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Institute of Secretariat Training & Management
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Chief Editor Shri Rajiv Manjhi, Director, ISTM

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## About the Institute

The Institute of Secretariat Training and Management (ISTM), established in 1948, serves as a premier capacity-building institution aimed at meeting the dynamic human development needs of government and support institutions across the nation. With a focus on sustainable, innovative, and contemporary methods, ISTM's motto is "Efficiency and Public Good."

ISTM is responsible for implementing the cadre Training Plan for the Central Secretariat Service (CSS) and Central Secretariat Stenographers Service (CSSS), as well as other services within the Central Secretariat. The Institute also provides orientation training for Group 'A' officers joining the Central Government under the Central Staffing Scheme as Deputy Secretaries and Directors. Additionally, ISTM offers training to officers from the Central and State Governments, Union Territory Administrations, Public Sector Undertakings, Autonomous Bodies, and various other formations within Central/State/UT administrations. The Institute organizes foundation courses for several Group 'A' services, including the AIS, IES, ITS, ICLS, IFOS, and IIS, among others.

ISTM has established the first-ever Centre of Excellence for Civil Services Competency (COE-CSC) under the National Programme of Civil Services Capacity Building - Mission 'Karmayogi'. It has become a leader among Central Training Institutes in the development of e-content for Mission Karmayogi. The Karmayogi digital learning lab at ISTM aims to produce digital content for use by various Ministries, Departments, and Organizations, enabling government officers to enhance their skills from their offices and homes.

ISTM conducts Management Development Programmes in diverse areas such as Financial Management, Vigilance, Administration, Management Principles, Good Governance, Knowledge Management, Behavioral Techniques, Cabinet Note Preparation, Infrastructure Development, Big Data Analysis, and Gender Sensitization. These programs aim to orient government officers towards effective service delivery.

Specific competencies developed through these trainings include strategic financial planning, vigilance and ethical governance, administrative efficiency, leadership, and decision-making, good governance practices, data analysis skills, gender sensitivity, and digital literacy.

The Institute also engages in research and consultancy work for capacity building in governance. It collaborates with client institutions on Training Need Analysis, HR Administration, Design of Training, Cadre Review/Restructuring, and the Audit of Proactive Disclosure under the RTI Act, 2005.

ISTM is led by an officer at the level of Joint Secretary to the Government of India, appointed under the Central Staffing Scheme. Faculty members are appointed on deputation based on their experience and qualifications. The Institute has developed in-house expertise in facilitating skill development and behaviour modification to enhance organizational effectiveness. ISTM is envisioned to play a crucial role in the capacity-building initiative of Mission Karmayogi by strengthening its professional capacity and developing the framework for the Role-Based Competency Model.

## About the Journal

Aligned with the objectives outlined in the National Training Policy (2012), which emphasize the importance of networking with institutions to share resources and engaging in field studies and research, the Institute of Secretariat Training and Management (ISTM), New Delhi, presents the bi-annual 'ISTM Journal of Training, Research, and Governance'.

This journal serves as a pivotal platform within the realm of public administration, training, and development. It endeavors to foster a culture of continuous learning by disseminating best practices, innovative methodologies, and cutting-edge techniques essential for cultivating proficient civil servants dedicated to serving society.

As a pioneering initiative by ISTM, this bi-annual publication represents a compendium of scholarly literature and academic insights meticulously curated for the enlightenment and enrichment of government officials, institutions, and researchers. Its scope encompasses a diverse array of subjects, including public policy, government operations, and human capital development.

The contents of the journal showcase contributions from esteemed theorists, government practitioners, seasoned academicians, and erudite scholars, offering profound insights and practical perspectives on various facets of training and professional practice. Through this initiative, ISTM endeavors to foster a culture of knowledge sharing and intellectual discourse, thereby nurturing a cadre of highly skilled and enlightened civil servants poised to address the challenges of contemporary governance.

## Disclaimer :-

# From the Desk of Chief Editor

**Dear Readers,**

It gives me great pleasure to introduce the latest issue of the "ISTM Journal of Training Research and Governance," dedicated to the theme of "AI-driven Policy Analysis and Formulation." As the world embraces the transformative power of artificial intelligence (AI), it becomes imperative for governance systems to adapt and harness its potential for smarter and more effective policy-making.

