# SPYWARE AS BARRIER TO E-MARKETING: AN EMPIRICAL STUDY

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**ABSTRACT**

*Present paper motive is to explore perceptions of customers towards Spyware issues in E-Marketing and their structural relationship to influence the perception. In present scenario E-Marketing is playing an essential part in Indian economy, especially where Prime Minister promotes cashless economy or online marketplace. Although E-marketing is one of the best modern and economical mediums for reaching out to new customers, although internet has created many advantages for the business but it has also brought many numerous risks. It would be wise to contemplate the various E-marketing ethical issues because innovative way of marketing has also lead to unethical practices as spyware problem. Spyware has been in controversy as it gets setup without knowledge and breaks the user's privacy; even it has the potential to be misused. The study has revealed the customers have no control on their personal information as spyware leads to control the online user's visits, collecting personal information and also misusing the same. Majority Customers are unaware regarding Spyware problems and they do not know how to handle with it. As the result the customers felt more Unsecure while transacting on the network because of their ignorance in this respect as SEM analysis has revealed that most of the variance in spyware is explained by two factors, Unsecure and Control. The results of the study are useful for the marketers as it would help them to frame comprehensive policy in relation to protect the personal information of customers so that they can feel safe and secure while buying online.*

**KEYWORDS** Spyware, Privacy, E-marketing, Adware, Spamming, etc.

## INTRODUCTION

With vast development of internet as commercial source has caused the marketers to go with innovative ways to do the marketing. According to Kotler (2004) "Marketing is human activity aimed at filling the need and want through the exchange process". Now days Internet has become the hottest marketing medium ever known. Electronic Marketing is the lifeline of modern commercial enterprise. In order to survive in the modern business, through online activities marketers have to satisfy the needs of customers profitably and have long term relationship with them. Electronic marketing through transforming marketing strategies during different stages of marketing like segmentation, targeting and positioning, create value for the customers (Vibhor 2010). The motive of marketing remains the same satisfying consumers by making a strategy to deliver the proper message for correct customer, the only thing has changed is the means of communication, as Smith and Chaffey (2001) have remarked that E-Marketing through proper application of online technologies achieving the marketing objectives.

According to Haines, (2001) Electronic marketing had been identified as critical part for the overall modern marketing efforts and has started with measureable outcome. E-marketing growth depends not exclusively on technical infrastructure, which pulls in the possibility of communication and acknowledgement of the transaction through the net, but also on the proper relationship between buyers and sellers, where most important is trust (Kossecki et al, 2003). In last few years tremendous growth of internet users and huge development of internet has been noticed, but due to unethical practices in the online environment customers avoid making purchase in online markets. Along with the huge growth in Electronic marketing, number of unethical practices have taken place like spamming, privacy, spyware and many more. As opined by Jeurissen (2006) marketers use the unethical ways for collection of personal information to identify target markets effectively. We have no universally definition of ethics, but one way to assign it is provided by Magee (2003) as the Philosophical reflections on how we should be, and thereby what is correct or wrong, good or vicious, should or should not be done, duty, and other inventions of this sort.

With deference to commercial enterprise and marketing work environment that make use of information processing systems and the Internet, the ethics reflect the honorable values of managers, information specialists, and users. In FTC report (June 2005) it has been identified that except cookies, more than 70% computers have some form of spyware. Spyware has gone forth as one of the most severe scourges of the online market. Millions of people probably have spyware software on their computers, and no one acknowledges they have it. Or, they may have accorded to its installation by clicking their assent to a permission agreement that came with software that they downloaded. The spyware problem which is being faced by the online consumers, Federal Trade Commission (FTC 2005) defined Spyware as any software that without the consent of the internet user collects the data in an unethical way. Rowland and McDonald, (2000) also opined Spyware is an agent technology, which is packed within another bit of technology.

The review of the exiting literature on spyware has revealed that many researchers had done research on the different ethical issues of online marketing but only limited studies could be identified which reveals the detailed information about the ethical issue of spyware as well as no written report found regarding perceptual experiences of online consumers. So in order to fill the research gap detailed study regarding ethical issues of Spyware in E-Marketing and Structural relationship of genes determining the evolution of perceptions toward Ethical issues of spyware in E-marketing is in awful need. Sorkin,

(2001) opined, the unethical way to use the customer's personal information can negatively effects the reputation of business organisation and jeopardize its competitive advantage. Since online buyers are facing the problems of unethical practices of E-marketers, therefore their understanding for the spyware problem become a significant motive of study. Outcomes of the study would be more use full for the marketers to evolve the online marketing strategies and to put the comprehensive policy either concerned with spyware or privacy for their clients on the revelation of personal information in order to lessen their fears around secrecy.

