



SHRI RAM COLLEGE OF COMMERCE



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STRIDES

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Principal's Message

The mission statement of the College, signifying the existence and its road map to the achievement of its vision, reads as:

"To achieve and sustain excellence in teaching and research, enrich local, national and international communities through our research, improve skills of alumni, and to publish academic and educational resources"

To achieve and promote excellence in publications and applied research, the College has taken the initiative to launch a new journal exclusively to publish students' research papers and articles. It will be an add-on to the enriched catalogue of College publications and academic literature.

The journal has provided an opportunity to the students of our college to focus on research. Since the students were not opened to the research methodologies at the undergraduate level, they were mentored by experienced senior faculties of our College. Simultaneously, their articles were also reviewed by the referees and tested for plagiarism before publication. After reporting all the suggestions recommended by the referees, the articles were revised and then finally published. The College had successfully released the foundation issue of the journal **"Strides – A Students' Journal of Shri Ram College of Commerce, Volume 1, Issue 1, 2016-17"** on the occasion of 91st Annual Day



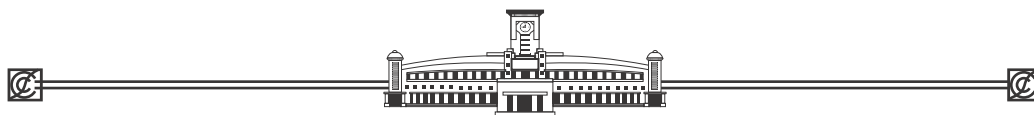
of College held on 13th April 2017. The Journal was released by Shri Prakash Javadekar, Honb'le Minister of Human Resource Development, Government of India.

The college has already applied for seeking International Standard Serial Number (ISSN) for the Journal. The application for ISSN is still under process.

I would like to congratulate the students whose papers are published in this issue of the journal and simultaneously encourage all the students to contribute their research papers and articles for the successive issues of the Journal.

Best wishes for their future endeavors.

Prof. Simrit Kaur
Principal



Editor's Message

Shri Ram College of Commerce is well known for its academic excellence and dedicated approach towards dissemination of knowledge in the academic world. The College appreciates the role of research in education and is committed to developing an inclination towards research in both faculty and students. In this pursuit, the College has taken the initiative to launch a new Journal named 'Strides – A Students' Journal of Shri Ram College of Commerce' to encourage students to pursue research under the guidance of the faculty of Shri Ram College of Commerce.

It is a bi-annual journal launched exclusively to publish academic research papers and articles by the students on contemporary topics and issues in the area of commerce, economics, management, governance, policies etc.

In order to maintain high standards of publication, the Committee on Publication Ethics (COPE) has been constituted. The COPE shall be the apex authority to take all decisions related to publication of research papers and articles in Strides. The decision of the COPE shall be final and binding.

To maintain high academic standards, academic ethics and academic integrity, a rigorous process of double blind review of research papers is followed along with screening for plagiarism of each



manuscript received by the college for publication. The research work published in Strides is original and not published or presented at any other public forum.

The foundation issue of the Journal i.e. **"Strides – A Students' Journal of Shri Ram College of Commerce, Volume 1, Issue 1, 2016-17"** was successfully released on 91st Annual Day of the College held on 13th April 2017 by Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, Government of India.

The successive Issues of 'Strides – A Students' Journal of Shri Ram College of Commerce' shall be bi-annually released.

Dr. Santosh Kumari
Editor



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How Secure is our Data?- An Analysis of Data Privacy and Data Security in this Digital Era

This paper aims at analysing the issues pertaining to data ownership, security, privacy and protection in the light of ever increasing collection and usage of individual's personal data by banks, e-commerce companies and other government and private corporate institutions. It seeks to examine the question "To what extent does one have rights on his personal data?" Furthermore, it scans the probable impacts of the landmark decision declaring Privacy a fundamental right on the activities like data mining and big data analysis at the national level. In the era of rapid digitalisation and big data, this verdict certainly calls for new, relevant and impactful laws in this sphere.

INTRODUCTION

"No person shall be deprived of his life or personal liberty except according to procedure established by law."

-Article 21 of the Indian Constitution

As per the landmark judgement passed by the Supreme Court on 24th August, 2017, right to privacy forms an integral part of right to life as granted by the article 21 of the Indian Constitution. At the same time, this right is not absolute and is subject to reasonable

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restrictions under article 19(2) in case it interferes with national sovereignty and integrity, security of the state and public interest.

After this milestone judgement, the Supreme Court has expressed concern over the inroads into right to privacy in this digital age, thereby calling for a data protection law which ensures that the data collected is prevented from being used for unauthorised purposes. However, we are yet to see what new developments take place in the legislative arena to strengthen informational privacy.

Data privacy and security aims at ensuring that an individual or entity's personal data is protected from unauthorised use and is not released in public domain without the owner's consent.

