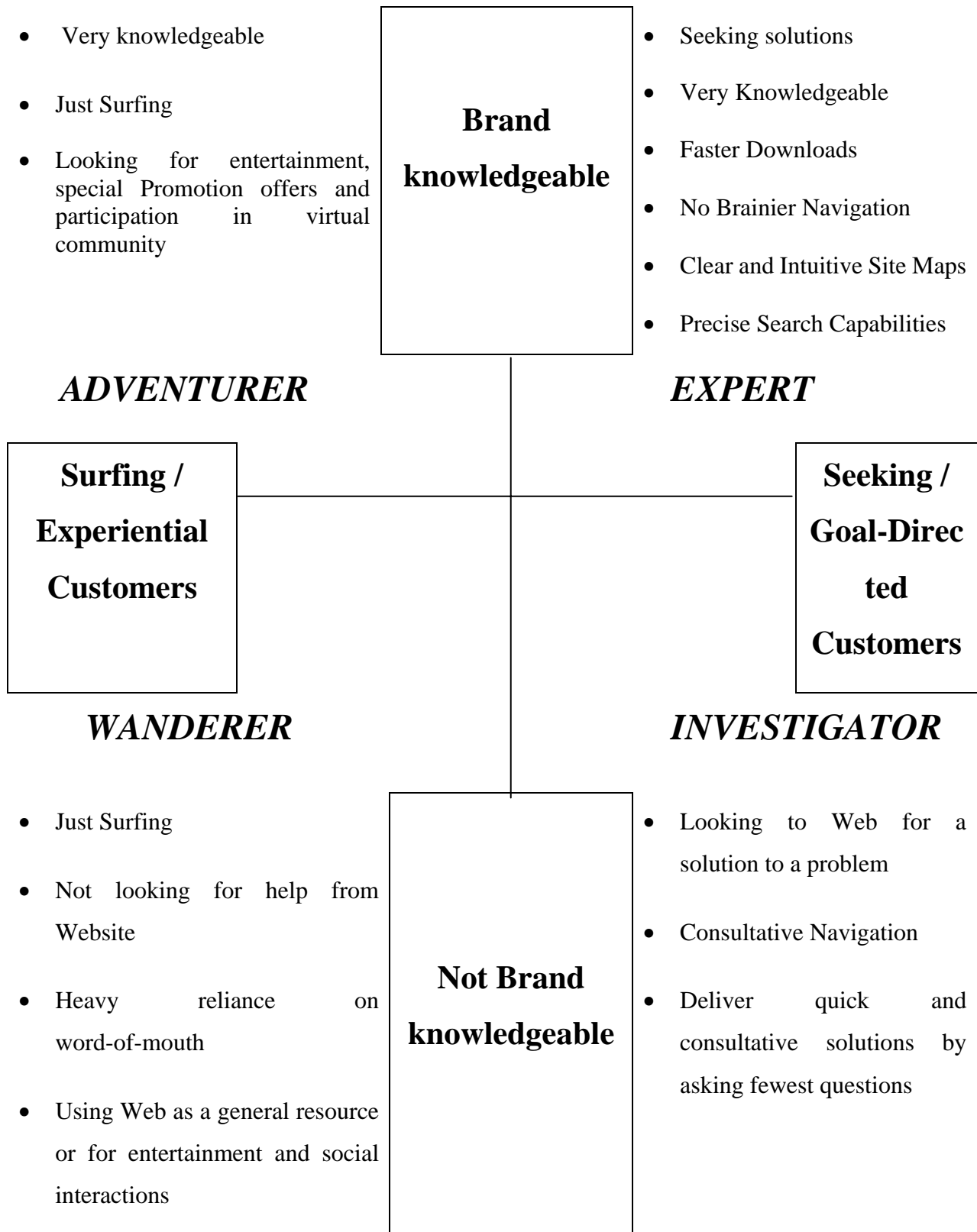


Figure 1: Four behavioural segments of Web audience segmentation (Saxena et al., 2001)

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

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 (pre-purchase) search	Non-directed (on-going) search; browsing
Goal-directed choice	Navigational choice
Cognitive	Affective
Work	Fun
Planned purchases; repurchasing	Compulsive shopping; Impulse buys

Source: Hoffman, Novak and Duhachek (2002)

Table 1 clearly highlights the Web audience segmentation in relation to 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 (Saxena et al., 2004). 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.