It is universally recognized fact that good research cannot be made without critically studying what already exists in relationship to it in the course of general literature and specific work done by the researchers. The inspection of related literature, therefore, is seen as a fringe benefit to actual provision and performance of research study. Hence, for proper discernment of the research work, sincere efforts have been constituted to review the studies or variables associated to the Spyware issues in E-marketing.

Table 1: Concerns of researchers regarding spyware and related issues

| Factors | Variables | Researchers |
|---|---|---|
| **Control** | Monitor consumer's visits | CIS (2012) |
| | Misuse personal information | Jensen et al.(2005), Liu et al.(2005), Pan & Zinkhan (2006), Gefen et al. (2003), Cheung and Lee (2006), Hui et al. (2007) |
| | Collects personal data | Paine et al. (2007), Micu et. al. (2010) |
| | Violate privacy | Wang Lee & Wang (1998), Sally (2006), Wills & Zeljkovic (2011), |
| **Unawareness** | Downloading free software | Human Capital (2009), CIS (2012), Arnold and Reynolds (2009), Crowe and Higgins (1997) |
| | Installed automatically | Sandra (2008), FTC (2008) |
| | Unknown software | AOL (2004), Moshchuk et al. (2006) |
| | Prior consent | CIS (2012), Zhang (2005) |
| | Major problem | Jaeger and Clarke (2006) |
| **Unsecure** | Consumer's awareness | CIS (2012), Freeman and Urbaczewski (2005), Zhang (2005), Qing and Tamara (2005) |
| | Contract law | Hui et al.,(2007), Pan & Zinkhan(2006), Jensen et al.(2005), Gefen et al., (2003), Cheung and Lee (2006) |
| | Visit unknown websites | Micu et. al. (2010) |
| Beneficial for Hackers | | Tynan (2000), Keeney (1999), Petronas and Seri (2001) |

While making purchases online some time unknown software gets ***installed automatically*** without the buyer's permission. As per FTC (2008) Malware is malicious software; it is concerned with virus system that get installed without the knowledge or consent of internet users and spyware programs also get installed without user's consent to manipulate or supervise their computer activities. Sandra (2008) opined companies are concerned with the practices of collecting data from online visitors. Some marketers, spy on their users by tracking what they manage online.

To avert the problems of spyware, consumers should avoid ***downloading free software***. A survey (Human Capital, 2009) found that in digital market as far as downloading of free music through online are concerned consumers do not feel hesitate. To avoid spyware problems download software only from known and trustworthy sites and customer should not click on the links of spam email and on links in pop-up windows (CIS, 2012). In comparison to prevention focused consumers promotion concerned customers are

take more risk as far as those who have prevention focused concern, like utilitarian shopping experiences (Crowe and Higgins 1997, Arnold and Reynolds 2009).

There must be ***Contract law*** in downloading and installing fee or paid software. Consumers privacy concern decrease with the marketer's privacy policy effectiveness and clearest to the customers (Hui et. al.,2007; Pan & Zinkhan, 2006; Jensen et. al.,2005). Consumers trust e-marketers if they have policies and contract's provisions (Gefen et al., 2003) and they have no concern for problem of privacy, like any marketer giving personal information to any other party (Cheung and Lee 2006).

Now days one of the major problems in the online market consumers is facing is while downloading the known software ***unknown software*** also comes installed along their computers without consent. In AOL (2004) it was reported that majority of computers in the United State are spyware infected. Moshchuk et al. (2006) revealed Spyware is a kind of unknown software that unethical way collect or gather private data about consumers without their consent.

Number of times we look while buying online, consumers ***visit to unknown websites*** which later on may become the crusade of the spyware problem. Number of applications have been developed as more consumers have started surfing the unknown internet sites and searching for the required information (Micu et. al. 2010).

With spyware unethically ***collected information may be misused*** by the E-marketers. Liu et al. 2005 opined E-marketers can reduce the fear of consumers regarding privacy concern of personal information because it is in the hand of the companies to decide how to hold and use the personal information of consumers. To decrease consumer's privacy problem companies needs to disclose their privacy policies (Jensen et al., 2005; Hui et. al., 2007; Pan & Zinkhan,2006). Consumers would start trusting the online companies if they would have clear cut privacy policy and are not worried about privacy problems, like delivering the private data to other agencies without the consent of consumers (Gefen et al. 2003, Cheung and Lee 2006).

Spyware installation occurs without ***prior consent*** or knowledge of the users. CIS (2012) report revealed that online user's information can be collected and misused by the culprits with the use of spyware software, which get installed without the knowledge of users. Zhang (2005) also warned about the spyware that monitors online user's actions.

