



**ORIGINAL RESEARCH PAPER**

**Management**

**IMPACT OF DIGITIZATION ON INSURANCE IN INDIA**

**KEY WORDS:**

**Kapil Garg**

Assistant Professor, IT, Birla Institute of Management Technology, Greater Noida, India

**T.U. Fulzele**

Professor, E-Business, School of Management, IGNOU, Delhi, India,

**A.V.Shukla**

Professor, Marketing, Birla Institute of Management Technology, Greater Noida, India

**Introduction**

The future is difficult to predict, but it is not difficult to prepare for the future. The same is true for the insurance industry. Apart from new business, investment and various other environmental challenges, insurance industry face much bigger challenges such as change in customer needs, demographic shifts and emergence of new markets. Since the beginning of privatization in Insurance industry, scenario has dramatically changed with more number of companies providing both life and life products to customers and there number has increased from five in 2000 to around fifty today. The industry has seen dramatic shift all along its value chain in addition to regulatory changes, de-tariffing etc. The key challenges for the insurance industry is to drive sustainable and profitable growth. Some of the key trends are digital imperative, changing consumer needs and behaviour, ageing. And Digital is the most important change. Insurance industry is disrupted by new disruptive business models and it is visible life as well as non-life insurance (BCG Report 2014) It is well known that during Victorian period industry had no choice but to move from steam to electricity and to remain competitive, so the insurers will also require to work towards digital transformation (Accenture report 2014). Viewed in the context of India, it is on the threshold of digital revolution. Though online sales contribute small percentage but it is growing and shows positive trend.

The insurance industry in India has seen big change in last ten years. Economic liberalization has provided opportunity to the world's known insurance companies, who see India as one of the top prominent markets. The industry has seen phases of speedy growth and increase in competition in both life and general insurance. There have also been a number innovations made due to increased competition. Changed regulatory environment by IRDA had path-breaking impact on the growth and evolution of the industry

The available room for growth, sustainable outside growth drivers, and aggressive strategies would continue to drive growth. But Insurance companies would need to address the key issues around losses that continue to be an issue for various stakeholders. In order to achieve lucrative growth for long term ability to maintain the growth, insurers have two key essentials. Firstly, they would need to protect capital and make the best use of the available resource position and dispensation networks. Moreover, they would need to introduce new ideas not only in terms of value propositions but in terms of operating models in order to develop sustainable competitive edge. Do it yourself (DIY) option not only give s customers more control but also reduces the workload of service providers(Ding et.al 2007)

The future of Indian insurance industry is encouraging , the sector stood very strong at US\$ 72 billion in 2012 and could to grow to US\$ 280 billion by 2020(Naidu and Paramsivan 2015).

Use of information, business resources and technology is not new to the world. What has actually changed is the way it has transformed the businesses. Everyone wants comfort, convenience, communication (3Cs) at the click of a button and it is made possible only because of information technology has grown

over the years. Since its beginning internet has created an impact on education, entertainment, finance etc. It has brought people closer through improved communication via e-mail, instant messaging, and video conferencing. It has allowed consumers to buy virtually anytime through mobile. Now it is difficult to think of a world without internet. Today, Internet connects more than 3 billion people worldwide, out of which more than half of the people are from the developing world with an immense economic impact. Internet is contributing more \$4.2 trillion to G-20 economy (BCG Report 2012). Digitization and digitalization vastly reduce the cost of production and distribution and has improved the physical flow of information by the use of digital wrappers bringing efficiency to the system. Digital capabilities of companies will determine which company will gain or loss value.

According to Accenture-ICC study paper, digital transformation of insurance industry is being affected by four major changes, viz.:

- An increasingly empowered customer buying process
- Greater digitization of distribution of insurance products
- Value chain transformation to increase efficiency
- Potential for business growth

The digital interference that has changed sector after sector has come to insurance. Digital technologies provide opportunity to reduce cost as well as generate new streams of profitable revenue growth. Today more than 400 million Indians have internet connections. Now people in India spend more time on the internet than watching television. India's E-commerce revenue is expected to jump 120 billion by 2020. (Assocham-Forrester, 2016) and it is expected that digitally influenced sales of insurance will rise to eighty thousand crores by 2020.

