

## Critical Analysis of Spamming in E-Marketing

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**Abstract:** E-marketing Environment play a vital role for the development of economy. The online consumer marketplace is growing at an exponential rate. At the same time, technology has enhanced the capacity of online companies to collect, store, transfer and analyze the vast amount of data has raised public awareness and consumer concerns about online privacy. To ensure consumer confidence in this new marketplace and its continued growth, consumer concerns about Spamming must be addressed. In the study the terms E-Marketing, Internet marketing and online marketing is used interchangeably and synonymously. This paper found that Commercial spam, Email marketing threat; Violate Privacy and Regulating Spam are the four dominant factors which influence consumer perceptions of Spamming in E-marketing. SEM has been used to confirm the factors results. Unsafe despite safety precautions and E-brochures creates excitement play more dominating role for Spamming.

### I. INTRODUCTION

Electronic-Marketing is the lifeblood of modern business. E-marketing is described as the process to satisfy consumers along with building and maintaining customer relationship through internet activities and to satisfy the goals of both buyers as well as sellers. As far as traditional marketing is concerned "Marketing is human activity directed at satisfying needs and wants through exchange process" (Kotler and Turner, 2004).

While E-marketing has grown rapidly in previous years, some of the unethical practices related to certain aspects of online marketing, such as spam, has raised concerns on the part of Internet users. In India E-mail is a major new communication tool that substitute the fax and telephone along with removing the barrier of distance. E-mail marketing communications tool offers a way for one-on-one messages for both B2B and B2C communications. Remarkably, it has become a universal communications tool in a mere few years. One of the most used words in the email marketing industry today is "spam" or unsolicited commercial email (UCE).

One of the least satisfying dimensions of the growing E-marketing environment or Email marketing is the spam unsolicited email that typically attempts to sell products and services to Internet users. The most irritating part of spam includes advertisements for gambling sites, pornographic material, easy financing, and diet supplements. It is estimated that approximately more than half of all emails received can be categorized as spam (Swartz, 2004). The term spam was named after the processed meat eulogized in a Monty Python sketch and was first time sent to a computer in 1978. The definition of the "Spam" is tricky because many define spam as "unsolicited electronic mail sent in bulk". Others believe "bulkiness" is irrelevant; it is merely a matter of whether the message sent was solicited or unsolicited. Still others debate the importance of whether the message was commercial in nature or not. The coalition against unsolicited commercial email (CAUCE, 2003) believes that the largest and most pressing problems currently facing the business world is unsolicited commercial email (UCE).

Summary of related studies:

Factor	Variables	Studies
Commercial spam	Curiosity of more information	Grimes (2004), Lee (1992), Haubl and Trifts (2000), Hauser and Wernerfelt (1990)
	Useful source of information	Mehta and Sivadas (1995), Grossbart and Kennedy (1995), Business Week (1997), Suri Ajneesh et al (2004)
	Promotional blogs	Deborah and David (2005)
	Commercial email are problems	CDT (2003), Krishnamurthy (2000), Sorkin (2001), Andrews (2004b), Vicomsoft (2002), Sorkin (2001)
Email marketing threat	Irritation and interruptions	Mikko and Carl (2006), Dhinakaran (2007), Krishnamurthy (2000), Spam Filter Review (2005)
	Exposure of vulgarity	Mikko and Carl (2006), Bradley (2003), Higgins (2003), Sorkin (2001)
	Less safe	Buckner and Gillham (2000), Satinder and Rishi Raj (2012), Chang and Morimoto (2003), Cristianini et

		al. (2003), Pew Research Center (2003)
	Beneficial for computer savvy persons	Mehta and Sivadas (1995), Sheehan and McMillan (1999), Martin et al. (2003), Satinder and Rishi Raj (2012)
Privacy	Unsafe despite safety precautions	Deckmyn (1999), Gartner Group (1999), Krishnamurthy Sandeep (2000), Pew Research Center (2003), Symantec (2009)
	Spam violate privacy	Krishnamurthy (2000), Meade (2003), Satinder and Rishi Raj (2012), Petersen (2001)
	Distinguish between genuine email and spam	Shane (2002), Khong (2004), Sipior et al., (2004)
Regulating Spam	E-brochures create excitement	Farahat and Bailey (2012)
	Facilitates spam	Evangelos et al. (1997), Oliva (2004), Kinnard (2000), Turban et al. (2000), Cranor and LaMacchia 1998), Hassan et al., 2006)
	Laws to protect from spam	Krishnamurthy (2000), Delafrooz (2009), Harris (2000), Nettleton (2004), Tamara Eisenschitz (2002), Bette Ann et al (2001)

Web Marketers through email marketing provide little bite relevant incomplete information about products and services which leads to curiosity for more information. Grimes (2004) revealed web marketers/Spam tries to sell the users a product or service that a reader might strongly object to buy. Lee (1992) found that investors in response to the release of news, whether the news is positive or negative tend to buy stock. It was found small investors placed more weight to just presence of news than on its information content. Haubl and Trifts (2000) found the Internet and information technology have affected search behavior and also looked at how recommendation agents and comparison matrices affect online shopping behavior. They found that the Internet and information technology tools allowed customers to search more efficiently, making better purchase decisions while reducing the number of alternatives they viewed (Hauser and Wernerfelt, 1990).

E-mail marketing is considered to be a Useful source of Product information for consumers. Marketers can hand pick customers over the internet (Grossbart and Kennedy, 1995) and create more customer satisfaction, by selecting the best target markets and tailoring the offers to that market. Internet users send and receive e-mail, log on to chat with special interest groups, surf the Web for information, and do business over the network. Many consumers want detail information (Mehta and Sivadas, 1995) on products that have some self-relevance for them. If a business can identify interested consumers it can build a select database on its target market/consumers. E-mail can be used as a market research tool, providing your customer group is represented on the net. E-mail is the most used media of the Internet (Business Week, 1997). Suri Ajneesh et al (2004) opined that E-marketers are recognizing the IT's potential for helping firms directly communicate with consumers using media rich emails.

Shoppers prefer to shop through registering the promotional blogs shown in their Email Inbox. Deborah and David (2005) opined traditional method of e-commerce as using the Internet to promote products online should be expanded for many rural entrepreneurs. In the case studies from northern Minnesota suggest that the relationship building that the Internet allows is as vital for building the business as the presence of an efficient shopping car and promotional blogs.