Marketers ***collect the personal information*** of consumers without their consent by using spyware. Paine et al. (2007) opined the consumer's main concerns around online privacy or spam, spyware, viruses, and hacks. Consumers in a store may be necessitated to supply some personal data. For online purchase the customers are required to enter personal information for every transaction, which can be perceived as riskier. The bulk of Internet users have problems related with the different types of virus or spyware (Micu et. al. 2010).

***Mostly Consumers are aware*** that their computers are affected with spyware and they should take preventive measures. To ward off the spyware problem user should use the anti-virus techniques and must keep it updated to have security from spyware problem (CIS, 2012). Zhang, (2005) investigated the awareness level about the spyware and Urbaczewski (2005) identified why consumers hate Spyware. Qing and Tamara (2005) had revealed same in another study and have believe in educating the online user's regarding spyware along with how they can overcome the same issue.

Spyware ***violate the privacy*** of online consumers as creation of this problem includes the unethical information's recording, gathering, or misuse (Wills & Zeljkovi 2011, WangLee & Wang,1998). Spyware software deals with the unethical acquisition of data from a private data processor connected to the internet (Sally, 2006). Spyware allows hackers and marketers to ***monitor consumer's visits*** online. Some hackers use spyware programs to check and monitor the user's online activities (CIS, 2012). Spyware has been

exposed as a ***major problem*** as compared to other unethical problems. It was found consumers treat Spyware as a problem and they have changed their shopping habits (Jaeger and Clarke, 2006).

Spyware has utility for the hackers they can find the data by hacking the websites. According to Tynan (2000) as far as web environment is a concerned consumer do not perceive it good, they assume their personal information will be misused by the hackers. Keeney (1999) opined online market can be construed as an evil parallel universe to collect the information from hapless shoppers by the marketers.

## RESEARCH METHOD

As has already been discussed above, Wilsker (2002) opined that spyware record all the online activities and transfer the same to a server who accumulate recorded information with other personal information. In order to explore factors of spyware concern in e-marketing and their influence on the perception regarding spyware in e-marketing both quantitative and qualitative research methods had been adopted but more emphasis was laid on the quantitative research. The qualitative research method was only used with a goal of gaining insight into the spyware problem in E-marketing and related ethical concern.

In the present survey, the respondents were chosen based on judgment sampling (Non-probability sampling technique) and only those souls had been included who were exposed to E-marketing. The proposed sample size for the survey was 600, a total survey questionnaires sent were 640 and among these 598 were taken in. Apiece of the responses received had been blocked out for errors, incomplete or missing responses. Attempts had also been taken to contact those respondents who had given incomplete data. Nevertheless, the questionnaires having more than 25% of the questions left unanswered had been cast out from the data analysis. The midpoint scale of 3 was attributed to the other remaining questionnaires which were receiving less than 25% of the questions unanswered. After the screening process only 568 respones were found complete and valid for data analysis that represents a success rate of 94.66%. Initially the questionnaire was pre-tested and revised appropriately. Various techniques were used to test the validity and reliability. Series of diagnostic measures were relied upon to assess internal consistency as no individual method is considered to be perfect (Hair et al., 2009). Several procedures are there to compute the reliability and validity. As single method is not perfect so in the present study we had relied on a series of diagnostic criteria, they have been discussed in the present paper at their required places.

To examine the causal relation existing between the variables in the present study the null hypotheses formulated in a more liberal way: Ho There is no significant connection between the perceptual factors extracted with regard to spyware ethical issue of e-marketing and the posture of the respondents towards the spyware ethical issue.

Spyware is the major problem for the online consumers as the strange aspect of spyware software is that it has often been downloaded as well as installed by the internet users, but without their knowledge or consent. So in the present paper objective is to study consumer's perceptions towards the spyware ethical issue in E-marketing. To fulfill this aim by using Psychological Reactance as the framework, an attempt has been gained to understand consumer perceptions towards spyware issues in E-marketing.

In order to find out the consumer's perception regarding ethical issue of spyware a scale has been framed after consulting and reviewing the studies as shown in literature survey. The variables were chosen after consultation with professional in the information technology discipline and literature support. These mentors or professional were directly or indirectly involved with online shopping or marketing. At the end total 13 variables were

selected to obtain the perceptions of the respondent towards ethical issues of spyware in E-marketing. By applying Scale reliability analysis, one item i.e. "Spyware Beneficial for hackers" was removed from the set of items resulting into 12 items as shown in table two.

Item wise reliability analysis was executed on selected variables for building up a correct scale. The scale generated for this objective was refined and purified for reliability validity and unidimensionality. To ensure the scale reliability Cronbach's alpha statistics was employed and the inter item correlation was also performed in table 2.

