





# Cyber Insurance – A Rising Market in India

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#### **ARTICLE HISTORY**

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**EDITORIAL BOARD EXCERPT** Primarily at the Time of Submission (ToS) submitted paper had a 11% plagiarism which is a time-honored percentage for publication. The editorial board is of an observation that paper had a consecutive close watch by the blind reviewer's which at a later stages had been put right and amended by an authors (gajapathy & reshma) in various phases as and when required to do so. The reviewer's had in a preliminary stages comment with minor amendment with a subsequent declaration which at a short span restructured by an authors. The comments related to this text are extremely noticeable related to Cyber Insurance both subjectwise and research wise by the reviewers during assessment and further at blind review procedure too. The subject matter of the paper is truly thematic and it's the need of the hour to perform a detail study on cyber insurance in the growing globalized cyber space. The authors have put empirical evidence to authenticate the study. The literature review could have been more in-depth but we understand the lack of literature in the concern area. Cyber-crime is a vast area which could have been elaborated more. The conclusion and discussion are well suited in today's context. All the comments had been shared at a variety of dates by the authors' in due course of time and same had been integrated by the authors in calculation. By and large all the editorial and reviewer's comments had been incorporated in a paper and further the manuscript had been earmarked and decided under "Empirical Research Paper" category as its highlights and emphasize the work in relation to Cyber Insurance - A Rising Market in India

**ABSTRACT** Digital Marketing capturing Global markets into its stride and huge revolution happening in the way the business transactions are being carried on, there has been an invent of many risks associated with it. Digitization with its opportunities has also uncovered dangers such as data theft, hacking, theft of identity etc. These dangers have been taken care at various levels of processes through software designing with integral safety of operations. Every phase has been designed with lot of attention and care over a process of modernization and progression.

After all such security levels, still the possibility of risk is experienced, which leaves the victim with huge financial loss and in some situations the liability goes beyond the bearing capacity of an individual or an organization. The solace for these victims is cyber insurance. The Insurance companies cannot prevent the cyber-crimes however, they are a big boon for reducing the financial loss in the happening of an event. Even though cyber insurance is a matured market in the west, it is still at an infancy stage in India. This paper analyzes the market for cyber insurance in India and the awareness of it among the digital marketers. It also studies the current policies available and its adequacy to the current market situation and its scope. It has been evident that, India has a huge market for Cyber Insurance and it will have a huge growth in days to come.

### **KEYWORDS** Digital Markets | Risk | Cyber-crime | Cyber Insurance | IRDAI

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### Introduction

With Digital Marketing taking the Global markets into its stride and huge revolution happening in the way the business transactions are being carried on, there has been an invent of many risks associated with it. Online services such as online shopping, net banking, phone banking, air, train and bus ticket bookings, planning holidays, educational services and IT services has ensured we live an easy life and have access to all information at our finger tips. However, all these services are available to us because of the laborious hard work accompanied with highest level of dedication and commitment to keep the system running in the background so that we enjoy a flawless service. Every phase has been designed with lot of attention and care over a process of modernization and progression.

Digitization with its opportunities has also uncovered dangers such as data theft, hacking, theft of identity etc. These dangers have been taken care at various levels of processes through software designing with integral safety of operations. After all such security levels, still the possibility of risk is experienced, which leaves the victim with huge financial loss and in some situations the liability goes beyond the bearing capacity of an individual or an organization. The number of cyber-crimes is increasing rapidly and the statistics says that India is prone to one cyber-crime in every ten minutes.

Below is the table showing the number of cybercrime cases reported from 2009 to 2017. The above table indicates the surge in No of cybercrime cases reported in India since 2009. This has elevated thoughtful apprehensions concerning our readiness to handle cyber-crime and its consequences on entities and society in total.

The above scenario led to the offering of Cyberinsurance product. This is an insurance product which protects individuals and organizations from internet based risks. It covers business liability for any sort of data breach which has negotiated the financial safety of the individual users.

Cyber-insurance market is relatively small when compared to other insurance products and in India it has been launched very recently and only a couple of insurance providers are offering this service.

### Literature Review

Cybercrimes have risen with the increase in Globalization. The machineries of government moving towards a cashless society should also ensure that policies and steps are taken to protect the end users of the same. Cyber insurance should be an area where the government should definitely look into (Sreemathi Raghunandan and KalyaniGorti, 2016). In his research, Bharadwaj (2016) brings forth the importance of Cyber Insurance in today's scenario. It also highlights that we do not have a mechanism in place to address these issues and as of now few private companies are offering cyber insurance to private companies which store data of individuals. In their paper, the emphasis was that though Cyber Insurance has not garnered importance in the current scenario, Dr. Purietl (2016), expressed it may not be

Year	2009	2010	<b>2011</b>	2012	2013	2014	2015	2016
No of cases Reported	696	1,322	2,213	3,477	5,693	9,622	11,592	12,317

Table-1. Source - NCRB

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long before it becomes a requisite for all business establishments and individuals. It is, further said, the responsibility of the Government bodies to ensure that appropriate measures are put in place to cover organizations against Cyber Risks.