Commercial mails are problem for the consumers sent by marketers without any prior consent. CDT (2003) reported now days lot of people receive numbers of unsolicited commercial emails known as spam that is a major problem for a user to receive commercial email that doesn't interest to them. Some users take spam as a minor annoyance, while others are so irritated with spam that they are forced to switch or change email addresses. The volume of commercial e-mails is one of the reasons why UCE has become an unethical communication practice (Krishnamurthy, 2000). But spam is also problematic for reasons unrelated to its content and more to do with its bulk (Sorkin, 2001) causes frustration among consumers (Andrews, 2004b; Vicomsoft, 2002; Sorkin, 2001).

Commercial emails/spam leads to irritation and interruptions in routine work on the internet when it is sent by web marketers without permission. Mikko and Carl (2006) revealed spam lets users look through and sort out

unknown email which cause not only loss of work productivity and wasting their time, but also irritating them. Dhinaharan (2007) opined sometimes a massive spam attack can be used to upset the work of a mail server. Irritation and interruptions is one of the main causes why UCE has become an unethical communication practice (Krishnamurthy, 2000). Despite the many benefits to senders of direct e-marketing campaigns, the impacts are pernicious on consumers, e-mail providers, and organizations. Many users are angry and frustrated because they must sift through the hills of unsolicited commercial e-mail (UCE) in their inboxes (Spam Filter Review, 2005).

Email Marketing leads to an exposure of vulgarity and obscenity when web marketers add unnecessary contents in their commercial mails to attract the consumers. Mikko and Carl (2006) revealed spam makes users look through and sort out additional unknown email which cause not only wasting their time but also causes legal problems by advertising pornography, pyramid schemes, etc. Bradley (2003), Higgins (2003) and Sorkin (2001) revealed internet users think that sex-related and pornography e-mails are growing more rapidly. Pornographic spam has rocketed as compare to last five years.

Buckner and Gillham (2000) looked at the practices and activities of social email use and it was found that contact frequency by email resembled that of telephone use more closely than conventional mail. Satinder and Rishi Raj revealed (2012) E-mail is major new communications tools that substitute the fax and telephone to remove the barrier of distance. Commercial emails/Spamming is one of the huge problems for the online customers as it is less safe than traditional marketing. A survey conducted by Cristianini revealed, more than 50% of emails received are spam on the Internet and this trend is even worse in China and America (Cristianini et al., 2003). Chang and Morimoto (2003) revealed that participants generally found as spam can occupy a considerable amount of limited space in their electronic mailbox spam is more intrusive than postal direct mail. This causes e-mail users to spend additional time to screen all messages (including spam) to decide which messages are safe and to locate messages that actually matter. Pew Research Center (2003) indicated that more than 50% of the respondents say that they found it extremely difficult to get legitimate messages in their work-related mailbox due to spam and approximately 10% of the respondents reported that they spend more than 30 minutes dealing with spam. On the other hand, in the case of direct mail, consumers tend to find discarding unwanted pieces not as time consuming as deleting unsolicited commercial e-mail (Chang and Morimoto 2003).

E-mail is more attractive for computer user than regular mail because of its wider reach, convenience, lower distribution cost and faster responses (Mehta and Sivadas, 1995; Sheehan and McMillan, 1999; Martin et al., 2003). Satinder and Rishi raj (2012) opined Email marketing proves to be more beneficial for computer savvy & literate persons. E-mail is a major new communications channel that substitutes the fax and telephone to remove the barrier of distance.

Unsolicited E-mails/spamming is unsafe despite safety precautions. One in three online consumers report that they do not read e-mail sent by unknowns and 16% say that they immediately delete messages that are not from their friends, family or colleagues (Deckmyn 1999). Moreover, a survey shows that Internet Service Providers (ISPs) lose 7.2% of their new customers every year because of Spam (Gartner Group, June 1999). Many current spam mails bring users unexpected malicious attachments that would seriously crack the user's system. According to a survey conducted in China and America more than 50% of emails received are spam on the Internet and this trend is even worse in China and America (Pew, 2003). Krishnamurthy Sandeep (2000) opined that comprehensive overview of the spam problem and a critical analysis of the solution. This was followed by an analysis of the pernicious impact of spam on the major stakeholder groups; Legitimate Advertisers, E-commerce firms, Consumers, Internet Service Providers, and employers. Symantec (2009) opined Spam emails have become a serious technological and economic problem.

Violation of Consumers' privacy is one of the reasons why UCE has become an unethical communication practice (Krishnamurthy, 2000). Spamming has become a huge problem for the online customers. Security and threats are considered most important concerns about the use of Email and Internet. The privacy of users is greatly violated and email safety is becoming an important issue. Privacy concern is the barrier for online shopping (Satinder and Rishi Raj, 2012). Meade (2003) opined commercial emails serve as a low cost marketing tool for senders; it poses a critical threat to the privacy of individual Internet users. The way in which email addresses are collected or sold, raises a number of additional privacy concerns. Petersen (2001) opined consumers are more privacy concerned as the firms' ability to gather consumer information and send targeted

emails increases on the Internet has increased. Both marketers and consumers are now increasingly taking online privacy seriously. Typically, customers can choose to “opt-out” or “opt-in” for mailings from firms.

Shane (2002) revealed unsolicited electronic mail, or spam, has become a critical problem for service operators, network administrators and Internet users in general. Recipients of large quantities of unwanted mail find it time consuming or difficult to differentiate desired mail from spam, which leads to reduce productivity. Lost business productivity is another negative effect of spam (Khong, 2004). When employees receive UCE at their work, they spent time in reading, responding to and deleting messages. It is estimated that UCE costs over \$10 billion annually to US corporations due to employee time spent in scrutinizing unwanted e-mails, recovering from UCE overloads and deploying anti-spam tools (Sipior et al., 2004).

E-brochures/e-catalogues in mail create excitement for online transaction. An analysis of brand search and click through rates of banner advertisements found a moderately higher response from targeted groups (Farahat and Bailey, 2012).