Table 2: Scale Reliability Analysis: Spyware

| Variables | Initial | Extraction | mean | Std. Dev. | Corrected Item total correlation | Cronbach's Alpha |
|---|---|---|---|---|---|---|
| Installed automatically | 1.000 | .592 | 3.22 | .925 | .501 | .885 |
| Downloading free software | 1.000 | .639 | 3.21 | 1.085 | .531 | .881 |
| Unknown software | 1.000 | .583 | 3.34 | 1.082 | .565 | .879 |
| Prior consent | 1.000 | .610 | 3.34 | .870 | .627 | .876 |
| Major problem | 1.000 | .558 | 3.30 | .820 | .641 | .875 |
| Misuse personal information | 1.000 | .697 | 3.31 | .957 | .605 | .887 |
| Monitor consumer's visits | 1.000 | .703 | 3.35 | .931 | .600 | .877 |
| Violate privacy | 1.000 | .696 | 3.28 | .913 | .688 | .873 |
| Collects personal data | 1.000 | .667 | 3.40 | 1.029 | .589 | .878 |
| Contract law | 1.000 | .732 | 3.43 | .931 | .667 | .874 |
| Visit unknown websites | 1.000 | .682 | 3.36 | 1.037 | .602 | .876 |
| Consumers' awareness | 1.000 | .694 | 3.43 | 1.095 | .527 | .881 |
| **Item mean:** Mean=3.334, Minimum=3.215, Maximum=3.445, Range=.231, Max/Min=1.072, N=12 | | | | | | |

PCA is used with the Factor analysis technique and the scale reliability is done for extracted factors. Table 4 shows three factors namely: *control*, *unawareness* and *unsecure* are extracted by applying the factor analysis on the twelve variables. Minimum three scale items are there to explain the extracted factors.

The Cronbach's alpha of scale is.887 (Table 4) indicating good reliability measures for the scale (Cronbach, 1990). Also the corrected-item-total correlation > 0.5 and within the items the correlation is $\geq$ 0.3. Here, it is apt to mention that corrected-item-total correlation > 0.5 and within item correlation >0.3 (Table 2 &3) is fit for reliability of the scale (Hair et al. 2009).

Table 2 shows the value of communalities varies from.558 too.7321which is good enough as communalities >0.5 is sufficient for the explanation of constructs (Hair et. al.,2009). Therefore we can conclude factors analysis has extracted good quantity of variance in the items. Hence, all the requirements of Validity, reliability, and unidimensionality are met.

A Pearson Correlations coefficient has been used to examine the Correlations of all variables with each other. The correlation matrix as shown in Table 3 indicate there is quite satisfactory correlation among different items and is also significant.

Table 3: Correlation Matrix of Spyware's Variables

| | SW1 | SW2 | SW4 | SW7 | SW12 | SW6 | SW11 | SW10 | SW8 | SW3 | SW5 | SW9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SW1 | 1.000 | | | | | | | | | | | |
| SW2 | .622 | 1.000 | | | | | | | | | | |
| SW4 | .505 | .596 | 1.000 | | | | | | | | | |
| SW7 | .376 | .596 | .640 | 1.000 | | | | | | | | |
| SW12 | .508 | .592 | .590 | .523 | 1.000 | | | | | | | |
| SW6 | .228 | .299 | .362 | .350 | .355 | 1.000 | | | | | | |
| SW11 | .289 | .269 | .300 | .388 | .304 | .636 | 1.000 | | | | | |
| SW10 | .323 | .311 | .379 | .443 | .467 | .587 | .624 | 1.000 | | | | |
| SW8 | .219 | .265 | .347 | .381 | .443 | .564 | .568 | .592 | 1.000 | | | |
| SW3 | .378 | .343 | .383 | .432 | .510 | .452 | .389 | .489 | .398 | 1.000 | | |
| SW5 | .315 | .303 | .332 | .365 | .400 | .407 | .407 | .516 | .357 | .619 | 1.000 | |
| SW9 | .282 | .297 | .284 | .330 | .441 | .306 | .344 | .376 | .310 | .552 | .587 | 1.000 |

**Inter–item correlation:** Mean=.406, Minimum=.220, Maximum=.640, Range=.420, Max/Min=2.909 ,Variance=.011, N=12

All these requirements are sufficient for validating factor analysis. The three factors (*control*, *unawareness* and *unsecure*) classified using the factor analysis is shown in the Table 4. Factors with loading ≥0.5 are considered well as far as present scale is concerned loading varies from .564 to .800. The three factors so generated have Eigen values ranging from 1.013 to 5.473. The results are also validated as shown in table 5.