In the first article titled "AI-Powered Policy Making Mechanism: A Framework for Smart Governance" by Shonan Mahajan and Arun Gupta, the authors present a comprehensive framework aimed at leveraging AI to enhance governance procedures. The framework outlines a strategic approach to optimize the entire policy lifecycle, from creation to evaluation, incorporating advanced data analytics, stakeholder engagement, and transparency mechanisms.

"Artificial Intelligence and the Truth about Loss of Jobs" by Sanjeev Gupta and Yukti Gupta, which is the 2nd Article of this issue delves into the economic implications of AI-driven automation, addressing concerns about job displacement and the broader impact on traditional employment sectors.

The third article, "Digital India Land Records Modernization Programme: Scope for Artificial Intelligence" by Dr. Subhransu Tripathy and Inbarasan K G, explores the integration of AI in the Digital India Land Records Modernization Programme (DILRMP) to improve land governance and ensure the accuracy and efficiency of land records.

In the fourth article titled "Public Administration and Artificial Intelligence (AI): Threats and Prospects" by Mohammad Aslam, the authors analyze the challenges and opportunities posed by AI in public administration, highlighting its impact on decision-making processes and organisational structures.

Finally, Simran Jaidka's article, "Organization and Functioning of SHGs in Panchkula District of Haryana," examines the functioning of Self-Help Groups (SHGs) in Haryana, shedding light on their democratic processes and management practices.

These articles provide valuable insights into the evolving landscape of AI-driven policy analysis and governance, offering practical frameworks, case studies, and recommendations for policymakers, researchers, and practitioners alike.

I hope that you will find the articles interesting, thought provoking and generating hope & enthusiasm. As always, we welcome feedback from our readers. If you have any comments or suggestions for future issues, please do not hesitate to share the same with the Editorial team.

We extend our gratitude to the authors, reviewers, and contributors for their valuable contributions to this issue. We hope that the diverse perspectives presented in this journal inspire further research and innovation in the field of governance and training.

**Happy reading!**

**Best Regards,**
**Rajiv Manjhi**
**Chief Editor**
**ISTM Journal of Training Research and Governance**

# AI-POWERED POLICY MAKING MECHANISM: A FRAMEWORK FOR SMART GOVERNANCE

SHONAN MAHAJAN AND ARUN GUPTA

## Abstract

*This research paper introduces a complete framework aimed at utilising the changing field of artificial intelligence (AI) to improve governance procedures. The use of artificial intelligence (AI) into governance has the potential to revolutionise conventional decision-making methods, providing possibilities to enhance the allocation of resources and greatly enhance the delivery of public services. The suggested framework outlines a methodical strategy that strategically employs AI technology to optimise the entire process of policy creation, implementation, and evaluation in governmental systems. This research seeks to analyse the relationship between AI and governance in order to develop a practical plan for creating effective, transparent, and adaptable governance systems. The framework includes advanced data analytics to enable informed decision-making, ethical considerations in policies driven by artificial intelligence, tactics for engaging stakeholders, and systems to ensure transparency and accountability. The study highlights the actual applications and case studies that demonstrate successful implementations of AI-powered policies, highlighting their concrete effects on the effectiveness of governance. The methodology utilised entails a comprehensive examination of current literature, examination of case studies, and integration of optimal approaches. The primary objective of this research is to provide valuable insights that enable governments to efficiently utilise AI technologies, hence promoting intelligent, adaptable, and citizen-focused governance systems.*

**Keywords:** Artificial Intelligence (AI), Governance, Policy-making, Framework, Decision

## 1. Introduction

In an era defined by technological advancements, the integration of Artificial Intelligence (AI) has emerged as a pivotal force reshaping various facets of society. One domain witnessing profound transformation is governance, where the convergence of AI and policy-making has the potential to revolutionize traditional paradigms [1]. AI, with its capacity to process vast amounts of data, discern patterns, and generate predictive insights, presents an unprecedented opportunity to augment decision-making processes within governmental systems. This transformative potential extends beyond mere efficiency gains, encompassing the realms of resource allocation optimization and the enhancement of public service delivery [2]. The aim of this research is to present a structured framework that capitalizes on the evolving landscape of AI technologies to enable more effective, responsive, and transparent governance models. By

scrutinizing the intersection of AI and governance, this study endeavours to establish a comprehensive blueprint for integrating AI-powered mechanisms into the entire policy-making spectrum: from formulation to implementation and evaluation. Amidst this pursuit, understanding the underlying dynamics of AI's impact on governance is crucial. The evolving capabilities of AI, coupled with its ethical implications and societal ramifications, pose intricate challenges and opportunities for policy formulation and execution [3].