39% of the respondents have encountered Cyber Attack by way of Virus Attack and the next being with Email Bombing which has led to an increased incidence of Data Violation.

# **Analysis and Interpretation**

### Frequent Cyber Attacks Encountered

Most Frequent Cyber Attacks	Email - Bombing	Data Snooping	Virus Attacks	Login Violation	Trojan Attacks	Internet Theft	Obscene mail	Total
Count	26	13	47	4	6	10	14	120
Percentage	22%	11%	39%	3%	5%	8%	12%	100%

Table-2. Source: Computed from the primary data.

Among the 120 participants, Virus Attack has been the major type of cyber-attack encountered by them with 47 participants being a victim of this form of cyber-attack, followed by Email Bombing with 26 victims, Obscene mail with 14 victims, Data Snooping with 13 victims, Internet theft with 10 victims, Trojan Attacks with 6 victims and Login Violation with 4 victims respectively.

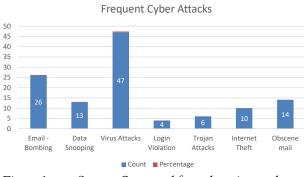


Figure-1. Source: Computed from the primary data.

### Count of Cyber Risks encountered and the Need for Cyber Insurance

Count of Cyber Risks Encountered							
		Never	1 time		5 - 10 times	More than 10 times	Total
Need for	No Need		1	2	1	1	5
Cyber Insurance	Maybe		1	3	1	2	7
	Neutral	2	7	4	4	17	34
	Needed	4	7	6	3	18	38
	Most Needed	4	9	4	2	17	36
Total		10	25	19	11	55	120

Table-3.

# **Objectives**

The study holds the following objectives:

- 1. To classify cybercrimes based on the frequency of attack.
- 2. To appraise the role of Insurance in combating cyber-attacks.
- 3. To examine the market for Cyber Insurance.

### Methodology

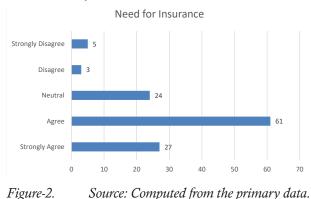
The Data was collected through Primary Source by way of Questionnaire. Considering the time and objectives the sample size has been optimized to be 120 respondents. The tools employed for the analysis are percentage, frequency and cross tabs.

Source: Computed from the primary data.

Among the total participants of 120, 110 participants have encountered cyber risks in their daily life. 74 participants feel there definitely is a need for Cyber Insurance in India.

We can conclude that 62% of the respondents who encountered Cyber Risks are positive that Cyber Insurance is the need of the hour.

### Need for Cyber Insurance



Among the total participants of 120, 61 respondents agree and 27 respondents strongly agree that there is a need for Cyber Insurance to protect them against cybercrime. So, we can conclude that 73% of the respondents agree for the need for Cyber Insurance.

#### Willingness to avail Cyber Insurance

Category		Avail Cyber Insurance				
		Yes	No	Total		
Need for Cyber Insurance	Strongly Agree	26	1	27		
	Agree	49	12	61		
	Neutral	10	14	24		
	Disagree	2	1	3		
	Strongly Disagree	4	1	5		
	Total	91	29	120		
Table-4.	Source: Computed from the primary data.					

Among the total participants who were asked to respond on the Need for Cyber Insurance, 88 participants i,e 73% responded that there is a need for cyber insurance and 8 participants felt that there is no need for cyber Insurance while 24 participants remained neutral to the need for cyber insurance. Of the 88 participants who felt the need for Cyber Insurance, 75 of them are positive on taking a Cyber Insurance to cover themselves against Cyber Risks. .

85% respondents felt the need for Cyber Insurance and have agreed to go in for cyber insurance coverage if the Indian Insurers offer the same.

# **Preference of Insurance Provider**

	Insurance Provider								
Cyber ance		Public Sector	Private Sector	Total					
Avail Cy Insurai	Yes	71	20	91					
Ava	No	21	8	29					
	Total	92	28	120					
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Table-5. Source: Computed from the primary data.

Among the total participants who were asked to respond on the preference of the Insurance provider, 92 participants responded that they will go in with a public sector insurance provider and only 28 participants are fine with going to a private insurance provider. Of the 91 participants who responded that they would go in for Cyber Insurance, 71 participants would prefer having them insured from a publicsector insurance provider and only 20 participants are ok with a private sector Insurance provider.

To sum up, 76% of the respondents would trust a public-sector Insurance provider to cover them for Cyber Insurance.