Globally insurance has one of the highest percentage of users to buy or search for insurance as compared to other products. (Source: Google search data)

It is said that the chief beneficiary of insurance policies is the insurance agent. We have heard the news of how misselling makes news headlines every now and then, one wonders if relying on neighbourhood insurance agent is right thing to do. You never know, if the policy sold to you meets your needs or selling it gives the agent his highest commission. Even though buying an insurance policy, both life and nonlife involves offline processes, insurance portals help you to compare features and premium. The digital influence on Indian buyers and adoption of internet technologies is high compared to rest of the world and the growth is expected to be higher for Indian insurance industry.BCG projected that life insurance industry would grow to 3-5 percent which would be around 3,500-6,000 crore by 2020 and general industry would grow to 15-20 percent of non-life insurance retail business which would be around Rs. 15000-20,000 crore, up by 20 times. The influence of digital on insurance sales is 12 percent for life insurance, 14 percent for health insurance and 19 percent for travel insurance(BCG Report 2014).

Former practices of selling insurance are, becoming less sustainable. Digital mechanism give insurers the ability to address key customer problems in the industry to help improve (i) sales, (ii)

customer engagement and (iii) efficiency.

Five main themes are causing serious discontinuities and throwing up opportunities for incumbents and new players:

- Network of Brick and mortar store are fast getting irrelevant. The modern consumer gives priority to convenience and value for money. One is comfortable in purchasing online rather going for physical interaction with agents.
- Big data and analytics have broken entry barriers and replaced experience with competitive advantage of going digital.
- New platforms are making company interaction more "social" and mobile internet is driving customer interaction.

**Research Objective**

The primary objective of this research is to know the impact of digitization on Life and Non-Life Insurance industry.

**Research Methodology:**

To explore the trend of digitization in insurance and its impact on Life and non-life insurance industry in India, we have collected secondary data from IRDA website and for each of the insurance companies assigned a measure of the stage of digitization. Using this we have explored the impact of digitization on growth in revenue using various linear regression models. The details follow:

**Data Collection**

The list of websites has been accessed from Insurance Regulatory and Development Authority(IRDA) website (www.irda.gov.in).IRDA represent is an autonomous, statutory agency tasked with regulating and promoting the insurance and re-insurance industries in India It was constituted by the Insurance Regulatory and Development Authority Act, 1999, an act of Parliament passed by the government of India. The agency's headquartered at Delhi and it regulate 54 companies both life and non-life areas. These companies are differing in size, types of products sold, financial performance and ownership.

Data has been collected by performing Content Analysis of websites in Life and Non-Life categories in India and presence of elements have been coded to show the extent of digitization. UN-ASPA Five Stages of E-Government Model (2001) is used to identify the level of digitization (Table 2).

The population includes 30 Non-Life and 24 Life Insurance companies in public and private sectors. The study included all the websites of all the life and non-life insurance companies which are registered with IRDA in India (Table 1).

**Table 1: Number of Life and Non-Life Insurance Companies in India (February 2017)**

S.No.	Life Insurance Company	Non-Life Insurance Company	Total
1.	24	30	54

**Measuring the stage of Digitization**

We have taken the UN-ASPA's standard e-government model and have adapted the same for insurance companies.

**Table 2: UN ASPA's Standard E-Government Model**

STAGE	UN-ASPA Stage	Insurance Website Attribute
<b>Stage One-Emerging Web Presence.</b>	<ul style="list-style-type: none"> <li>• Site serve as a public information source</li> <li>• Static information on the government is provided</li> <li>• FAQs may be found</li> <li>• Contact information is provided.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact information</li> <li>• Company information</li> <li>• Insurance Overview/FAQs</li> <li>• Information about the products offered</li> <li>• Feedback forms</li> </ul>

<b>Stage Two-Enhanced Web Presence</b>	<ul style="list-style-type: none"> <li>• Access to specific information that is regularly updated.</li> <li>• A central government homepage may act as a portal to other department sites.</li> <li>• Useful document may be downloaded or ordered online.</li> <li>• Search feature, e-mail and area for comments are accessible.</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed product information</li> <li>• Media Centre</li> <li>• Link to other sites</li> <li>• Availability of various forms in PDF format</li> </ul>
<b>Stage Three-Interactive Web Presence</b>	<ul style="list-style-type: none"> <li>• A National government website frequently acts as portal.</li> <li>• Users can search specialized databases</li> <li>• Forms can be downloaded and/or submitted online</li> <li>• Secure sites and passwords begin to Emerge.</li> </ul>	<ul style="list-style-type: none"> <li>• Live Chat</li> <li>• Online claim intimation</li> <li>• Online claim tracker</li> <li>• Online Application tracker</li> <li>• Online Policy Status</li> </ul>
<b>Stage Four-Transactional Web Presence</b>	<ul style="list-style-type: none"> <li>• Users will be able to conduct complete and secure transactional online</li> <li>• The government website will allow users to customize a portal in order to directly access services based on specific needs and priorities</li> <li>• Sites will be ultimately secure</li> </ul>	<ul style="list-style-type: none"> <li>• Online Purchase</li> <li>• Online premium payment</li> <li>• Online account management</li> <li>• Security features-https</li> </ul>
<b>Stage Five-Fully Integrated web Presence</b>	<ul style="list-style-type: none"> <li>• Country provides all services and links through a single portal</li> <li>• No defined demarcation between various agencies and departments</li> <li>• All transactional services offered by government will be available online</li> </ul>	<ul style="list-style-type: none"> <li>• Single Window/One-Stop shop Instant/Free quotes</li> <li>• Online Insurance Market Place</li> </ul>