Adventurers and Wanderers form a group of Experiential customers and achieve Experiential / non-directed Flow, while Experts and Investigators form a group of Goal-directed customers and

achieve Goal -Directed Flow. From the firm's perspective or the supply side perspective, firms must employ SPIDER concept and make different marketing strategies for targeting different audience on the Web. The Web functions not only as a multi-activity medium of communication but also as a commercial medium – as a distribution channel, as a channel for marketing communications, and as markets in and of itself. Let us explore the commercialization of the Web, in terms of opportunities and challenges, both from demand and supply side perspectives.

IV. THE WEB AS A COMMERCIAL MEDIUM

The tremendous growth of the Internet, and particularly the World Wide Web, has led to a critical mass of consumers and firms participating in a global online marketplace. The rapid adoption of the Internet as a commercial medium has caused firms to experiment with innovative ways of marketing to consumers in computer-mediated environments. These developments on the Internet are expanding beyond the utilization of the Internet as a communication medium to an important view of the Internet as a new market.

As a commercial medium, the Web offers a number of important benefits which can be examined at both the demand (consumers) and supply (firms) side perspectives. 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 Flow, repeat consumption behaviour (RCB) and 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 as markets in and of itself – a direct implication of SPIDER concept. These efficiencies are associated with Web technology and the interactive nature of the medium.

Firm benefits arise 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. 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.

Most firms use the Web primarily to deliver information about the firm and its offerings and for both internal and external communication (Magid, 1995) with other firms and consumers. Web sites are available on demand to consumers 24 hours a day. The interactive nature of the medium can be used by marketers to hold the attention of the consumer by engaging the consumer in an asynchronous "dialogue" that occurs at both parties' convenience resulting in Flow through the use of SPIDER concept. This capability of the medium offers unprecedented opportunities to tailor communications precisely to individual customers, allowing individual consumers to request as much information as desired. Further, it allows the marketer to obtain relevant information from customers for the purpose of serving them more effectively in the future. This results in gathering market intelligence and soliciting customer support with the use of SPIDER concept.

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 (Schrage, 1995), increased generation of sales leads, easier entry into new markets - especially geographically remote markets, and faster time to market is facilitated (Wilder,1995). This is due to the ability to reach potential customers easily and cheaply through SPIDER and Flow concepts and eliminate delays between the different steps of the business sub-processes.

SPIDER concept is proved to be a successful concept not only from the firm's or the supply side perspective but also, this revolutionary concept has its roots in the CNB literature (demand side perspective). Its relationship with Goal-Directed Flow and Experiential Flow has already been highlighted in previous sections. The next section deals with the e-marketing mix and its application to the CNB concepts of Flow and AIDA in addition to the SPIDER concept.

V. E-MARKETING MIX, AIDA PROCESS AND SPIDER – CONSUMER NAVIGATION BEHAVIOUR IN VIRTUAL ENVIRONMENTS

E-Marketing Mix is a tool to enhance online marketing capabilities. In market planning, market information is required to assess the market situation. Specific marketing targets need to be selected in the form of market segments. For each segment or subdivision of market, a combination of a number of devices or types of marketing activities is formulated that are integrated into a single marketing programme to reach a particular market segment. The combination of these marketing methods or devices is known as marketing mix.

For e-marketing mix, there is six “I” framework that summarizes how Information Technology (IT) can impact the marketing function, and hence provides a basis for identifying opportunities and predicting future changes. The six “I”s are Integration, Interactivity, Individualization, Independence of Location, Industry Restructuring and Intelligence.

Integration: The need for management of customer relationships implies the need for systems, which manage data on customer interaction, customer lifecycle, from initial contact, sales to delivery and post sales service. These data must be integrated across all the communication channels. This “I” of e-marketing mix is directly related to the “R” of SPIDER concept.

Interactivity: A long-term relationship with customers, in which continually refreshed knowledge is used to ensure that their needs are met, leading to customer satisfaction and enhanced lifetime customer value, is to be realized. Interaction perspective bridges the gap between supplier perspective and buyers’ perspective. Web sites act as interface between the buyers and suppliers and enables easy and cost effective access to customers as compared to the traditional sales force. Website interaction reduces set of intermediaries and this is one of the biggest advantages of e-transaction, as reflected in SPIDER concept where both personal and machine interactivity are considered.