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# Conclusion

India, being one of the fastest growing economies in the world, is looking at increasing its presence in the Global markets and one of the major steps towards it is to build the Digital markets and to move towards a digitized and cashless society. Every effort is being focused in this direction. As attendants of the growth, the challenges are acute and one of the major areas that is being dealt with is the rapid increase in the cyber-crimes in India. The Indian Computer Emergency Response Team reports that a total of 27,482 cases of cybercrimes have been reported across the world. They also go on to add that one Indian is being a victim of cyberattack every 10 minutes.

Thus, Cyber Insurance has a major role to play in ensuring that the interest of the companies and individuals are protected. 85% of the respondents who have encountered cybercrime have felt the need for Cyber Insurance and have agreed to go in for cyber insurance coverage if the Indian Insurers offer the same. Since this being a new area in India, 76% of the respondents feel secure to protect themselves through Cyber Insurance being offered by a Public Sector Insurance provider and the Government should take mammoth step in putting in place the policies governing Cyber Insurance and the protection being offered along with affordable premiums.

### References

- Bharadwaj, Sree Krishna, and H Bba. 2016. "Cyber Liability Insurance in India: Growing Importance." Imperial Journal of Interdisciplinary Research 2(1): 2454–1362.
- 2. Böhme, Rainer, and Gaurav Kataria. 2006. Workshop on the Economics of Information Security Models and Measures for Correlation in Cyber-Insurance.
- Camillo, Mark. 2017. "Cyber Risk and the Changing Role of Insurance." Journal of Cyber Policy 2(1): 12. https://www.tandfonline.com/ doi/full/10.1080/23738871.2017.1296878.

- DenisDrouin. 2001. Information Security Cyber Risk Insurance. http://scholar.google.com/sch olar?hl=en&btnG=Search&q=intitle:Intrusion+ Detection+Is+Dead+.+Long+Live+Intrusion+ Prevention!#0.
- Franke, Ulrik. 2017. "The Cyber Insurance Market in Sweden." Computers & Security 68: 144. http://dx.doi.org/10.1016/j. cose.2017.04.010.
- 6. Hughes, Nick. 2017. "Liability and Insurance." Space Policy and Law Course (October): 8.
- 7. Industry, Insurance. 2015. Cyber Risks in Canada.
- Kumar, Jayendra, SharmisthaMukhopadhyay, and PritiPuri. 2016. "Cyber Risk Insurance-An Indian Perspective. Introduction." International Journal of Advanced Research Journal 4(7): 1270–78.
- 9. Kuru, Damla, and SemaBayraktar. 2017. "The Effect of Cyber-Risk Insurance to Social Welfare." Journal of Financial Crime.
- Makanda, Kondwani, and Hyunsung Kim. 2017. "Cyber Security Insurance Status in Malawi." International Journal of Applied Engineering Research 12(17): 6983–87. https://www. ripublication.com/ijaer17/ijaerv12n17\_90.pdf.
- 11. Mukhopadhyay, Arunabha et al. 2013. "Cyber-Risk Decision Models: To Insure IT or Not?" Decision Support Systems 56(1): 11–26. http:// dx.doi.org/10.1016/j.dss.2013.04.004.
- Pal, Ranjan. 2012. "Cyber-Insurance for Cyber-Security A Solution to the Information Asymmetry Problem." : 1–13.
- Pal, Ranjan, and Pan Hui. 2012. "Cyber-Insurance for Cyber-Security A Topological Take On Modulating Insurance Premiums." Performance Evaluation Review 40(3): 86–88.
- Raghunandan, Sreemathi, and KalyaniGorti. "Cyber Insurance – A Growing Need." IOSR journal of Business Management: 41.
- 15. Shackelford, Scott J. 2012. "Should Your Firm Invest in Cyber Risk Insurance?" Business Horizons.

- Yassir, Ammar, and SmithaNayak. 2012. "Cybercrime : A Threat to Network Security." International journal of computer science and network security 12(2): 88.
- Zhao, Xia, Ling Xue, and Andrew B Whinston. 2009. "Managing Interdependent Information Security Risks: A Study of Cyberinsurance, Managed Security Service and Risk Pooling." Information security: 18. http://aisel.aisnet. org/icis2009.

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The Editorial Board had used the ithenticate plagiarism [http://www.ithenticate.com] tool to check the originality and further affixed the similarity index which is 11% in this case (See Annexure-I). Thus the reviewers and editors are of view to find it suitable to publish in this Volume-10, Issue-3, July-Sep, 2018

# Annexure 1

CYBER INSURANCE			
	7	Submitted to Technische Universiteit Delft Student Paper	1%
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6 Submitted to Institute of Technology, Nirma University Student Paper	1%	Internet Source	<1%

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