Email marketing facilitates spamming. The growth in the use of email marketing has been accompanied by a huge increase in the amount of unsolicited commercial e-mail (UCE), popularly known as spam (Oliva, 2004). Evangelos et al. (1997) opined the growth in the use of email marketing has been accompanied by an increase in the numbers of Unsolicited Commercial E-mail, popularly known as unwanted mails or spam. The unprecedented amount of unwanted messages is now recognized as a serious problem. Kinnard (2000) opined e-mail marketing is the act of sending marketing messages to recipients who initially request it but later on they start receiving unsolicited emails. According to Turban et al. (2000), spam (UCE) is defined as “the practice of indiscriminate distribution of messages without permission of the receiver and without consideration for the messages’ appropriateness”. A significant proportion of commercial e-mails are likely to be unsolicited or Spam (Cranor and LaMacchia 1998). One of the reasons for the exponential growth of spam is the commercial email, which has provided a cheap and a neat instantaneous mode of communication world-wide (Hassan et al., 2006).

Krishnamurthy (2000) opined that a comprehensive overview of the spam problem and a critical analyzed impact of spam on the major stakeholder groups; Internet Service Providers, Legitimate Advertisers, E-commerce firms, Consumers and employers. They also analyzed the various proposed responses to spam ranging from laissez fair arguments for legislative solutions. Delafrooz (2009) opined Marketers employed spam technique to advertise the products, which makes an abusive use of the emails of users. In the light of the this unethical practice, the European Commission has provided a series of technical and regulatory measures with a view to avoiding spam or protects consumers from spamming. Harris (2000) online shoppers were more concerned about the use of personal information, and wanted some sort of Act/laws regulating how personal information is collected and used. Various countries have laws in place that directly or indirectly regulate UCE (Nettleton, 2004). Anti-spam laws generally impose labeling requirements, prohibit the transmission of commercial communication without the consent of the recipient and ban the use of “spam ware”. Tamara Eisenschitz (2002) opined that E-mail law. The distinction was made between regulation of the Internet in general and of e-mail. The key finding of comparison was the need for Education for all levels of users to clarify the issues. Bette Ann et al (2001) discussed security concerns, spamming, web sites that do not carry an “advertising” label, cyber squatters, online marketing to children, and dinosaurs.

## **II. RESEARCH METHODOLOGY**

To study the perceptions & attitudes of respondents towards spamming issue in E-Marketing convenience sampling is used to collect data from individuals who could reasonably interpret the E-marketing and form ethical viewpoint to issues in E-marketing, hence in the present study the those individuals has been included who are educated and exposed to E-marketing. The survey has been conducted via email and face-to-face interviews. A total of 640 survey questionnaires had been sent out, to which 598 questionnaires received. Each of the responses received has been screened for errors, incomplete or missing responses. Efforts have also been taken to contact the affected respondents through e-mail for clarification and corrections, especially for missing or blank responses. However, responses that had more than 25% of the questions in the survey questionnaire left unanswered or incorrectly answered has been discarded from data analysis. For those responses that had a few blank answers (less than 25% of the questions) and which involved 5-point interval-scaled questions has been assigned with a midpoint scale of 3. After the screening process carried out, only 568

responses have been considered complete and valid for data analysis. This represents a success rate of 94.66%, which is considered to be good in view of time and cost constraints.

Table 1  
 Consumers' perceptions for four Spamming's factors (Mean, Corrected Item-Total Correlation and communality)

Variables	Initial	Extraction	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Mean	Std. Deviation
Promotional blogs	1.000	.633	.572	.878	2.56	1.297
Curiosity of more information	1.000	.690	.530	.880	2.65	1.336
Useful source of information	1.000	.706	.576	.878	2.53	1.265
Commercial email are problems	1.000	.618	.583	.878	2.59	1.301
Overall Mean of "Commercial spam" Factor (2.58)						
Exposure of vulgarity	1.000	.613	.522	.881	2.70	1.459
Less safe	1.000	.600	.517	.881	2.92	1.474
Beneficial for computer savvy persons	1.000	.551	.597	.882	2.47	1.446
Irritation and interruptions	1.000	.643	.558	.879	2.57	1.312
Overall Mean of "Email marketing threat" Factor (2.67)						
Facilitates spam	1.000	.759	.553	.879	3.06	1.333
E-brochures create excitement	1.000	.787	.566	.878	3.00	1.329
Laws to protect from spam	1.000	.717	.622	.876	2.94	1.357
Overall Mean of "Regulating Spam" Factor (3.00)						
Distinguish between genuine email and spam	1.000	.739	.572	.878	3.01	1.350
Spam violate privacy	1.000	.774	.596	.877	3.02	1.370
Unsafe despite safety precautions	1.000	.791	.609	.877	3.06	1.331
Overall Mean of "Violate Privacy" Factor (3.03)						
Overall Mean of all four Factors (2.82)						

Many companies have turned to cost effective online communication methods such as email marketing to reach and engage their customers. One of the most used words in the email marketing industry today is spam or unsolicited commercial email (UCE). The UCE or Spam plays an important role to develop the perceptions of consumer's regarding E-marketing. In order to examine how the consumers perceived Spamming; in terms of Commercial spam, Email marketing threat, Regulating Spam and Privacy; the mean scores for all factors have been compared. The findings of respondent's different perceptions of the four influencing factors are presented in Table 1.

Reliability validity and unidimensionality: The cronbach's alpha of scale is .886 (Table 3) which is a good indicator to go ahead as the value of the cronbach's alpha coefficient of 0.6 and above is good for research in social science (Cronbach, 1990). Also the corrected-item-total correlation > 0.5 and inter-item correlation is more than 0.3. Here, it is pertinent to mention that corrected-item-total correlation > 0.5 and inter-item correlation >0.3 (Table 1 & 2) is good enough for reliability of the scale (Hair et al., 2009). The value for communalities using principal component analysis ranged from .551 to .791 (Table 1). Here, it is pertinent to mention that communalities >0.5 is sufficient for the explanation of constructs (Hair et al., 2009). All these values show factors analysis has extracted good quantity of variance in the items. Hence, all the requirements of reliability, validity and unidimensionality are met.