Individualization: The transaction of services and information between the buyers and sellers takes place on individual basis, which has the capacity of maximizing the SPIDER concept, Flow and RCB. Some of the advantages under this system are as follows:

- A facility to order online. Alternatively, the user can print out details and order by other means such as fax or telephone.
- Added value services such as online support information on future product releases and discussion forums for users to communicate with each other.

Independence of Location: Independence of Location enables individuals to conduct businesses in the most economical manner and without the existence of layers of intermediaries.

Industry Restructuring: Industry Restructuring includes the following: 1) Business Process Re-engineering (BPR), 2) redrawing the market map in form of new market segments or increasing the marketing boundaries, and 3) adopting IT enabled services (ITeS).

Intelligence: Best customer data or information improves decisions on marketing strategy and provides intelligence for decision-making. Data warehousing and data mining are the techniques, which are mostly used to compile information and generate meaningful information.

A customer database is an organized collection of comprehensive data about individual customers or prospects that is current, accessible and actionable for marketing purposes such as lead generation, lead qualification sale of a product or service or maintenance of customer relationship. Database marketing is a process of building, maintaining and using customer databases and other databases (products, suppliers and sellers) for the purpose of contacting, interacting and transacting.

The six Is framework of e-marketing is directly related to the SPIDER concept. Most of the areas of e-marketing mixes are in the research stage. With the success of e-commerce, slowly and steadily, this is bound to take good shape in times to come. E-Marketing is related to Consumer Navigation Behaviour (CNB), and various models and concepts of CNB like AIDA – Attention, Interest, Desire and Action (Vakratsas and Ambler, 1999) and Flow in addition to SPIDER concept.

CNB is related to the concept of “Flow”– a combination of hypertext (seamless sequence of responses), machine interactivity and telepresence. Flow is a multidisciplinary concept dealing with consumer navigation in hypermedia, machine interactivity and has marketing implications for Web designers and marketers. Web designers can understand and incorporate the Flow concept so that their Web sites not only gain maximum eyeball-contacts but also repeat visits (Repeat consumption behaviour - RCB).

The Attention-Interest-Desire-Action (AIDA) Model, as shown in Figure 2, is used as a framework for understanding how to use Web sites to reach communications goals. The AIDA process indicates the audience's attention must first be gained, interest created in the product or service, desire generated, and finally some action taken by the targeted audience. The AIDA process is based on attitude models in which audience first thinks about an object (cognition), then develops feelings (affect), and then engages in some type of behaviour (conative).

ATTITUDE MODEL	AIDA PROCESS	E-BUSINESS COMMUNICATIONS STRATEGY
COGNITION (Thinking)	ATTENTION	Use offline media to attract the audience's attention to the Web site. Use search engines to allow a Web site to be found in searches. Use other Web sites as media for advertising a Web site.
AFFECT (Feeling)	INTEREST	Use customization and personalization techniques to meet the individual's needs. Use targeted e-mail and permission marketing. Use push (push delivery of content to Web users) to send info to the audience.
CONATION (Behaviour)	DESIRE	Develop content and design that appeal to the target audience. Include relationship development components that will keep the audience at the site.
	ACTION	Use promotions to entice actions.

Figure 2: AIDA Model and E-Business Communications Strategy

Personalization (as in case of AIDA and SPIDER concepts) allows direct marketers to send targeted messages directly to a prospective customer. Internet users can customize the home pages of search engines like *Microsoft Network*, *Yahoo*, *AltaVista*, *Netscape* and *Go*, by submitting lifestyle information such as activities, general and specific interests, and other segmentational information. Sites such as Amazon also collect past behaviour data and customize their Web pages to the user. Webcasting allows users to have information delivered to their "doorway" or browser without requesting or searching for information. The Web server can look for individual's cookies and then use a database to design and push the Web site for the individual. A cookie is a small code

left on the user's computer that is used to look up info on an e-business's database. This code retrieves info such as past actions, search interests, or past purchases, which can be used to personalize the site. The companies that use personalization to target their customers are American Airlines (www.aa.com) and Dell Computer Corp. American Airlines have designed a system using 56 interactive applications with over 200 decision rules to personalize its site for the more than 31 million members of American's frequent flyer program. Dell has personalized its site by using 3000 different page designs for its clients.