Table 4: Ethical Issue of Spyware (Varimax-Rotated Results and Scale Reliability)

| **Variables** | **Factors** | | |
|---|---|---|---|
| | **Control** | **Unawareness** | **Unsecure** |
| Monitor consumer's visits | .800 | | |
| Misuse personal information | .793 | | |
| Collects personal data | .775 | | |
| Violate privacy | .722 | | |
| Downloading free software | | .780 | |
| Installed automatically | | .726 | |
| Unknown software | | .687 | |
| Prior consent | | .678 | |
| Major problem | | .564 | |
| Consumers' awareness | | | .797 |
| Contract law | | | .754 |
| Visit unknown websites | | | .748 |
| **Eigen Value** | 5.473 | 1.348 | 1.013 |
| **% Variance** | 45.610 | 11.230 | 8.443 |
| **Cumulative % Variance** | 45.610 | 56.840 | 65.283 |
| **Scale Reliability alpha** | .855 | .802 | .786 |
| **Cronbach'sAlpha=.887, KMO =.886, Bartlett'sTestofSphericity Approxmation ChiSquare= 3068.981, df= 66, Sig 0.00, mean= 39.97** | | | |

**Control (F1):** The first factor labeled "*Control*" only has 45.610% of the total variance. Scale Reliability alpha of present factor is .855. This factor includes four variables; i.e. *Monitor consumer's visits, Misuse personal information, Collects personal data* and *Violate privacy*. The results indicate marketers do not follow the ethical practices on the internet; they use the unethical procedures to collect the consumer's personal information for their own marketing purposes. The results revealed that in the case of E-marketing customers have no "*control*" on personal information as spyware leads to monitoring the consumer's visits, collecting personal data, Misusing personal information and also violating the privacy without the consent of the consumer and even without his knowledge. In order to develop positive attitude of consumers, marketers must restrict the above stated unethical practices. Here it is important to note that loading ranges from .722 to .800 for the present factor and the Eigen value is 5.473. The item to correlation with total and within item correlation varies from .589 to .688 and .666 to .718 respectively.

**Unawareness (F2):** Second factor has been labeled *"Unawareness"* as concerned five variables revealed the consumers are not aware regarding Spyware problems and they do not know how to deal with it. So to develop favorable perceptions of consumers, marketers must get prior permission from user for installation of any software in their personal computers or make them technically strong enough to deal with unknown software installed through their marketing websites. The items included in this factor are: *Downloading free software, Installed automatically, Unknown software, Prior consent and Major problem.* 11.230% of the total variation has been explained by the factor with loading range from .564 to .780. Item to total and inter item, correlation ranges from .501 to .641 and .553 to .627 respectively. Scale Reliability alpha of present factor is .802 and it covers 1.348 of the Eigen value.

**Unsecure (F3):** Factor third is extracted from another three variables; i.e., *Consumers awareness, Contract law* and *visit unknown websites*. It has been labeled as *"Unsecure".* This category's results indicated that consumers are not aware regarding spyware problem and some time they get involved in unknown websites by mistake which become the cause of the insecurity of their personal information. As far the regulations are concerned there is no contract law which can prevent consumer's interest against the problem of Spyware. Third factor is explaining 8.443% variation and loading ranges from .748 to .797. The inter item correlation ranges from .592 to .683 and item to total correlation ranges from .527 to .667. Scale Reliability alpha of present factor is .786 and it covers 1.013 of the Eigen values.

Taking Table 5 into account, an attempt has been made to validate the factor analysis results (extracted factors) to reveal the respondents perception toward ethical issue of spyware in E-marketing by calculating "Correlation between summated scales" and "Correlation between representative of factors and summated scales". Multicollinearity has not been there as the score of the correlation between the three factors for ethical issue of spyware in E-marketing was less than .492, so they are independent from each other.

Table 5: Validating the Spyware's Factor Analysis Results
Table 5(a) Summated scales: Correlation

| **Factors** | Control | Unawareness | Unsecure |
|---|---|---|---|
| Control | 1 | | |
| Unawareness | **.492**** | 1 | |
| Unsecure | .417** | .433** | 1 |

Table 5(b) Representatives factors and Summated scales: Correlation

| **Variables/Factors** | Control | Unawareness | Unsecure |
|---|---|---|---|
| Monitor consumer's visits | **.830**** | .406** | .435** |
| Downloading free software | .315** | **.739**** | .367** |
| Consumers' awareness | .401** | .421** | **.828**** |