How secure is our data: The nature of threat

Individuals often get product promotional messages from companies with which they have never transacted in the past or shared their contact details. Have you ever wondered, "How"? When we share our contact details with one company, these details might then be shared by this company with third parties as well thereby causing a threat to our data privacy and security.

Though every application or website provider claims that it puts in place a data policy to safeguard the data security and privacy needs of the users, the purpose is not fully served in reality. In spite of this, it is often alleged that user's personal data is sold by these sites to third parties for a price and used for purposes other than those authorised by the users. In the absence of any definite legal requirements, providers create their own data policies and take users' approval.

With the increasing number of profiles that users maintain on different websites, they either find it too taxing to read their terms and conditions or only skim through their data policy without really ensuring whether their personal data is fully secure or not. In some cases it is also found that providers initially promise to provide data protection, but change their policy at a later date which makes data less secure.

Issues related to data privacy and security

Data security threats are faced by almost everyone, be it individuals, corporate entities or government. Thus, the issue of

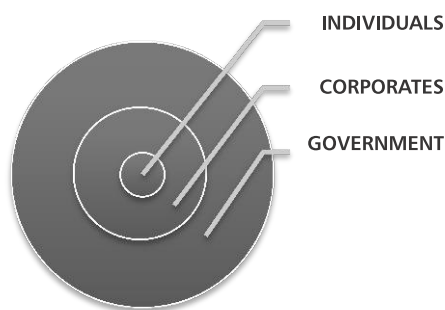


Figure-1: Levels of Privacy Threats

informational privacy and security needs to be analysed at three distinct levels so as to get a holistic view of the current scenario and the required data protection laws. These three levels have been briefly discussed in this paper.

At the individual level, we share a lot of our personal data with banks, insurance companies and educational institutions which must be kept secure through restricted access and proper identification and authentication.

In this digital era, our frequency of creating user accounts, filling up our personal data is on an increase. Unlike private corporates and the government that are relatively more conscious regarding the safety of the enormous data that they store and use, individuals tend to leave their data under-protected most of the times due to lack of awareness and understanding.

In the context of privacy of one's data after it has been provided to a particular entity, the case of Canara Bank is worth highlighting. "Parting with information does not deprive the individual of the privacy interest. The reasonable expectation is allied to the purpose for which information is provided," held the court. (Ref: District Registrar v. Canara Bank, 2005) Put simply, this means that an entity has no right to bring its customers' data in public domain without their consent.

One needs to be really cautious while deciding with whom and to what extent should he share his personal data.

At the private corporate level, corporate houses are custodians of data of a large number of people. Here, leakage of enormous confidential data in the public domain is a grave issue. One of the major threats that business organisations face in relation to data privacy and security is **Insider Threat** (CERT). People from within the organisation may leak out the organisation's confidential information for self-interests.

In the light of recent incidents of data leakages of millions of customers of foreign organisations, data safety has become an even more serious issue. If foreign organisations are not confident about the security of their data, they might back out from Indian markets thereby adversely impacting the economy of our country.

At the government/administrative level, the state needs to maintain a large amount of information in relation to governance and national security to which it has exclusive access rights. Such data needs to be protected from intruders who might use it for purposes leading to adverse impacts on national security and public interests. When citizens apply for various essential documents with the government agencies, their personal data gets stored in the national databases which need to be protected.

Solutions to the data privacy and security concerns:

A comprehensive approach to data protection requires solutions at four interconnected levels. The ways through which data security and privacy can be ensured to a reasonable extent are behavioural, technological, procedural and legal.

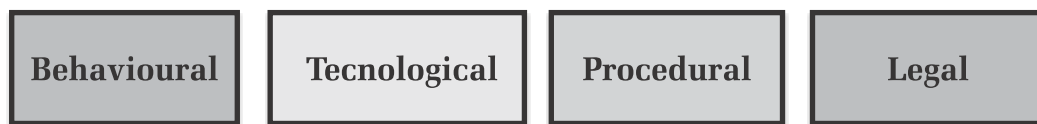


Figure-2: Solution Levels For Ensuring Data Privacy And Security

1. **Behavioural solutions:** These refer to the conduct of users regarding the data usage. Users need to be vigilant and careful while providing their data to different online and offline organisations. Need is to cautiously read and understand the data usage policy of the platform before sharing any personal data with it.
2. **Technological solutions:** With the deployment of various kinds of cloud computing technologies at the individual as well as corporate level, the need for proper backup, archive and recovery procedures have arisen to prevent loss of data. Numerous softwares like MacAfee, OneTrust, and TrustArc are available in the market that assists in data protection.