Table2

Correlation Matrix of Spamming’s variables

	SP3	SP6	SP7	SP12	SP9	SP11	SP4	SP8	SP1	SP2	SP14	SP5	SP10	SP13
SP3	1.000													
SP6	.538	1.000												
SP7	.489	.596	1.000											
SP12	.509	.469	.580	1.000										
SP9	.353	.303	.289	.273	1.000									
SP11	.292	.256	.289	.264	.644	1.000								
SP4	.268	.272	.310	.304	.308	.275	1.000							
SP8	.265	.237	.326	.312	.373	.392	.665	1.000						
SP1	.265	.321	.284	.347	.277	.281	.272	.317	1.000					
SP2	.285	.258	.356	.335	.245	.259	.291	.342	.684	1.000				
SP14	.318	.353	.371	.412	.310	.353	.381	.373	.616	.634	1.000			
SP5	.379	.284	.332	.376	.288	.308	.257	.314	.292	.320	.320	1.000		
SP10	.395	.291	.289	.328	.352	.364	.280	.334	.313	.331	.331	.632	1.000	
SP13	.409	.276	.293	.363	.310	.306	.287	.355	.341	.376	.369	.659	.694	1.000

Inter-item correlation: Mean=. 360 , Minimum=. 237 , Maximum=. 694 , Range = .457 , Max/Min= 2.929 , Variance=. 013, N= 14

According to the scale used if all the 14 items get a rating of 5 each, the total score would be 70. The mean score of the respondents is 39.07 (Table 3). The correlation matrix is computed as shown in Table 2. The mean correlation is .360 and it varies from .237 to .694 with a range .457. There is a sufficient correlation to go ahead with factor analysis. Factor analysis is done using SPSS software with varimax rotated, Principal Component Analysis. The scale reliability is made for factors so classified. The results are shown in the Table 3.

Table 3

Factor analysis results for consumer’s Perceptions toward “Spamming” issue

Variables	Factors			
	1	2	3	4
Curiosity of more information	.801			
Useful source of information	.791			
Promotional blogs	.706			
Commercial email are problems	.705			
Irritation and interruptions		.734		
Exposure of vulgarity		.724		
Less safe		.722		
Beneficial for computer savvy persons		.671		
Unsafe despite safety precautions			.826	
Spam violate privacy			.820	
Distinguish between genuine email and spam			.805	
E-brochures create excitement				.841
Facilitates spam				.828
Laws to protect from spam				.751
Eigen Value	5.693	1.353	1.338	1.237
% Variance	40.666	9.667	9.558	8.838
Cumulative % Variance	40.666	50.333	59.891	68.729
Scale Reliability alpha	.818	.759	.854	.845

Cronbach's Alpha=. 886, Kaiser-Meyer-Olkin Measure of Sampling Adequacy= .862 , Bartlett's Test of Sphericity (Approx. Chi-Square= 3645.058 , Df= 91, Sig=0.00, Mean= 39.07

Table 3 shows the factor analysis of the fourteen variables; this analysis extracted four factors from the variables. Each factor was defined by at least three scale items. Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) value of .862 is sufficient enough for validating factor analysis results. Here, it is pertinent to mention that  $KMO > 0.6$  and  $p < 0.5$  are good enough for research in social sciences (Hair et al., 2009). The Bartlett's Test of Sphericity also has a value of  $X^2 = 3645.058$ ,  $DF = 91$ , which are significant ( $p < 0.5$ ) as shown in the table 3. All these requirements are sufficient for validating factor analysis. The four factors classified using the factor analysis is shown on the Table 3. The results are validated as shown in table 4.

The first factor alone has explained 40.666% of the total variation in the factor analysis and might be labeled commercial Spam. CDT (2003) reported now days millions of people receive numbers of unsolicited commercial emails known as spam that is a major problem for a user to receive commercial email that doesn't interest to them. Present factor includes four variables; i.e. Curiosity of more information, Useful source of information, Promotional blogs and Commercial email are problems. The results indicate marketers do not follow the ethical practices on the internet; they use the unethical procedures to promote their products through email marketing. Haubl and Trifts (2000) revealed how the Internet and information technology have affected search behavior. They found that Email marketing allowed customers to search more efficiently, making better purchase decisions while reducing the number of alternatives they viewed. The factor loading ranges from .705 to .801. The inter item correlation ranges from .613 to .679 and item to total correlation ranges from .530 to .583. It covers 5.693 of the Eigenvalues.

A second factor loaded with another four variables. This factor can be labeled as Email marketing threat as four variables revealed Spam is becoming a threat to Email marketing as contents in commercial emails are more or less irrelevant, unsafe and lead to exposure of vulgarity. Mikko and Carl (2006) revealed spam makes users look through and sort out additional unknown email which cause not only wasting their time but also irritating them. As the result reveal Email marketing is more preferred by computer savvy but they too feel unsafe. The items included in this factor are: Irritation and interruptions, Exposure of vulgarity, less safe and Beneficial for computer savvy persons. This factor has explained 9.667% of the total variation in the factor analysis. The factor loading ranges from .671 to .734. The inter item correlation ranges from .504 to .611 and item to total correlation ranges from .517 to .597. It covers 1.353 of the Eigenvalues.

Factor third is correlated with another three variables; i.e., unsafe despite safety precautions, Spam violate privacy and Distinguish between genuine email and spam. It might be labeled as Violate Privacy. This category's results indicated that it is important for web merchants to create consumer's trust in Email marketing, as spamming violate the consumer's privacy and it negatively influences the E-marketing. This factor has explained 9.558% of the total variation in the factor analysis. The factor loading ranges from .805 to .826. The inter item correlation ranges from .701 to .749 and item to total correlation ranges from .572 to .609. It covers 1.338 of the Eigenvalues. Violation of Consumers' privacy is one of the reasons why UCE could become an unethical communication practice (Krishnamurthy, 2000). Spamming is one of the huge problems for the online customers. Security and threats are considered most important concerns about the use of Email and Internet.

The fourth factor loaded with another three variables. This factor can be labeled as Regulating Spam as variables revealed Email marketing lead to Spam the there are more or less no law in India to protect consumers. This factor has explained 8.838% of the total variation in the factor analysis. The factor loading ranges from .751 to .841. The inter item correlation ranges from .681 to .733 and item to total correlation ranges from .553 to .622. It covers 1.237 of the Eigenvalues. Kinnard (2000) opined e-mail marketing is the act of sending marketing communications to recipients who initially request it but later on they start receiving unsolicited emails. The growth in the use of email marketing has been accompanied by an enormous increase in the amount of unsolicited commercial e-mail (UCE), popularly known as spam (Oliva, 2004).