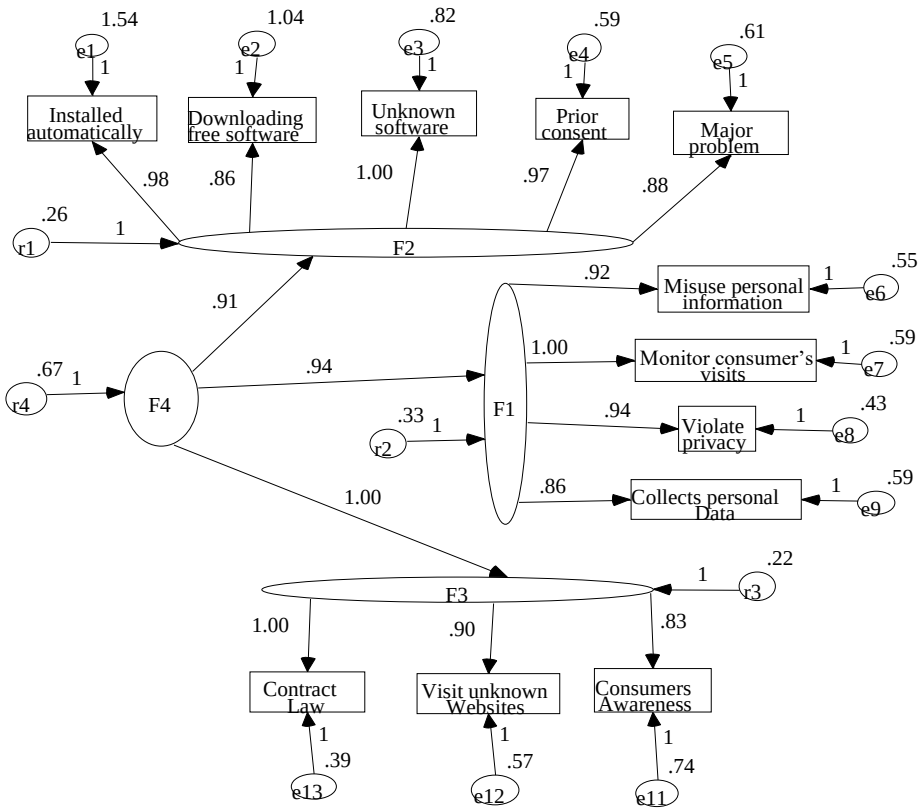
As already identified communalities varies from .558 to .732. As far as the Eigen value and communalities are concerned they are greater than 1.0 and 0.5 respectively for sufficient explanations of constructs. Here it is also significant to highlight that the correlation among summated scales and representative variables was high (> 0.5) and it was low among summated scales (< 0.5) to validate the factor analysis results (Hair et al., 2009).

To find out the causal relationship among the constructs of spyware and their underlying suitability, Structural equation modeling (SEM), is used with Amos software with maximum likelihood estimation which include the path analysis and measurement model.

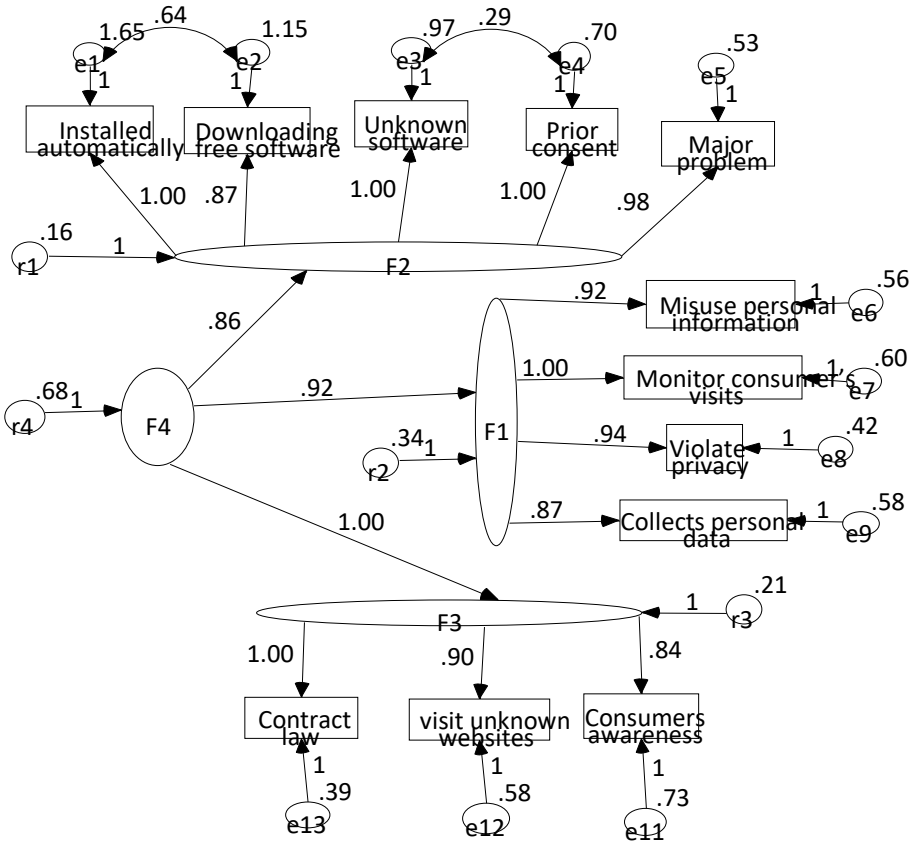
Table 6: Fit Indices along Guidelines for Model fit Analysis