AIDA Process can be linked to SPIDER because it is used for Web site evaluation as well. Figure 3 shows AIDA Process and the required E-Business communications strategy for Web site evaluation from the supply side perspective using SPIDER concept.

AIDA PROCESS	E-BUSINESS COMMUNICATIONS STRATEGY
ATTENTION	Describe how offline media make the audience aware of the Web site. Use a search engine to see which search terms allow the Web site to be found. How far is this business from the top of the list? Determine if other Web sites are used as media advertising for this Web site.
INTEREST	Decide whether this site uses customization and/or personalization techniques to meet the individual's needs.
DESIRE	Describe how content is designed to appeal to the target audience. How does this site attempt to develop relationships with its audience?
ACTION	Decide which type of actions the site attempts to achieve. Determine if the site uses promotions to entice actions.

Figure 3: AIDA and Web site evaluation using the SPIDER concept

It is further demonstrated that Flow is a combination of hypertext, telepresence, machine interactivity and time distortion (Saxena et al., 2003b). It is believed that in order to experience Flow in an online activity, consumers must perceive a balance between their skills and the challenges of the activity, and both their skills and challenges must be above a critical threshold. Time distortion occurs as a consequence of Flow, when the Web user becomes totally engrossed in online experience and forgets the total time elapsed in Web navigation. Hence, it is believed that Flow is a psychological and marketing concept in the online Web environments, which helps in hypertext development and facilitates optimal Web navigation. From both the demand and supply

side perspectives, firms employ e-marketing mixes, AIDA, Flow and SPIDER concepts for success in the Web environments.

VI. CONCLUSION

The personal mobility of the industrial era is enhanced into the information era by intellectual mobility to access information via the network link. This heightening of individuality is also demonstrated in the massive increase in the opportunities available to individuals, to communicate with others by means of the electronic network, regardless of time based limitations or geographical borders.

In this competitive situation, it is not the equipment, the hardware, which is the decisive factor but the software, which will make the various modes of communication possible. The newly created economic setting, which makes possible direct communication between companies, as well as individual persons and thus consumers, at very low cost, is the basis for new business patterns. These patterns can be identified from the existing options offered by Internet Commerce, Electronic Commerce, Mobile Commerce (Wireless Application Protocol – WAP), for the success of dotcom business and can therefore be formulated for marketing activities.

In this paper, the fact that is emphasized is: “electronic business is not an end in itself but an evolving process to enable better business process”. Many of these dotcom companies – as we usually refer to – in fact have transformed the business landscape into what is usually now referred to as e-business. The companies that are transforming the way business is done know this, which is why they are continually re-examining their strategies, techniques, and tools in the light of new technology.

Because businesses are all different shapes and sizes, there is no single set of e-business technologies that is right for everyone. But in the end, almost all businesses come down to relationships. And that’s what e-business is really about: It uses technology to build better relationships with customers, suppliers, and employees. That is why, the concepts of SPIDER, Flow and AIDA are relevant and important in today’s competitive e-business scenario.

Becoming an e-business means rethinking your organization - large or small - to see where technology makes a difference. An e-business must have the willingness and desire to let technology improve every aspect of its business processes. This continual improvement and ability to adapt is part of what makes e-business so powerful and yet so daunting.

There is a way for dotcoms to survive. There is still one resource left untapped that can save dotcoms from failure. It is the resource that historically is most ignored in favour of advertisements, press, and flashy features – yet it is the only resource that can lead dotcoms to survival. That resource is *customers*. Customers can give the word-of-mouth marketing to drive traffic. Customers can give the feedback needed to continually improve the Websites.

Customers are a dotcom's most important resource. To survive, dotcoms must turn to their most important resource: **Customers**, with the help of **SPIDER concept** using **Flow** and **AIDA** from the perspective of consumer navigation behaviour.

Where does a dotcom connect with its customers, in its customer experience? This is through the use of SPIDER concept. Everything from the home page, to the shopping and buying process, to the fulfillment of products – this concept is the combination of everything the customer sees, clicks, reads, or otherwise interacts with. The SPIDER concept is the key to dotcom survival.