Table 4

Validation of factor analysis results for factors affecting consumer's Perceptions toward Spamming issue of E-Marketing

Correlation between summated scales

Factors	Commercial spam	Email marketing threat	Violate Privacy	Regulating Spam
Commercial spam	1			
Email marketing threat	.466**	1		
Violate Privacy	.465**	.450**	1	
Regulating Spam	.446**	.464**	.410**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Correlation between representative factors and summated scales

Variables/Factors	Commercial spam	Email marketing threat	Violate Privacy	Regulating Spam
Curiosity of more information	.802**	.343**	.320**	.351**
Irritation and interruptions	.346**	.754**	.375**	.383**
Unsafe despite safety precautions	.409**	.415**	.886**	.400**
E-brochures create excitement	.383**	.386**	.384**	.884**

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The values for communalities range from .551 to .791 (Table 1). Here, it is pertinent to mention that Eigenvalue > 1.0 and communalities > 0.5 are sufficient explanations of constructs (Hair et al., 2009). The factor analysis results were valid as the correlation among summated scales and representative variables was high (> 0.5) and it was low among summated scales (< 0.5).

A confirmatory model for factors affecting consumer's Perceptions toward "Spamming" issue in E-Marketing: SEM (structural equation modeling), which includes measurement model and path analysis, is an efficient way to find the causal relationships between constructs and their underlying measurement suitability; and Amos software with maximum likelihood estimation (ML) is used to implement SEM. Confirmatory factor analysis is employed to test the reliability and validity of the questionnaires after collecting the questionnaires. The loading factor values of each manifest variable are higher than 0.6 (the suggested threshold value is 0.6 (Bagozzi & Yi (1988)), indicating that internal consistency and convergent validity are good; composite reliability (Construct reliability) and the Cronbach's  $\alpha$  value of each construct are higher than 0.8, also the average variance extracted of each construct is greater than 0.5, indicating good reliability.

For the overall assessment of the measurement, multiple fit indexes are reported in Table 5 from which we can see that the model is reasonably consistent with the data, with all the fit indexes better than the recommended values.

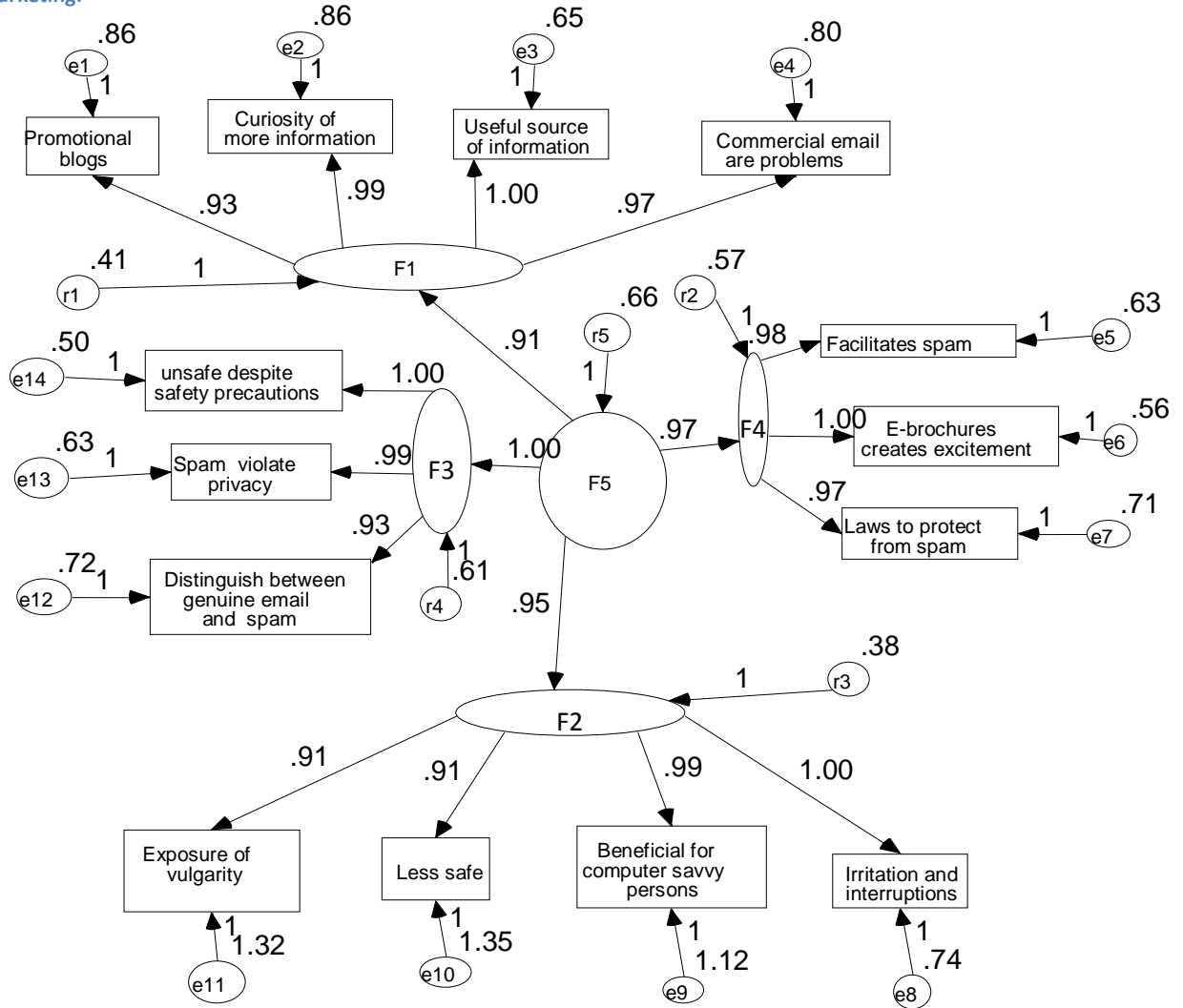
Table 5

Table: Fit indices and guidelines for model analysis

Fit Index	Guidelines (Recommended)	Model Values
Chi Square		212.881
CMIN/DF	Between 1 and 5	2.957
NFI	>0.9	.942
TLI	>0.9	.950
GFI	>0.9	.951
AGFI	>0.9	.928
RMSEA	<0.05	.048
P	<0.05	0.000



**Figure 1 Purposed structural relationships among factors affecting consumer's Perceptions toward Spamming Issue of E-Marketing.**



**FIG.1**

A structural model was purposed to investigate the effects of factors affecting consumer's online behavior. It was validated using the confirmatory factor analysis as shown in Figure 1 and Figure 2.