| **Fit-Index** | ChiSquare | CMIN/DF | NFI | TLI | GFI | AGFI | RMSEA | P |
|---|---|---|---|---|---|---|---|---|
| **Recommended** | **** | Between 1 and 5 | >0.9 | >0.9 | >0.9 | >0.9 | <0.05 | <0.05 |
| **Model Values** | 134.522 | 2.745 | 0.957 | 0.962 | 0.963 | 0.940 | .052 | 0.00 |

A structural model was proposed to investigate the relationship of perceptual factors and consumer's online behaviour or perception towards ethical issue of spyware in E-marketing.



The proposed model (Fig 1) shows the values of RMR, RMSEA, AGFI, RFI and TLI are not according to given guidelines in table 6. Hence the necessary modification was made based on modification index, standardized residual values, regression weights etc. Finally, the model was modified as shown in figure 2. A proposed structural relationship has not been found significant as four variables of Unawareness factor have influence on each other. Hence to calculate the acceptable Fit indices values the relationship between "*installed automatically and "downloading free software*" or "*unknown software and prior consent*" have been indicated in fig 5.6. The values for chi-square, various fit indices, level of significance and effect of factors/items on Spyware are given in table 5 & 6.




The figure 2 shows that the *Unsecure* (Coded F3) factor has path loading from .84 to 1.00. The results show that the loading of *Contract Law* (1.00) played a more dominating role for this factor. All the loading is different and sufficient to explain this factor. The path loading of this factor on Spyware is 1.00 which is higher as comparable to other factors which implies this factor is more important. As far as the second factor *Control* (coded-F1) with .92 loading explains path loading on factor ranged from .87 to 1.0. The path loading of 1.0 for *Monitor consumer's visits* and 0.98 for *Violation of Privacy* show that these items play a more important role for developing respondent's perceptions toward Spyware issue in E-marketing as comparing to other items. Path loading for the *Control* factor is .92 which is second highest. The other variables in this factor are *Misuse personal information and Collects personal data;* all these are loaded significantly. E-marketers with the help of Spyware software monitor the consumer's online visits and misuse the collected personal information which leads to violation of Privacy. The path loading on *Unawareness* (coded-

F2) factor has the range from .87 to 1.00. There are five items in this factor with significantly loaded. Here it is noticed that path loading of three items; *installed automatically, Unknown software and Prior consent* are same (1.0) which shows the closeness of these items. The path loading of this factor on *Spyware (Code F5)* is .87 which is least as compare to other factors. Another thing which is important to note in the factor is the relationship among *Installed automatically* and *downloading free software* as well as between *Unknown software* and *Prior consent which has been represented by an arrow; both items influence to each other. The* results reveal that Spyware software has become a major problem as no permission has been taken before installing unknown software. The overall results reveal consumers are not more aware regarding spyware problems as they go for visiting unknown website for shopping and by mistake they get installed spyware software which becomes the cause of the insecurity of their personal information.

Here it has been identified, the effect of each individual factor and variable (constituting factors) upon respondent's perception toward ethical issue of spyware. A comparison has also been made among proposed model and modified model given in the table 7.

Major variance in the ethical issue of Spyware in E-Marketing is explained by two factors *Unsecure* and *Control* has been identified with the path analysis. The total effect estimate showed that this effect was high for *Unsecure* (1.000) and *Control* (.917). It was least for Unawareness (.863). Here, it is also interesting to note in case of items total effect was very high for *Contract law* (1.0) and *Monitor consumer's visits* (0.917); hence, these items play important role in developing consumer's perception toward Spyware issue in E-marketing. The other items also showed significant path loading.

