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A STUDY ON THE DATA PRIVACY AWARENESS AGAINST DEMOGRAPHICS

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Abstract:

Internet has blessed human lives with many facilities but on the other side has threatened their privacy concerns also. For providing personalized experiences, it needs to collect personal details of the internet user which creates a base for data privacy invasion as this information may get leaked or passed to third party for commercial purpose with or without consent of the internet user. This study measures the awareness towards data privacy and their association with technical background against the demographic profile (Gender, age, educational background) of the respondents and thus suggestions were given accordingly. Young aged people were found to be more concerned about feeding up details as compared to old aged people. Knowledge about checking and deleting personal data collected was also found low.

Keywords: Internet, Privacy, Internet User, Consent, Personal Data.

Introduction:

Internet is a new essential included in the basic needs of a person where it has become a necessity for both the users and service providers. The whole world is virtually available at a single click with immense knowledge about every aspect. Connections developed and maintained through social media, economy of the country is getting cashless through digital payments, entertainment available through OTT platforms in every home, food available at doorstep through food delivery applications, knowledge available by simply clicking GOOGLE, shopping through delivery applications etc. The only cost payable is feeding up the personal details in order to create account and handling over these details to them which can cost serious threat to privacy of a person directly or indirectly. Websites collect this data either directly by asking the information or indirectly by tracing their digital footprints which is used for economic gains that is sold to the companies for advertisement purpose and offering their products based on search history. This process of collection of data leads to the need of proper Data Protection Law thereby safeguarding the privacy concerns of internet users against unfair practices with their internet data. Already, General Data Protection regulation (GDPR) has been enforced for the member countries of European Union to regulate the internet related activities of its citizens and website companies working there. Even, the government of India has proposed Personal Data Protection Bill, 2019 for regulating the internet related activities for the citizens of India which was improvised and relaunched in 2022.

Awareness towards this law differs on the basis of age bifurcations and educational background. Young people are more likely to keep themselves alert while using internet as compared to old aged people. Even people with technical background were fund more associated with awareness towards this data protection law. Their level of knowledge about this collection is more and they know how to check and delete that data. Thus, it is always suggested that internet users must be aware about this process and try

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to learn in order to safeguard one's own privacy. The current study is an attempt to study the demographic variables of the respondents against their association with technical background.

Review of Literature:

Internet data is termed as a new commodity for trading in this digital economy where economic gains are associated with its trading which is collected from social media, search engines & many e-commerce sites as it is helping to understand consumer behavior & predict their future preferences (Spiekermann & Korunovska, 2016; Kerber, 2016). Personal information is defined as that piece of information which reveals identity of a person such as a person's name, email address, medical records, contact number etc. (Cloudfare, 2023; Government, 2016). Information privacy is defined as providing individuals to have control/ influence over the data regarding themselves. With the digitalization era, the concern of increasing this privacy have been raised as now the data leakage to the third party for economic profits is causing a concern (Bélanger & Crossler, 2011). Data is collected from various sources sometimes known to the internet user and sometimes not such as online registration forms, window shopping, etc. (Borgesius F. J., 2015; Berendt, et al., 2005; Rezgui, et al., 2003) which is passed on to the third party often used for marketing purpose and offering similar products based on search history (Caggiano, 2017). Even for grabbing economic gains, firms are easily dealing with the available data by involving lot of people in a single chain (Gare, 2016). At the cost of bringing digitalization in economy, the process of collection, generation and commercial analysis has become so common that it is serving itself as a vital hidden resource any firm's competitiveness (Kerber, 2016). Thus, here the laws & legal regulations play an important role in drawing a boundary line for protecting the rights of the consumers because "privacy should not be an option, and it shouldn't be the price we accept for just getting on the internet" (Cloudfare, 2023; Lupton, 2018; Kovacs, 2012). Mobile applications also play an important role in gathering this personal data by just running in background where the mobile phone user is unaware about its collection method. Sometimes, during the configuration it takes several permission together and most of the time the mobile user agrees with all of them even without reading (Zyskind, et al., 2015; Acquisti, et al., 2010). Even old age people are less concerned about sharing their private information online and fill out mostly the true information but on the other side younger generation are quite concerned before sharing their information on any website (Goldfarb & Tucker, et al., 2012). The line of difference between public and private life in this online world is getting burred because the mode of operation of internet through an electronic gadget is of an owner but the control of data is in hands of online marketers (Chen, 2018). Thus, this concern creates the need of data protect law in the country where some stringent rules and regulations are created for this issue as data protection law not only safeguards the rights of the people whose data is being processed for several business purposes but also controls the activities of those persons who uses that data (Borgesius, 2014). However, privacy laws can be made stringent and applicable but it is always required from the consumer/ internet user to read privacy condition before accepting them because the ultimate empowerment can only be created if the internet users are active and does not keep this concern at the backend. (Borgesius F. J., 2015; Shore & Steinman, 2015). Thus, before an individual learns to use internet, he/she must be aware about the concept of data privacy, data protection and data security so that he acts accordingly (Europe, 2023; Chaudhury & Choe, 2022; Zeller, et al., 2019).