Seeks to navigate these multifaceted aspects, delineating a pragmatic framework that not only harnesses the capabilities of AI but also addresses the ethical, legal, and societal dimensions essential for responsible and effective governance. Moreover, the examination of successful case studies and the synthesis of best practices will offer tangible illustrations of AI's potential in reshaping governance [4]. By leveraging an extensive review of literature and an analysis of exemplary instances, this research aims to distill actionable insights that facilitate the adoption and implementation of AI-powered policy-making mechanisms. In essence, this study aims to contribute to the discourse on smart governance by providing a comprehensive framework that amalgamates cutting-edge AI technologies with the fundamental principles of transparency, accountability, and citizen-centricity. Through this endeavor, the aspiration is to equip governmental entities with the tools and knowledge necessary to navigate the transformative landscape of AI, fostering governance systems that are not only efficient but also responsive and inclusive.

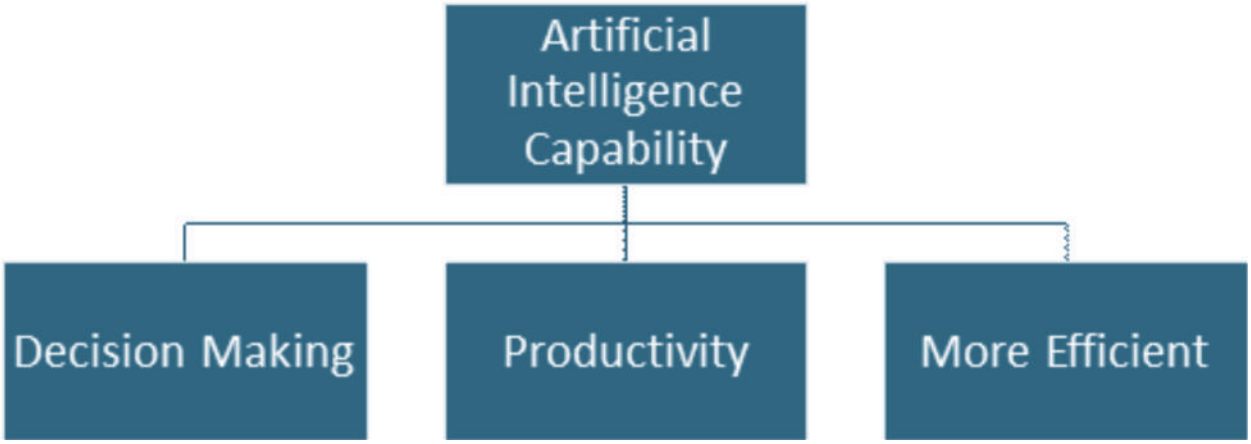


**Figure 1.** Artificial Intelligence Capability

## 2. Literature Review

Ramachandran et al. (2023) explored AI-powered decision-making in management, shedding light on its implications. Their work identified the transformative potential of AI in enhancing decision-making processes [1]. They highlighted the role of AI in augmenting managerial capabilities, emphasizing the need for a deeper understanding of its future directions and potential impacts on management practices. The case study conducted by Mahmoud and Slama (2023)

sheds light on a groundbreaking application of AI within energy management, particularly in the context of peer-to-peer energy trading [2]. This study provided a comprehensive insight into how AI-driven community energy management systems effectively optimize energy distribution and utilization among community members.