SPIDER concept does not enable a quick win. It is a long-term approach that has to be adopted at a strategic level along with e-marketing mixes from the supply side or the firm's perspective in order to catch eyeballs and Flow and also to ensure AIDA leading to RCB from the demand side or the consumer's perspective. The issue of SPIDER concept has a high level of importance in a company's strategy to increase both revenue and value. To a greater degree, companies still have to understand the implications of SPIDER concept and have to identify the risk to their business of not doing so, namely loss of customers and competitive attack. They have yet to look at the bigger picture and all of the associated benefits that will enable their business strategies to be successful.

REFERENCES

- www.aa.com
www.altavista.com
www.amazon.com
www.colorplusonline.com
www.dell.com
www.excite.com
www.go.com
www.google.com
www.indiaonline.com
www.infoseek.com
www.khoj.com
www.lycos.com
www.microsoft.com
www.netscape.com
www.nissanmotors.com
www.yahoo.com
www.zonaresearch.com
- Bush, V. (1945), "As We May Think," *Atlantic Monthly*, 176(1), 101- 108.
- Chen, Hsiang, R. T. Wigand and M. S. Nilan (1999), "Optimal experience of Web activities," *Computers in Human Behaviour*, 15(5), 585-608.
- Csikszentmihalyi, Mihaly (1977), *Beyond Boredom and Anxiety*, second printing. San Francisco: Jossey-Bass.
- Csikszentmihalyi, Mihaly (1990), *Flow: The Psychology of Optimal Experience*, New York: Harper and Row.
- Csikszentmihalyi, Mihaly and Isabella Csikszentmihalyi (1988), "Introduction to Part IV" in *Optimal Experience: Psychological Studies of Flow in Consciousness*, Mihaly Csikszentmihalyi and Isabella Selega Csikszentmihalyi, eds., Cambridge, Cambridge University Press.
- GVU (1997), "GVU's 7th WWW User Survey," [http://www.gvu.gatech.edu/user_surveys/survey-1997-04/].
- Hoffman, Donna L. and Thomas P. Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, 60 (July), 50-68.
- Hoffman, Donna L., Thomas P. Novak, and Adam Duhachek (2002), "The Influence of Goal Directed and Experiential Activities on Online Flow Experiences," *Journal of Consumer Psychology*, Vol. 13, 2002.
- Magid, L. (1995), Populism thrives online. *Informationweek*, 514, Feb. 13, 74.
- MBL Research and Consultancy Group (2001) – Internet Survey for regular Internet users 2001-2002.

Saxena, Anshu, Amulya Khurana, D.P.Kothari and Sudhir K. Jain (2004), "Development of a Flow Process Scale to measure Flow among Web Users", *Journal of Internet Commerce*, University of Louisiana at Monroe, 700 University Avenue, Monroe, LA 71209-0120, USA, March Issue, 2004, *forthcoming*.

Saxena, Anshu, D.P.Kothari, Sudhir K. Jain and Amulya Khurana (2001), "Developing a Marketing Strategy for Global Online Customer", *International Journal of e-business strategy management* Vol 2, No.3, pp 301-305.

Saxena, Anshu, Sudhir K. Jain, D.P.Kothari and Amulya Khurana (2003a), "Development of a Comprehensive Flow Model of Network Navigation in hypermedia CMEs: An empirical study in the Indian context", *Working Paper*.

Saxena, Anshu, Sudhir K. Jain, D.P.Kothari and Amulya Khurana (2003b), "Redefining the Optimal Flow Experience in Online Environments", *International Journal of e-Business Strategy Management*, University of Sunderland, Scotland, UK, June/July 2003, pp 275 – 288.

Schrage, M. (1995), Web spinners. *Adweek*, 36-8, Feb. 20, 20.

Trevino, Linda Klebe and Jane Webster (1992), "Flow in Computer-Mediated Communication," *Communication Research*, 19 (5), 539-573.

Vakratsas, Demetrios, and Tim Ambler (1999), "How Advertising Works: What Do We Really Know," *Journal of Marketing*, January 1999, pp. 26-43.

Webster, Jane and Joseph J. Martocchio (1992), "Microcomputer Playfulness: Development of a Measure With Workplace Implications," *MIS Quarterly*, 16 (June), 201-226.

Wilder, C. (1995), An electronic bridge to customers, *Informationweek*, 510, Jan. 16, 38-9.

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