Research Methodology:

The major objective behind carrying out the study was to check the association of technical background with the awareness towards data privacy law. For this, the population was internet users and the sample of 397 internet users was taken from Udaipur city. Convenience and judgmental sampling was applied as only the persons who uses internet frequently can justify the questionnaire. Data was collected

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through Google forms circulated on various email ids and the other source of material was provided from journals, websites, reports, conference proceedings etc.

Data Analysis and Interpretation:

As per the findings, there were 48.87 % males and 51.13% female respondents out of which maximum respondents 38.03% belong to the age category of 30 years- 40 years followed by 40 years-50 years (21.67%), 18 years- 30 years (20.15%), 50 years- 60 years (17.13%) and 60 years & above (3.02%) category. Regarding their educational background, 42.82% were post-graduates. 22.92% were graduates, 10.83% were school pass outs and diploma courses and 23.43% hold professional degrees like software engineers, doctorates etc. Regarding the personal data statistics, Figure 1 explains the following things:



Figure 1 **Personal Data Statistics** Source: Researcher's Analysis

Interpretation: From Figure 1, it could be interpreted that in maximum cases, majority of the respondents were found non-associated with technical background, have low awareness about data privacy law, low knowledge about collection and sharing of personal data and no knowledge about checking and deleting of personal data collection. Further through research tools and techniques, this was statistically justified:

To statistically test the association of technical background against the demographic variables (gender, age, educational background) various statistical techniques were used. The details are mentioned below: **Gender:**

Here, the impact of belonging from technical background of the respondents was checked against the gender perspective and thus the following null hypothesis was framed:

 H_{0_1} : There is no significant difference between the gender of respondents with respect to their past technical background.

For testing this hypothesis, independent sample's t-test was applied and the results are presented in Table 1 & 2.

	Gender	Ν	Mean	Std. Deviation	Std. Error Mean
Technical	1 (Male)	194	1.75	.436	.031
Background	2 (Female)	203	1.79	.406	.029

 Table 1 Group Statistics for Technical Background against Gender

-	Table 2 Independent Samples Test for Teennear Dackground against Gender										
		Leve	ne's			t-test	for Equality	of Means			
		Test	for								
		Equal	ity of								
		Varia	nces								
		F	Sig.	t	df	Sig.	Mean	Std. Error	95	%	
						(2-	Differenc	Differenc	Confi	dence	
						tailed	e	e	Interva	l of the	
)			Diffe	rence	
									Lowe	Uppe	
									r	r	
Technical	Equal	4.68	.06	-	395	.280	046	.042	129	.037	
Backgroun	variance	1	1	1.08							
d	s			1							
	assumed										
	Equal			-	389.80	.281	046	.042	129	.038	
	variance			1.08	7						
	s not			0							
	assumed										

Interpretation: From the results of Table 1 & 2, it could be interpreted that the p value (.061) is greater than the significant value (0.05) which lets the nulls hypothesis (H_{0_1}) to be failed to get rejected thereby signifying that there is no significant difference between the gender of respondents with respect to their association from technical background.

=Age:

In this demographic variable, the association from technical background of the respondents was checked against the age group difference and thus the following null hypothesis was framed:

 H_{0_2} : There is no significant difference between the age groups of respondents with respect to their association from technical background.