One of the pivotal aspects illuminated by this research is the transformative role of AI in reshaping traditional energy distribution models. Through the implementation of AI-powered systems, the study demonstrated enhanced efficiency in energy distribution mechanisms, which is vital for communities engaged in peer-to-peer energy trading. By harnessing AI algorithms, the energy management system efficiently matched energy demand with supply, thereby facilitating seamless peer-to-peer energy transactions among users within the community. Akter et al. (2023) presented a framework for AI-powered service innovation capability, underscoring the pivotal role of AI in driving service innovation [3]. Their research highlighted the necessity of a structured framework to harness AI's potential for fostering innovation in service industries. They emphasized the need for further research to explore and refine this framework for enhanced service innovation. Examining the antecedents and outcomes of smart government usage, Hujran et al. (2023) offered insights into the multifaceted implications of AI in governmental systems [4]. Their integrated model elucidated the various factors influencing the adoption and outcomes of smart government initiatives. The study emphasized the importance of understanding these factors to facilitate effective integration and maximize the benefits of AI in governmental settings. Hicham et al. (2023) presented a strategic framework for leveraging AI in future marketing decision-making [5]. Their work emphasized the transformative potential of AI in enhancing marketing strategies. They highlighted the importance of a structured framework to harness AI's capabilities for more informed and effective decision-making in marketing. In the context of technological advancements, Panigrahi et al. (2022) introduced AI-Powered Smart Routers, showcasing the practical application of AI in networking infrastructure [6]. Their research demonstrated how AI enhances the efficiency and intelligence of routing systems, contributing to the development of smart and sustainable technologies. Addressing the realm of workforce management, Kumar et al. (2022) explored the adoption of AI-powered workforce management for revenue growth in Micro, Small, and Medium-scale Enterprises (MSMEs) [7]. Their study highlighted the role of AI in optimizing workforce operations, thereby fostering revenue growth in these enterprises. In the sphere of public health, Kumar et al. (2022) examined the integration of AI-powered blockchain technology [8]. Their research delved into the potential applications of AI-driven blockchain in public health, emphasizing its role in addressing contemporary healthcare challenges, while outlining open challenges and future research directions. Leitner-Hanetseder and Lehner (2022) delved into AI-powered information and Big Data within the context of International Financial Reporting Standards (IFRS) [9]. Their research examined existing regulations and proposed pathways for the future of IFRS reporting in light of AI advancements. They emphasized the need

for updated regulations to accommodate AI and Big Data's impact on financial reporting. Wu (2020) focused on cloud-edge orchestration for the Internet of Things (IoT), elucidating architecture and AI-powered data processing. Their study explored the integration of cloud-edge computing paradigms and AI for efficient data processing in IoT systems [10]. Wu emphasized the significance of orchestration techniques for optimizing data processing in IoT environments. Addressing the confluence of AI and the Internet of Things (IoT) in public services, Ma et al. (2020) investigated AI-powered IoT's role in enhancing smart public services. Their research showcased the potential applications of AI-driven IoT in transforming public services. They emphasized the importance of this integration in establishing efficient and citizen-centric service delivery models [11].

## 3. AI in Governance: An Overview

AI's integration into governance has emerged as a transformative force, reshaping decision-making processes within administrative systems. Across the globe, governments are recognizing the potential of Artificial Intelligence (AI) to revolutionize governance by enhancing efficiency, improving service delivery, and fostering data-driven decision-making. The incorporation of AI technologies within governance models is viewed as a means to optimize resource allocation, predict trends, and streamline policy formulation, implementation, and evaluation [12]. In India, AI has gained prominence as a priority area within governmental agendas, aligning with initiatives such as Digital India and Make in India. Significantly increased funding towards research, training, and skill development in AI under the Digital India program reflects a strategic intent to leverage technological advancements for societal empowerment and economic growth. Initiatives like the establishment of an AI Task Force and specialized committees by ministries underscore a proactive stance towards embedding AI across diverse sectors, emphasizing its potential impact on economic progress and societal development [13].

However, the journey towards AI-integrated governance faces critical challenges. Current strategies often prioritize economic aspects over societal needs, leading to fragmented policy-making processes [14]. Concerns regarding the ethical, social, and technical implications of AI's deployment, particularly in areas such as surveillance in smart cities, remain inadequately addressed within policy frameworks. There is a recognized need for a more comprehensive, ethical, and inclusive approach that balances economic growth with societal welfare and acknowledges the ethical dimensions of AI deployment. The trajectory of AI in governance in India reflects a landscape characterized by strides in recognizing AI's potential juxtaposed against critical lacunae in addressing its ethical and societal implications. To foster effective AI-powered governance, concerted efforts are imperative to bridge these gaps, ensuring an ethical, transparent, and citizen-centric approach that prioritizes societal well-being alongside economic progress [15].

### A. Evolution and Adoption of AI in Governance

The evolution of AI technologies has ushered in a new era for governance, fundamentally

altering traditional decision-making processes. Initially utilized primarily in data analysis and prediction, AI applications have steadily expanded their presence across diverse governmental domains. From predictive analytics for resource allocation to AI-powered chatbots for citizen engagement, the utilization of AI in governance has witnessed a significant evolution [16]. This section aims to trace the trajectory of AI adoption within governance, highlighting key milestones, prevalent AI applications, and the evolving roles of AI technologies in reshaping governance frameworks.