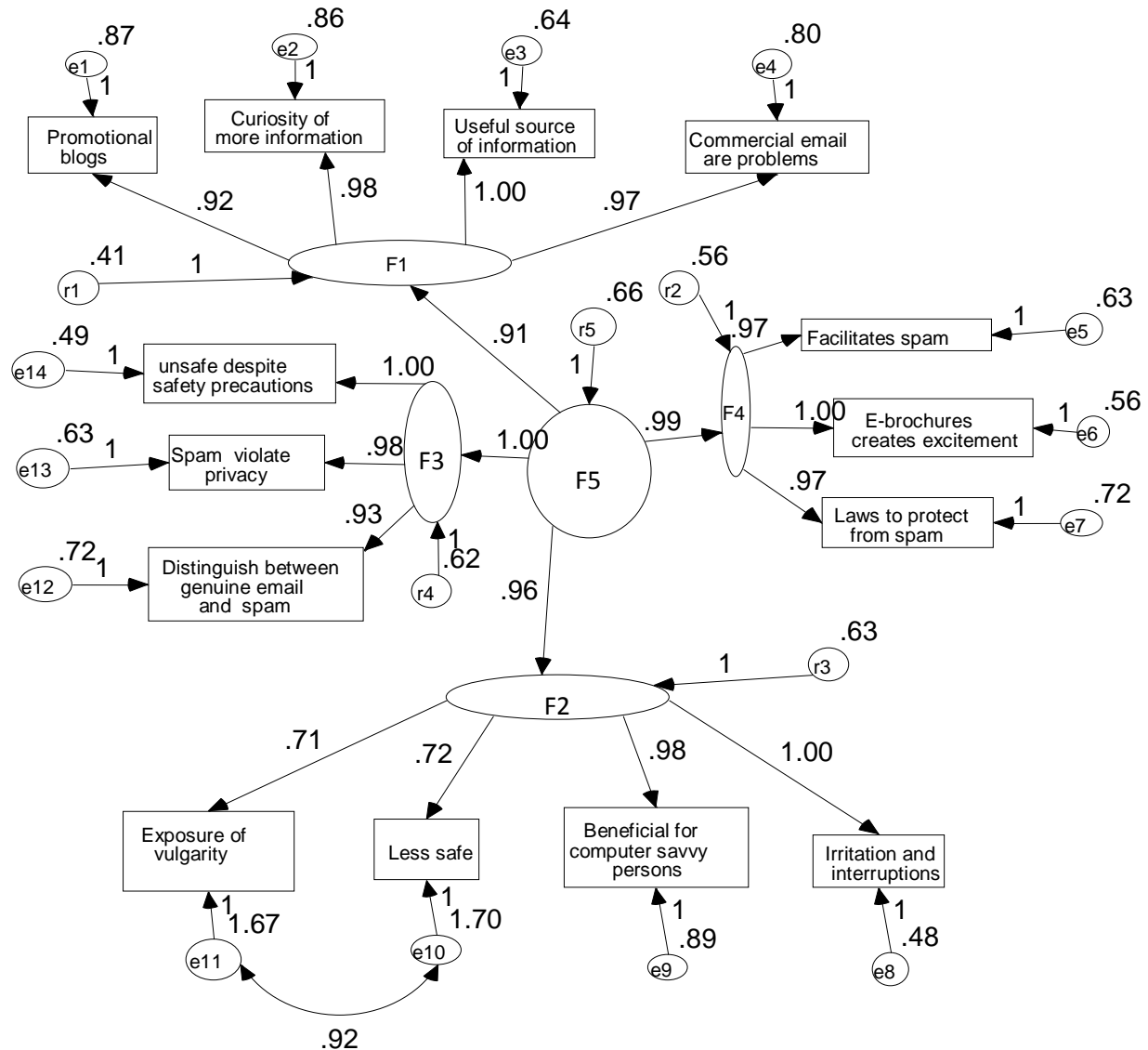


Figure 2 Modified structural relationships among factors affecting consumer's Perceptions toward Spamming Issue of E-Marketing.

F1- Commercial Spam  
 F4- Regulating Spam

F2- Email Marketing Threat  
 F5- Spamming

F3- Violate Privacy

The proposed model (Fig 1) shows the values of RMR, RMSEA, AGFI, NFI and TLI are not according to given guidelines in table 5. Hence the necessary modification was done based on modification index, standardized residual values, regression weights etc. Finally, the model was modified as shown in figure 2. The values for various fit indices, chi-square, level of significance and effect of factors/items on Spamming are shown in table 6. The results in figure 1 show that loading on commercial spam (coded-F1) factor ranged from .92 to 1.0. The loading of 1.0 for Useful source of information and 0.98 for Curiosity of more information show that these items play a more important role for this construct as comparing to other items. Lee (1992) found that investors tend to buy stock in response to the release of news, whether the news is positive or negative. It was found small investors placed more weight to the mere presence of news than on its information content. Here, it is important to note that the loading of Commercial Spam factor is .91 which is least as compare to other three factors. The other variables in this factor are Promotional blogs and Commercial emails are problems; all these are loaded significantly. The loading on Email Marketing Threat (coded-F2) factor has the range from .71 to 1.00. There

are four items in this factor with significantly loaded. The maximum loading is for Irritation and interruptions (1.0) and Beneficial for computer savvy persons (.98) showing the dominance of this factor. The loading of this factor on Spamming (Code F5) is .96 which is less than the factor third and fourth. In this factor it is suggested, web marketers should provide quality and complete information to consumers which is beneficial for them to take buying decision. The results reveal that email marketing is preferred by computer savvy persons but still they do not feel secure; as the information communicated through commercial emails are less safe, irrelevant and become the cause of pornography. Bradley (2003), Higgins (2003) and Sorkin (2001) revealed internet users think that pornography and sex-related e-mails are growing most rapidly now days. Here it is important to note the loading of Exposure of vulgarity and less safe in figure 1 is same and in seconds they are very near to each other, which shows the clones of these two variables. In figure second an arrow has been drawn among these two variables which imply they influence to each other. The Violate Privacy (Coded F3) factor has loaded from .93 to 1.00. The results show that the loading of Unsafe despite safety precautions (1.00) played a more dominating role for this factor. All the loadings are different and sufficient to explain this factor. The loading of this factor in E-marketing is 1.00 which is higher as comparable to other factors which implies this factor is more important for consumers. Moreover some time commercial emails become the cause of violation of privacy as it is difficult for consumers to make a distinction among spam/commercial mails and genuine email. Symantec (2009) opined Spam emails have become a serious technological and economic problem. The loading on Regulating Spam (coded-F4) factor has the range from .97 to 1.00. There are three items in this factor with significantly loaded. The maximum loading is for E-brochures create excitement (1.0) and rest two having same loading (.97) showing the close relationship. The loading of this factor on Spamming (Code F5) is .99; second highest among all factors. This category's results indicated that as an email marketing lead to Spam problem, it is important for web merchants to follow some rules and regulation in the development of email marketing in India. The growth in the use of email marketing has been accompanied by an enormous increase in the amount of unsolicited commercial e-mail (UCE), popularly known as spam (Oliva, 2004).