One of the technological solutions is data masking, which helps in preventing unauthorised use of sensitive data. Under this method, a part of the data is converted into a form not readable by general users. For example, banks show only last 4 digits of the customers' national identification number to their representatives. (Wikipedia)

End-to-end encryption is a technology that enables only the communicators to read the messages thereby preventing it from third party access and inference. Its purpose is to prevent the data from being tampered with while in transit. Whatsapp shows the following message "Messages to this chat and calls are now secured with end-to-end encryption."

Server and client authentication: Applying the private and public key infrastructure, the certifying authority needs to certify the physical and virtual servers, users and network devices to prevent unauthorised access. Only the users in possession of the requisite keys can access the data.

(Information Technology Act, 2000)

Creation of security domains: Creation of 'federated clouds' is another way of keeping data privacy intact. A federation is a group of entities that can legally access

and share the data stored on a cloud subject to the mutually agreed terms and conditions. Federal clouds can interpolate (exchange data and resources) through defined networks only.

3. **Procedural solutions:** Data security audit refers to the procedure of systematic and independent examination of how secure the data in any organisation is. Business organisations mandatorily need to get their information systems audited by a qualified authority to ensure that their data storage and handling mechanisms are secure. This procedural check makes these organisations more conscious towards the compliance of data privacy and security norms. Such audits focus on physical, logical and behavioural aspects of data protection. They check the sufficiency and appropriateness of security systems installed by an organisation.
4. **Legal solutions:** Currently, India lacks in exclusive laws on data protection. The Information Technology Act, 2000, Intellectual Property Act and contractual relations define the standards for data protection in our country.

The IT Act contains provisions to prevent the unauthorized use of computers, computer systems and data stored therein. The act fails to fix the liabilities of internet service providers for breach of data privacy norms while transmitting customer data.

The Intellectual Property Laws also provide safeguards against infringement on data privacy by penalising copying of copyrighted data from systems.

National Association of Service and Software companies (NASSCOM), has been active in the sphere of formulating data protection policies at the private level. A central database called the national skills registry has been created to compile and maintain the database of all BPO and IT companies' employees in India. Also, a self-regulatory organisation to monitor data protection in the BPO sector has been set up.

With the comprehensive verdict on privacy, the TRAI is actively participating in bringing a check on customers' data storage and usage by the leading mobile phone companies. In mid- August, 2017, the IT ministry asked 30 handset companies to share the security protocols they follow to secure mobile phones, triggered by threats of data misuse especially by companies which have servers based in China. Furthermore, verification and audit of devices wherever necessary would be conducted with an aim to ensure the privacy, security and protection of user data.

Dealing with Big Data: An analysis of the impact on data mining and innovation

Just scrolling through the common wall of your Facebook profile and you see a list of products you recently checked for on an e-tail website like amazon or flipkart under the

head 'things you may like.' Ever wondered how does Facebook get to know what you searched for on other websites? This is all a result of online tracking, information circulation and target advertising called Digital Advertising Alliance- an application of big data mining.

Data mining refers to the process of examining and analysing an enormous existing database using artificial intelligence and efficient knowledge discovery techniques to derive new, futuristic and advanced information. Technological advancements have facilitated the collection and processing of huge personal data to analyse shopping habits, banking activities, medical records or other related data. In a developing country like India, data mining plays a significant role both in regulation and innovation. Thus, the Supreme Court in its judgement has recognised Innovation as a vital ground for claiming reasonable restrictions. Without any prejudice to the data privacy and security, data must be permitted to be used for innovation. (The Times of India)

However, it is evident that companies especially in the telecom, financial services and banking sector will now need to obtain multiple layers of consent from the customers before sharing their data with third parties.

Conclusion and Recommendations

Despite privacy being pronounced as a fundamental right and numerous initiatives being taken by the government and private companies in the realm of data protection, India still needs to go a long way before our data could be really secure and free from unauthorised access and consumption. The existing laws under the Information Technology Act need additions and modifications to benefit the current requirements.

Need is to conciliate data security and privacy. Though the two mostly go hand in hand, at times ensuring data security might lead to an impingement on data privacy. Employment of methods like user authentication for anomaly detection, collecting data provenance and tracking user location to ensure data safety leads to collection of users' privacy sensitive data by the administration, thus giving rise to security v. privacy conflict. Need is to device and implement methods which balances the two aspects thereby ensuring complete data protection. A few measures that balance data security with privacy are:

1. Privacy safeguarding access control for data on a cloud: Through this technique, unauthorised access to data can be prevented by using the identity information about users for data stored in public cloud without requiring this information to be disclosed to the cloud.
2. Privacy safeguarding location based access control: Under this method, authorised users can access data only from systems located at recognised secure locations.

Attempts to access data from unsecured locations will be denied without disclosing users' location to the control system.

With the Indian digital economy being worth \$500 million at present, it is certainly going to be a complex task to balance data usage for development and innovation with data privacy and security.

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