### B. Impact of AI on Policy Making

The integration of AI into policy-making processes has the potential to enhance the quality, efficiency, and responsiveness of governance. AI-driven algorithms and machine learning models enable policymakers to analyze vast datasets, identify patterns, and forecast potential outcomes, thereby facilitating evidence-based decision-making. Moreover, AI-powered systems can aid in scenario planning, risk assessment, and policy simulation, providing valuable insights into the potential consequences of different policy choices. This subsection delves into the specific ways in which AI is reshaping policy-making paradigms, emphasizing its potential to optimize resource allocation, improve policy outcomes, and address complex societal challenges [17].

### C. Opportunities and Challenges

Although the incorporation of artificial intelligence (AI) in governance offers potential advantages, it also raises substantial obstacles and ethical deliberations. Potential benefits encompass heightened productivity, reduced expenses, improved service provision, and evidence-based policy development. Nevertheless, the presence of algorithmic biases, concerns over data privacy, the need for openness and accountability, and the ethical consequences of decision-making facilitated by AI require thoughtful examination. This section presents a comprehensive study of the potential advantages and difficulties related to the implementation of artificial intelligence in governance [18]. It aims to provide a detailed knowledge of the complex nature of this revolutionary technology inside policy-making structures.

## 4. India's Artificial Intelligence Policy

Analysing the rise and ranking of Artificial Intelligence (AI) in the Indian Government's efforts. This work discusses the involvement of several government departments in the adoption and promotion of AI. It highlights the strategic significance of AI in the areas of governance, socio-economic growth, and technological progress.

### A. Artificial Intelligence as an Emerging Priority Area

The section on "Artificial Intelligence as an Emerging Priority Area" highlights the Indian Government's strong emphasis on AI, as it aligns its endeavours with prominent projects like Digital India and Make in India. This prioritisation signifies a deliberate shift towards technical progress and economic expansion [19]. The government's acknowledgment of AI's potential is apparent through the allocation of significant resources dedicated to research, training, and skill enhancement in

developing technologies. This investment, as a component of the Digital India initiative, demonstrates a proactive approach in utilising the transformative potential of AI to advance India's transition into a digitally empowered society and strengthen its position as a global manufacturing centre [20]. The government's integration of AI into projects such as Digital India and Make in India demonstrates its dedication to promoting innovation, technological prowess, and economic viability. This collaborative endeavour is crucial in harnessing AI as a driver for societal transformation and inclusive economic expansion, ultimately establishing India as a leader in the global technology arena.

### B. Artificial Intelligence Task Force

The creation of the Task Force represents a strategic step towards acknowledging the significance of AI in several areas of the Indian economy. It outlines 10 crucial industries considered important for the implementation of AI in India, emphasising the need for a National Artificial Intelligence Mission to lead and coordinate AI-related initiatives in these sectors. Nevertheless, the analysis also underscores certain constraints within the Task Force's

methodology. Although the Task Force focuses mostly on the economic elements of AI adoption, it appears to neglect the wider ethical, social, and technological issues that arise from the use of AI technologies [21]. This omission raises concerns regarding the Task Force's thorough grasp of the many issues and considerations associated with the ethical utilisation, societal consequences, and technical constraints of AI within the Indian context. The critique emphasises the significance of a comprehensive approach that not only gives priority to economic growth through the adoption of AI but also takes proactive measures to address the ethical and social aspects. To promote a more equitable and ethical integration of AI technologies that align with broader social well-being, the Task Force should recognise and include these crucial issues.

### C. Ministry of Electronics and Information Technology

The section dedicated to the "Ministry of Electronics and Information Technology" highlights the ministry's aggressive measures in developing a strategic plan for a nationwide artificial intelligence (AI) programme through the establishment of specialised committees. The committees, created by the Ministry of Electronics and Information Technology, represent a focused endeavour to explore different aspects of AI and its implementations within the Indian context. The committees have been assigned the responsibility of examining AI in many areas, such as services that prioritise citizens, platforms for data, the enhancement of skills, research and development, and also considering legal, regulatory, and cybersecurity aspects. Currently, the reports produced by these committees have not been released, indicating that the results and suggestions from these studies are not yet accessible to the public or interested parties [22]. The creation of these committees by the Ministry reflects a proactive effort to thoroughly investigate AI-related issues. However, the lack of published reports makes it difficult to assess the insights, recommendations, and

potential policy directions put forth by these specialised committees. Disseminating these studies might greatly enhance the level of knowledge in discussions on the development of AI policies. They would provide valuable information on strategic decision-making, regulatory structures, and cybersecurity measures related to AI in India.