Source: UNASPA. 2001

**Quantifying the Stage of Digitization**

For each insurance company, we have the binary attribute representing digitization at identified stage as represented in Table-2, UN ASPA standard e-government model. From the 21 attributes spread across 5 identified stages, we compute for each insurance company, the proportion of attributes that are available for each stage in the company's respective website.

This gives the stage wise proportion(0,1) for stage1 (s1),stage2(s2),stage3(s3),stage4(s4) and stage5(s5).To determine a comprehensive measure that represents the "Stage of digitization" , we use the following transform. We compute a measure of the stage of digitization based on the proportion of insurance companies that have reached each of the 5 digitization stages.

$$\text{Stage of Digitization} = 0.5*s_1 + 1*s_2 + 2*s_3 + 3*s_4 + 5*s_5$$

Since more companies are expected to be in the earlier stages than in the later stages, we have lower weights for the earlier stages. Keeping this in mind, we have assigned a weight vector of (0.5,1,2,3,5) for the respective e-governance stages This score could potentially vary from 0 to 11.5. If all stage wise scores are zero, the overall score would also be zero whereas if each stage

wise score is a maximum of 1 then the overall score is  $0.5+1+2+3+5=11.5$ .

For the 54 insurance companies across life and general insurance we have a minimum score of 1.15 and a maximum score of 8.17. This set of scores represents, for our research purpose, the insurance company's stage of digitization on a 0-11.5 scale.

**The Growth Models**

We model the growth in revenue using both 2012-2013 and 2013-2014 as the base year. The current time frame is considered to be 2015-2016 as the current year. The predictor variables used are stage of digitization as computed and the base year revenue.

**The basic linear regression model proposed is**

$$ag_c \sim dig + rev_b + lg$$

where  $ag_c$  is the annualized growth from base year to 2015-16  
 $dig$  is the measure of digitization achieved by the concerned group  
 $rev_b$  is the base year revenue  
 $lg$  is a nominal variable indicating whether the record is for a "life" or "general" insurance company

**Research Findings**

We have run the model separately for insurance companies with high and low annualized growth respectively.

**Model 1:**

$$ag_{1215} \sim dig + \log(rev_{b1213}) + lgN$$

	Significance	Coefficient
Model	0.0011	
dig	0.0391	0.2792
lgN	0.0702	0.8728
$\log(rev_{b1213})$	0.0001	-0.6478

This model is very significant (p-val=0.0011). Base revenue for the year 12-13 is significant, with a higher base revenue indicating a significantly lower growth. Though there is no significant difference between "life" and "non-life" insurance companies in the growth, the non-life insurance companies show a marginally higher growth as compared with life insurance companies (coefficient=0.8728)

**Growth from 12-13 to 15-16 is significantly dependent upon the base revenue in 12-13 and the stage of digitization.**

**Model 2:**

$$ag_{1315} \sim dig + \log(rev_{b1314}) + lgN$$

	Significance	Coefficient
Model	0.0934	
dig	0.1223	0.0755
lgN	0.8498	0.0331
$\log(rev_{b1314})$	0.0175	-0.1511

This model is not significant (p-val=0.0934).

**Model 3:**

$$ag_{1215} \sim dig + \log(rev_{b1213})$$
 for Life Insurance Companies only

	Significance	Coefficient
Model	0.1558	
dig	0.3151	0.1743
$\log(rev_{b1213})$	0.0594	-0.2767

This model is not significant (p-val=0.1558).