For testing this hypothesis, one way ANOVA was applied and the results are presented in Table 3.

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	Sum of Squares	df	Mean Square	F	Sig.							
Between Groups	1.599	4	.400	2.287	.009							
Within Groups	68.542	392	.175									
Total	70.141	396										

Table 3 ANOVA for Association from Technical Background against Age Groups

Interpretation: From the results of Table 3, it could be interpreted that the p value (.009) is smaller than the significant value (0.05) which lets the nulls hypothesis (H_{0_2}) to get rejected that there is significant difference between the age groups of respondents with respect to their association from technical background. For confirming the difference between the age groups, post hoc analysis was applied and the results are presented in Table 4.

		Mean	644		95% Confide	ence Interval
(I) Age Range	(J) Age Range	Difference (I-	Stu. Error	Sig.	Lower Bound	Upper Bound
1	2	120	.058	.229	28	.04

Table 4 Post-hoc Analysis for Difference in Age Groups

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	3	103	.065	.505	28	.07
	4	033*	.069	.989	22	.16
	5	313*	.129	.114	67	.04
	1	.120	.058	.229	04	.28
2	3	.017	.056	.998	14	.17
2	4	.087*	.061	.608	08	.25
	5	192*	.125	.543	54	.15
	1	.103	.065	.505	07	.28
2	2	017	.056	.998	17	.14
5	4	.070	.068	.840	12	.26
	5	209	.129	.483	56	.14
	1	.033*	.069	.989	16	.22
4	2	087*	.061	.608	25	.08
4	3	070	.068	.840	26	.12
	5	279	.131	.208	64	.08
	1	.313*	.129	.114	04	.67
5	2	.192*	.125	.543	15	.54
5	3	.209	.129	.483	14	.56
	4	.279	.131	.208	08	.64

Interpretation: From the post- hoc analysis in Table 4, it could be stated that the first age group (18 years- 30 years) and second age group (30 years- 40 years) had significant difference with the other age groups (40 years- 50 years) & (50 years- 60 years) signifying that young and middle aged people have more and keen association with technical background as compared to other age group people.

Educational Background:

Here, the association from technical background of the respondents was checked against the different educational backgrounds and thus the following null hypothesis was framed:

 H_{0_3} : There is no significant difference between the groups of educational background of respondents with respect to their association with technical background.

For testing this hypothesis, one way ANOVA was applied and the results are presented in Table 5.

Table 5 ANOVA for Association from Technical 1	Background against	Educational Background
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		Groups			
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.813	4	1.203	7.220	.000
Within Groups	65.328	392	.167		
Total	70.141	396			

Interpretation: From the results of Table 5, It could be interpreted that the p value (.000) is smaller than the significant value (0.05) which lets the nulls hypothesis (H_{0_3}) to get rejected that there is significant difference between the groups of educational background of respondents with respect to their association with technical background. For confirming the difference between the groups of educational background, post hoc analysis was applied and the results are presented in Table 6.

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Tabl	Table 6 Post-hoc Analysis for Difference in Groups of Educational Background											
(I)	(J)	Mean	Std.	Sig.	95% Confide	ence Interval						
Educa	Educat	Difference (I-	Error		Lower	Upper						
tional	ional	J)			Bound	Bound						
Backg	Backg											
round	round											
1	2	.000	.126	1.000	35	.35						
	3	.264*	.092	.036	.01	.52						
	4	.324*	.087	.002	.08	.56						
	5	.129	.092	.626	12	.38						
2	1	.000	.126	1.000	35	.35						
	3	.264	.105	.092	02	.55						
	4	.324*	.101	.013	.05	.60						
	5	.129	.105	.735	16	.42						
3	1	264*	.092	.036	52	01						
	2	264	.105	.092	55	.02						
	4	.060	.053	.792	09	.21						
	5	135	.060	.168	30	.03						
4	1	324*	.087	.002	56	08						
	2	324*	.101	.013	60	05						
	3	060	.053	.792	21	.09						
	5	194*	.053	.002	34	05						
5	1	129	.092	.626	38	.12						
	2	129	.105	.735	42	.16						
	3	.135	.060	.168	03	.30						
	4	.194*	.053	.002	.05	.34						
*. The n	nean differ	rence is significar	nt at the 0.05	level.								