Table 6  
 Effect Estimates for factors affecting consumer's Perceptions toward Spamming Issue of E-Marketing

Factors/Variables affecting consumer's Perceptions toward Spamming Issue of E-marketing	E-marketing Decisions Effect Estimates			Comparison of Models	
	Total	Direct	Indirect	Figure 1	Figure 2
Commercial spam	0.910	0.910	0.000	Chi square= 384.252	Chi square= 212.88
Email marketing threat	0.963	0.963	0.000	DF= 73	DF= 72
Violate Privacy	1.000	1.000	0.000	RMR= .101	RMR= .52
Regulating Spam	0.990	0.990	0.000	RMSEA= .87	RMSEA= .50
Curiosity of more information	.896	0.000	.896	GFI= .908	GFI= .951
Useful source of information	.910	0.000	.910	AGFI= .867	AGFI= .928
Promotional blogs	.839	0.000	.839	PGFI= .631	PGFI= .652
Commercial email are problems	.880	0.000	.880	NFI= .896	NFI= .942
Irritation and interruptions	.963	0.000	.963	RFI= .870	RFI= .927
Exposure of vulgarity	.787	0.000	.787	IFI= .914	IFI= .961
Less safe	.793	0.000	.793	TLI= .892	TLI= .950
Beneficial for computer savvy persons	.948	0.000	.948	CFI= .913	CFI= .961
Unsafe despite safety precautions	1.000	0.000	1.000	Significance Level= 0.000	Significance Level= 0.000
Spam violate privacy	.985	0.000	.985	The model is not significant as RMR, RMSEA, AGFI, NFI and TLI are not according to given guidelines in table 5	The model is significant as RMR, RMSEA, AGFI, NFI and TLI are according to given guidelines in table 5 (DF difference is 1)
Distinguish between genuine email and spam	.928	0.000	.928		
E-brochures create excitement	.990	0.000	.990		
Facilitates spam	.964	0.000	.964		
Laws to protect from spam	.955	0.000	.955		

A comparison can be made among purposed model and modified model based on the values of Fit indicis given in the Table 6. The results show that the loading of 1.0 for Violate Privacy and .99 for Regulating Spam play more dominating role for this construct. The total effect estimate showed that this effect was high for Violate

Privacy (1.000) and Regulating Spam (0.990). It was least for Commercial Spam (.910). Here, it is also interesting to note that items total effect was very high for Unsafe despite safety precautions (1.0) and E-brochures create excitement (0.990); hence, these items play a more important role in developing consumer's perception for Spamming as well as for Email marketing. The other items also showed significant loading. The results indicate that in order to develop positive attitude of consumers toward Email marketing Marketers should try to control the problem of Spam; moreover commercial emails must be sent to consumers with prior permission, marketers should not send any commercial mail without consumer's permission.

#### REFERENCES

- [1] Andrews, A. (2004b), "Internet newsletters", *Kybernetes*, Vol. 33 No. 1, pp. 22-5.
- [2] Barnes SJ, Scornavacca E (2004). "Mobile marketing: the role of permission and acceptance." *International Journal Mobile Communication*, Vol. 2 (2), pp. 128-139.
- [3] Bette Ann stead and Jackie Gilbert (2001), "Ethical issues in Electronic Commerce" *Journal of business Ethics*, Vol.25 (1), pp 167-186.
- [4] Bradley, P. (2003), "The great spam experiment", *Library & Information Update*, Vol. 1 No. 9, pp. 50-101.
- [5] Buckner K. and Gillham M. (2000), "Using e-mail for social and domestic purposes: processes, practices and attitudes", In Sloane, A. and van Rijn, F. (Eds.), *Home Informatics and Telematics: information, Technology and Society IFIP WG 9.3 International Conference on Home Oriented Informatics and Telematics (HOIT2000)*, "IT at Home: Virtual influences on Everyday Life" June 28-30, 2000, Wolverhampton, UK, pp. 87-98.
- [6] Business Week (1997), "Internet communities", Special report, 5 May.
- [7] CAUCE (2003), "Coalition against unsolicited commercial e-mail", available at: [www.cauce.org](http://www.cauce.org)
- [8] CDT (Center for Democracy & Technology) March 2003, "Why am I getting all this spam?" *Commercial E-mail Research Six Month Report*
- [9] Chang, Susan and Mariko Morimoto (2003), "An Assessment of Consumer Attitudes toward Direct Marketing Communication Channels: A Comparison between Unsolicited Commercial E-mail and Postal Direct Mail", Paper presented at the annual convention of The Association for Education in Journalism and Mass Communication, Kansas City, MO, August 2003.
- [10] Cranor, L. F. & LaMacchia, B.A. (1998), Spam!,
  - <http://www.research.att.com/~lorrie/pubs/Spam/Spam.html>.
- [11] Cristianini, N., & Taylor, J. S. (2003) *An Introduction to Support Vector Machines and Other Kernel Based Learning Methods*, Cambridge University Press, 24 (2), pp. 105-106.
- [12] Deborah M. Markley and David L. Barkley, 2005, "Case Studies of E-commerce Activity in Rural and small Town Business", these materials were developed as part of the Southern Rural Development Center's National Rural e-Commerce Extension Initiative. They are based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Award No. 2005-45064-03212
- [13] Deckmyn, D. (1999), "Critics say the self-regulation effort may 'legitimize' Spam", *Computerworld*, 33 (35), pp. 41-42.
- [14] Delafrooz N, Paim LH, Haron SA, Sidin SM, Khatibi A (2009). "Factors affecting students' attitude toward online shopping" *African Journal of Business Management*, Vol. 3 (5), pp. 200-209
- [15] Dhinaharan Nagamalai, Cynthia Dhinakaran, and Jae Kwang Lee (2007), "Multi layer approach to defend DDoS attacks caused by spam", *International Conference on Multimedia and Ubiquitous Engineering*, pp. 97-102.
- [16] Enrico Blanzieri and Italy Anton Bryl, 2007, *A Survey of Learning-Based Techniques of Email Spam Filtering*,
- [17] Evangelos Moustakas, C. Ranganathan and Penny Duqueno (1997), "UCE: An exploratory understanding using stakeholder analysis".
- [18] Evangelos Moustakas, C. Ranganathan, and Penny Duqueno. *Combating spam through legislation: A comparative analysis of us and European approaches*. In *Proceedings of Second Conference on Email and Anti- Spam, CEAS'2005*, 2005.
- [19] Farahat, A. and Bailey, M. (2012), "How effective is targeted advertising? Proceedings of the 21st international conference on the World Wide Web", pp. 111-120.
- [20] Grimes, G. (2004), "Issues with Spam", *Computer Fraud & Security*, No. 5, pp. 12-16.
- [21] Grossbart, S. and Kennedy, P. (1995), "Interactive media and retail patronage", in Darden, W.R. (Ed.), *The Cutting Edge*.
- [22] Harris Poll. 2000. *Online Privacy: A Growing Threat*. Business Week, March 20, 2000, pp. 96.
- [23] Hassan, T., Cole, P., & Fung C.C. (2006), *An Intelligent SPAM Filter – GetEmail5*, *Proceedings of the 2nd IEEE International Conference on Cybernetics and Intelligent Systems (CIS2006)*, Bangkok Thailand, 7-9 June, pp. 86-90.
- [24] Haubl, G. and Trifts, V. (2000), "Consumer decision making in online shopping environments: The effects of interactive decision aids", *Journal of Marketing Science*, pp 4-21.
- [25] Hauser, J. and Wernerfelt, B. (1990), "An evaluation cost model of consideration sets", *Journal of Consumer Research*, Vol. 16 (4), pp. 393-408.
- [26] Higgins, A. (2003), "Anti-Spam Anti- Spam Anti- Spam", IBM Corporation, White Plains, NY.