**Model 4:**

$$ag_{1215} \sim dig + \log(rev_{b1213})$$
 for General Insurance Companies only

	Significance	Coefficient
Model	0.002835	
dig	0.06220	0.3503
$\log(rev_{b1213})$	0.00078	-1.0063

This model is very significant (p-val=0.002835).

**Growth of revenue from 12-13 to 15-16 for General Insurance Companies is significantly dependent upon the base revenue in 12-13 and the stage of digitization.**

This may be seen along with the findings of Model 1 – for all insurance providers, and it is interesting to observe that Life Insurance companies do not show a significant increase based on stage of digitization and base revenue.

**Model 5:**

$$ag_{1315} \sim dig + \log(rev_{b1314})$$
 for Life Insurance Companies only

	Significance	Coefficient
Model	0.4586	
dig	0.485	0.09095
$\log(rev_{b1314})$	0.225	-0.13421

This model is not significant (p-val=0.4586).

**Model 6:**

$$ag_{1315} \sim dig + \log(rev_{b1314})$$
 for General Insurance Companies only

	Significance	Coefficient
Model	0.03262	
dig	0.0738	0.07451
$\log(rev_{b1314})$	0.0132	-0.17584

This model is significant (p-val=0.03262).

**Growth of revenue from 13-14 to 14-15 for General Insurance Companies is significantly dependent upon the base revenue in 13-14 and the stage of digitization.**

This may be seen along with the findings of Model 2 – for all insurance providers, and it is interesting to observe that Life Insurance companies do not show a significant increase based on stage of digitization and base revenue.

Sl.	Records	Model p-val	Digitization p-val	Base Revenue p-val	Sig	Base year	Life / General
1	48	.0011	.0391	.0001	***	2012-13	LG
2	48	.0934	.1223	.0175	**	2013-14	LG
3	23	.1558	.3151	.0594	*	2012-13	L
4	25	.0028	.0622	.0008	***	2012-13	G
5	23	.4586	.4850	.2250		2013-14	L
6	25	.0326	.0738	.0132	**	2013-14	G

\*\*\* Very Significant  
 \*\* Significant  
 \* Marginally Significant

**Conclusion**

Growth in insurance companies is significantly dependent on 2012-2013 base revenue and stage of digitization. This is specifically true for General insurance providers but not for life insurance providers.

For non-Life Insurance, customers go by word-of-mouth and do their own research to evaluate the insurance provider with best features. For this purpose, the website and the stage of digitization plays a major role. However, Life Insurance is still largely promoted and advised by Life Insurance advisors, and in this segment customers are less likely to evaluate alternative options themselves. This difference is clearly coming out in our study, where the non-life insurance growth is spurred significantly by the stage of digitization. The other explanation could be that compared to Life Insurance, dominated by LIC of India, non-life

presents a more even playing field and greater competition. Hence the thrust on digitization is more pronounced in the non-life sector.

#### REFERENCES

1. Ding X, Verma R, Iqbal Z. Self-service technology and online financial service choice. *International Journal of Service Industry Management* 2007; 18(3): 246–268.
2. David et.al Boston Consultancy Group, The Internet Economy in G-20(March 2012). Retrieved from: <https://www.bcg.com/documents/file100409.pdf>
3. Baiju Shah, Anatoly Roytman, Patricio De Matteis Accenture Digital Transformation (2014). Retrieved from: <https://www.accenture.com/fi-en~/media/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Technology/Accenture-Interactive-Digital-Transformation.pdf>
4. Naidu V Kanchana, Paramasivan C. A Study on Banker's Perception of Electronic Banking. *International Journal of Multidisciplinary Research Review* 2015; 7(1): 5-11.
5. Shah Alpesh, Dadachansi Burjor Boston Consultancy Group and Google, Insurance @ Digital-20X BY 2020(March 2014). Retrieved from: [http://image-src.bcg.com/BCG\\_COM/Insurance-at-Digital-20x-2020-Mar-2014-India\\_tcm21-8795.pdf](http://image-src.bcg.com/BCG_COM/Insurance-at-Digital-20x-2020-Mar-2014-India_tcm21-8795.pdf)
6. UNASPA. 2001. Global survey of e-government. Asia Oceania E-business Marketplace Alliance.
7. Websites of 24 life insurance companies, 27 general insurance companies,(October-December 2016)
8. [www.irda.gov.in](http://www.irda.gov.in),(October-December 2016)
9. <http://www.assoam.org/newsdetail.php?id=5669>,(October-December 2016)
- 10.