### D. NITI Aayog's National Strategy for Artificial Intelligence: #AIFORALL

The strategy focuses on utilising AI as a driver for both economic growth and inclusive development, in line with the overall developmental objectives of the country. The engagement with prominent industry leaders highlights the importance of public-private collaborations in promoting the development of AI technologies and their implementation in the Indian environment. Nevertheless, the analysis of the strategy also provides a meticulous evaluation, emphasising specific deficiencies in the proposals proposed by NITI Aayog. An important issue arises about the ethical and societal consequences linked to the use of AI, especially in situations where monitoring is used in smart cities [23]. The critique highlights the possible hazards linked to the use of AI-driven surveillance systems, raising apprehensions around violations of privacy and the consequences for essential rights and liberties. The report's emphasis on surveillance applications without sufficient regard for privacy safeguards and their societal ramifications gives rise to ethical apprehensions. This analysis highlights the significance of thorough and morally sound considerations in the development of AI plans and policies. While the plan prioritises economic growth, it is crucial to guarantee that ethical, sociological, and privacy concerns are fundamental aspects of the AI framework. This is necessary to protect the rights and freedoms of individuals while promoting technical progress.

The framework for AI-driven governance comprises essential components that are

## 5. AI-Powered Policy Making Framework

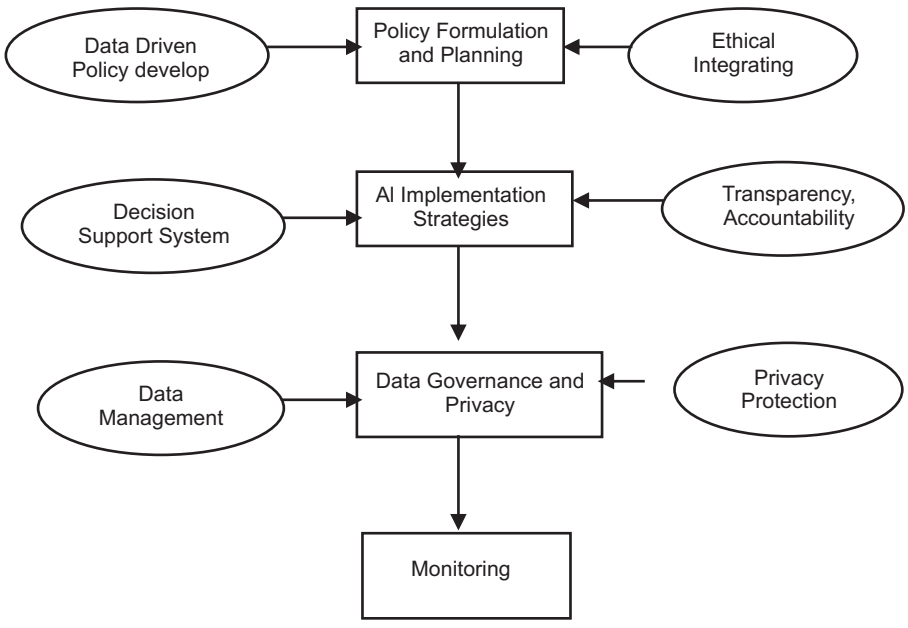


**Figure 2. Framework for AI-Powered Governance**

vital for the successful incorporation of AI into governmental systems. The first stage is utilising AI-driven algorithms to analyse data in order to facilitate the development of policies based on solid facts. Governments can obtain vital insights for informed decision-making by employing sophisticated data analytics. Simultaneously, engaging a wide range of stakeholders in the process of policy creation guarantees a thorough approach that takes into account different viewpoints. Incorporating ethical norms and principles into policy formation offers a moral framework that directs the use and implementation of AI within governance frameworks. Implementing AI-powered decision support systems facilitates efficient and well-informed decision-making procedures once policies have been created. These systems improve the precision and effectiveness of decision-making [24]. It is crucial to prioritise both transparency and accountability in AI-driven processes at the same time. Implementing methods that foster openness cultivates confidence in AI systems, while accountability measures safeguard against the misuse or biases in decision-making. Strong data governance frameworks are crucial for ensuring secure and ethical data management. These frameworks establish guidelines for managing data, guaranteeing its integrity, security, and ethical utilisation. Furthermore, it is crucial to integrate AI systems that are equipped with privacy-enhancing functionalities. The process entails adhering to data protection standards in order to ensure the preservation of individual privacy while utilising AI technologies.