Interpretation: From the post- hoc analysis in Table 6, it could be stated that there is significant difference of group four (post-graduates) with all other groups as post-graduate respondents are more likely to have association with technical background as compared to other educational groups.

Awareness regarding Data Privacy Law, Checking and Deleting that Data:

In this sub-section, the association between awareness level about data privacy law, checking the personal data collected and deleting that data and their belonging from technical background was checked and the following null hypotheses were framed:

 H_{0_4} : There is no significant association of technical background and awareness regarding data privacy law.

 $H_{0_{-5}}$: There is no significant association of technical background and awareness regarding checking personal data.

 H_{0_6} : There is no significant association of technical background and awareness regarding deleting personal data.

For testing these hypotheses, paired t-test was applied and the results are presented in Table 7 & 8.

	Variables	Mean	Ν	Std. Deviation	Std. Error Mean	Correlation	Sig.
Pair 1	Technical	1.77	397	.421	.021	.258	.000

 Table 7 Paired Samples Statistics

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	Background							
	Data Privacy	2.14	397	.578	.029			
	Law							
Pair 2	Technical	1.77	397	.421	.021	.669	.000	
	background							
	Check Data	1.82	397	.388	.019			
Pair 3	Technical	1.77	397	.421	.021	.560	.000	
	background							
	Delete Data	1.82	397	.388	.019			

Table 8 Paired Samples Test

		Paired Differences					t	df	Sig. (2-
		Mean	Std.	Std.	95% Confidence				tailed)
			Deviation	Error	Interval of the				
				Mean	Diffe	rence			
					Lower	Upper			
Pair 1	Technical	370	.621	.031	432	309	-11.886	396	.000
	background								
	- data								
	privacy law								
Pair 2	Technical	045	.330	.017	078	013	-2.736	396	.007
	background								
	- check								
	data								
Pair 3	Technical	045	.330	.017	078	013	-2.736	396	.001
	background								
	- delete								
	data								

As per the results presented in Table 8, it was found that the p value determined for all three pairs (0.000, 0.007, 0.001) respectively which is smaller than the significant value (0.05) which lets the null hypotheses (H_{0_4} , H_{0_5} , H_{0_6}) to get rejected stating that there is no association of technical background with awareness about data privacy law, checking the personal data collected and delete that collected data.

Conclusion:

Internet has blessed human life with unlimited facilities and collapsed the whole world thereby giving a green signal to digitalization era. Simultaneously, with increasing internet activity concern for internet privacy of the internet user has increased which led to the concern about data privacy. In India, firstly Indian Personal Data Protection bill was passed in 2019 but withdrawn due to some reasons and again it was relaunched in year 2023 with the name the Digital Personal Data Protection Bill, 2023. This study was an attempt to check the demographic variable association with technical background. It was found that technical background was not related with gender. However, is an education background and occupational structure was found associated with the technical background difference. Thus, it was suggested that it is easy for young people to understand technical and it related concepts but elder people must also try on their level to get familiar with this which will help them to make aware about the importance of data privacy and its related law. Though newspapers and media are regularly warning about data theft and privacy invasion of internet users it's the duty of internet users also to learn and

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study about data privacy, it's proposed law and importance so that their activities could be improvised. After knowing the problems to be faced from the personal data collected on different websites people should learn how to check that collected data so that there aware what is being collected on their part from search engines or persons who are aware about this option. After checking the personal data collected by various applications and websites initiative should be taken on part of internet users in order to learn to delete that part which they don't want to share. This will help them to maintain the level of privacy they want to have with their data. Education is one of the main step in laying the base for technical education and it helps to grasp the things faster but internet users with low education background should be motivated to learn the basics of it so that there is weakness does not result in their privacy invasion or financial loss. Every time when any website or application collects information from a person's internet surfing activity they should always ask for consent before taking that data rather than taking it for granted or without any permission. Easy options to see the data collected, delete that data etc. should be available on home page of website so that the internet users can itself select his or her choice and then take decision at their own.

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