- [27] Kinnard, Shannon (2000), "Marketing With E-mail. A Spam-Free Guide to Increasing Sales, Building Loyalty, and Increasing Awareness", Second Edition. Gulf Breeze: Maximum Press.
- [28] Kotler Philip et al (2004) Principles of marketing: European edition. 4th Financial Times, Prentice Hall.
- [29] Krishnamurthy Sandeep (2000), "Spam Revisited", journal of Computer World, Vol. 32 (18), pp. 33-34.
- [30] Krishnamurthy, S. (2000), "Spam revisited", Quarterly Journal of Electronic Commerce, Vol. 1 No. 4, pp. 305-21.
- [31] Lee, Charles M. C. (1992), "Earnings News and Small Traders: An Intraday Analysis," Journal of Accounting and Economics Vol. 15, pp. 265 - 302.
- [32] Martin, B. A. S., et al. (2003), "Email Advertising: Exploratory Insights from Finland", Journal of Advertising Research, Vol. (43)3, pp. 293-300.
- [33] Meade, Joe. (2003), "Spam – The Death of E-mail?", Proceedings of EEMA conference, Dublin.
- [34] Mehta, R. and E. Sivadas (1995), "Comparing Response Rates and Response Content in Mail Versus Electronic Mail Surveys", Journal of the Market Research Society, Vol. (37)4, pp. 429-439.
- [35] Mehta, R. and Sivadas, E. (1995), "Direct marketing on the Internet: an empirical assessment of consumer attitudes", Journal of Direct Marketing, Vol. 9, pp. 21-32.
- [36] Mikko Siponen and Carl Stucke (2006), "Elective anti-spam strategies in companies: An international study", In Proceedings of HICSS '06, vol. 6.
- [37] Nettleton, E. (2004), "Electronic marketing and the new anti-spam regulations", Journal of Database Marketing and Customer Strategy Management, Vol. 11 No. 3, pp. 235-40.
- [38] Oliva, R.A. (2004), "Spam!", journal of Marketing Management, Vol. 13 No. 1, pp. 50-3.
- [39] Petersen, Andrea (2001), "Private Matters: It Seems That Trust Equals Revenue, Even Online", Wall Street Journal, 02/12/2001
- [40] Pew Research Center (2003), "Spam: How is it Hurting Email and Degrading Life on the Internet", Pew Internet & American Life, <http://www.pewinternet.org/reports/index.asp>
- [41] Satinder Kumar and Rishi Raj Sharma (2012), "Perceptual study of spamming an unethical practice in E-marketing", International journal of marketing and management, Vol. 3 (1).
- [42] Shane Hird, 2002, "Technical Solutions for Controlling Spam", Appears in the proceedings of AUUG2002, Melbourne, 4-6 September
- [43] Sheehan, K. B. and S. J. McMillan (1999), "Response Variation in E-Mail Surveys: An Exploration", Journal of Advertising Research, Vol. (39)4, pp. 45-55.
- [44] Sipior, J.C., Ward, B.T. and Bonner, P.G. (2004), "Should spam be on the menu?" Communications of the ACM, Vol. 47 No. 6, pp. 59-64.
- [45] Sorkin, D. (2001), "Technical and legal approaches to unsolicited electronic mail", USFL Review, Winter, pp. 325-83.
- [46] Spam Filter Review. (2005) "Spam Statistics 2004", <http://spam-filter-review.toptenreviews.com/spam-statistics.html> (current as of April 19, 2005).
- [47] Sullivan JD, DeLeeuw MB (2003), "Spam after Can-Spam: How Inconsistent Thinking Has Made a Hash out of Unsolicited Commercial E-Mail Policy", Santa Clara Computer & High Tech. LJ 20: 887.
- [48] SURI AJNEESH and MARISSA V. PHILLIP (2004), "Impact of Gender Differences in the Evaluation of Promotional Emails", Journal of advertising research, Vol. 10, pp. 360-368.
- [49] Swartz, J. (2004) "Is the future of Email under cyber attack? USA today.
- [50] Symantec, Spam statistics:
- <http://www.symantec.com/region/de/PressCenter/spam.html> , Accessed 06-11-2011.
- [51] Tamara Eisenschitz (2001), "Email Law", Aslib Proceeding, Vol-54 (1), pp. 41-47.
- [52] Turban, E., Lee, J., King, D. and Chung, H.M. (2000), "Electronic Commerce: A Managerial Perspective", Prentice-Hall, Englewood Cliffs, NJ.
- [53] Vicomsoft (2002), "Spam FAQs", available at:
- <http://www.vicomsoft.com/knowledge/reference/spam.html> (accessed 10 October 2004).