Table 7: Effect Estimates of Perceptual Factors Affecting Consumer's Perceptions

| **Factors and Variables affecting consumer's Perceptions toward Spyware issue in E-Marketing** | **E-marketing Decisions Effect Estimates** | | | **Comparison of Models** | |
|---|---|---|---|---|---|
| | **Total** | **Direct** | **Indirect** | **Figure 1** | **Figure 2** |
| **Control** | **.917** | .917 | 0.000 | Chi square= 305.655<br>DF= 51<br>RMR= 0.083<br>RMSEA= .094<br>0.060<br>GFI= 0.921<br>AGFI= 0.878<br>PGFI = 0.602<br>NFI = 0.902<br>RFI = 0.874<br>IFI = 0.917<br>TLI = 0.892<br>CFI = 0.917<br>Significance Level= 0.000<br>The model is insignificant as RMR, RMSEA, AGFI, RFI and TLI are not according to given guidelines in table 5 | Chi square= 134.522<br>DF= 49<br>RMR= 0.042<br>RMSEA= .052<br>GFI= 0.963<br>AGFI= 0.940<br>PGFI = 0.605<br>NFI = 0.957<br>RFI = 0.942<br>IFI = 0.972<br>TLI = 0.962<br>CFI = 0.972<br>Significance Level= 0.000<br>The model is significant as RMR, RMSEA, AGFI, RFI and TLI are according to given guidelines in table 5 (DF difference is 2) |
| **Unawareness** | **.** 863 | **.** 863 | 0.000 | | |
| **Unsecure** | **1.000** | 1.000 | 0.000 | | |
| Monitor consumer's visits | **.917** | 0.000 | .917 | | |
| Misuse of information | .847 | 0.000 | .847 | | |
| Collects personal data | .795 | 0.000 | .795 | | |
| Violate privacy | .865 | 0.000 | .865 | | |
| Downloading free software | .747 | 0.000 | .747 | | |
| Installed automatically | .863 | 0.000 | .863 | | |
| Unknown software | .863 | 0.000 | .863 | | |
| Prior consent | .861 | 0.000 | .861 | | |
| Major problem | .897 | 0.000 | .897 | | |
| Consumers' awareness | .835 | 0.000 | .835 | | |
| Contract law | **1.000** | 0.000 | 1.000 | | |
| Visit unknown websites | .897 | 0.000 | .897 | | |

The perceptual factors of spyware issue have significant path loadings that have been calculated to identify the perceptions towards ethical issue of spyware hence the hypothesis has been rejected as "*Control*, *unawareness* and *unsecure*" have significant association to frame perceptions towards the ethical issue of spyware in E-marketing.

The results revealed that as far as online marketing is concerned consumers have no "control" as spyware become the cause of monitoring the consumer's surfing, recording or misusing personal information along violating the privacy without the consent of the consumers and even without their knowledge. As far the regulatory parts are concerned in this ethical issue there is no contract law which can prevent consumer's interest against the problem of Spyware.

In the present paper sample size is 568 that represent small proportion of the entire online population in the Chandigarh and Punjab. Therefore, to ensure more generalized findings of the study larger sample size would be required. Another limitation, the study was only concerned with shopping behavior of individuals. But Punjab and Chandigarh being a collectivistic State and UT, most of the shopping happens in a family set up so family shopping behavior might have interesting findings. On another side the present study was exploratory in nature and primarily having quantitative methodology orientation. Therefore, for future research qualitative methodological work is suggested. For instance, to provide a holistic picture to the given subject, content analysis and case study research design can be employed. The present research was focused on a developing State that is Punjab but there is a need for cross culture or cross-country comparison studies to identify disparate and common factors related to E-marketing perceptions.

## CONCLUSION

Spyware is not an important ethical issue in online business as it not only breaches the consumers trust and leads to insecurity, it also affects the company's brand image and company's profit for the long haul. The foregoing findings and discussions reveal that the present study of Ethical issue of spyware in E-marketing has theoretical as well as practical implications. The results revealed that customers have no control on their personal information as spyware software get installed in the PCs and monitors the online activities of users along with misusing the personal information and also violating the privacy without consumers knowledge even without the consent. The results revealed that the online consumers are unaware regarding Spyware problems and they do not know how to deal with it. As the result the consumers felt more "Unsecure" while transacting on web because of their ignorance in this regard. In the study most of the variance for the issue of Spyware is explained by two factors "Unsecure" and "Control". The results indicated that respondents felt they are not safe or secure online because they do not know when any unknown software will get installed even without consent and their personal information is collected.

Customers have no control on their personal information that has been collected by unintentionally installed software. So in order to develop positive attitude of consumers toward E-marketing marketers should avoid the unethical practices in E-marketing such as installing unknown software for collecting consumer's personal information and misusing the same. Moreover, consumers should avoid visiting unknown websites and installing unknown software.

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