Regular monitoring of AI-driven projects is crucial to evaluate their performance and influence. Deploying performance monitoring systems enables governments to assess the efficacy of AI-integrated governance models. Feedback systems, such as public inputs and evaluations, provide opportunities for continual assessments and societal feedback, leading to continuous development, directing changes, and policy advancements. Essentially, this framework provides an organised method to guarantee the ethical, transparent, and efficient incorporation of AI into governance systems. The concept includes the use of data to inform policy-making, taking into account ethical concerns, implementing strategies that are clear and open, establishing strong systems for managing data, and continuously monitoring and evaluating progress. This approach enables the development of governance models that are adaptable and responsive, using the power of artificial intelligence.

## 6. Conclusion

An analysis of AI-driven governance has shown crucial elements necessary for its successful integration into governmental processes. The provided framework summarises important discoveries that highlight the importance of using data to create policies, including stakeholders, and incorporating ethical values into governance efforts. This paradigm highlights the essential role of AI technology in facilitating decision-making processes while guaranteeing openness, accountability, and strong data governance. Furthermore, the focus on ongoing monitoring and assessment methods underscores the significance of flexibility and growth within governance structures. The consequences resulting from this paradigm have a broad and extensive impact on governance structures. The successful execution of this

initiative holds the potential to enhance decision-making processes by providing more comprehensive and efficient information. However, the efficiency of the system mostly depends on the active participation of stakeholders, ethical considerations, and strict data governance rules. The recommendations resulting from this investigation involve promoting partnerships among many parties, allocating resources to initiatives that enhance capabilities, and cultivating an environment of openness to effectively traverse the ever-changing field of AI in governance. The use of artificial intelligence into governance signifies a substantial transformation in administrative frameworks. The clear potential of this technology lies in its ability to optimise operations, increase service delivery, and stimulate innovation. Nevertheless, the incorporation of AI must be carefully integrated into ethical frameworks and strong governance procedures. Achieving a careful equilibrium between technological progress and ethical concerns is crucial for fully using the capabilities of AI in governance systems while protecting society values and ideals. The integration of AI in governance has great potential, provided that it adheres to ethical principles and undergoes ongoing societal assessments to ensure its positive and ethical implementation.

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# ARTIFICIAL INTELLIGENCE AND JOBS

**SANJEEV GUPTA AND YUKTI GUPTA**

## Abstract

*Background: Artificial Intelligence is the buzzword which is changing the world in all spheres of life. It is taking over the world by a storm and the pace it is transforming lives is terrifying. It is bringing a lot of good to our lives and to the business world too with increased efficiency and better output with minimum errors. Yet it is scary as it is causing and has potential to cause much more upheaval in the traditional employment sectors. Million dollar question is, will it take away all or most of the jobs? Is it economically possible? The paper looks into economic aspect of a world where AI takes over most of the jobs.*

## Background

The term *Artificial Intelligence (AI)* refers to a set of related technologies which are useful for solving difficulties that involve human intellect (Walsh et al., 2019, p. 2). With the advancement in the field of AI, collection and access to data has reached exceptional unprecedented levels. So much so, that huge volumes of data on any issue is now called the big data. AI embodies an array of technologies which are useful for computational processes. Predominantly, machine learning, which encompasses computerized learning processes motivated by human intellect (Walsh et al., 2019). The computation skills of the machines as well as their speed of fetching results have increased exceptionally. By using simple models like decision trees or highly complex ones like the neural networks or deep learning, AI can analyze large data sets guided by a human or even unsupervised (Walsh et al., 2019).

Most of the earlier AI has been N*arrow AI*, thereby meaning that the technology could undertake a domain-specific task like playing chess or digital smartphones unlike humans, who can translate capabilities to further fresh domains. Even in narrow AI the machines exhibit the capability of outperforming the human beings in terms of speed, accuracy, and scale of its processing capabilities. However, the current trend indicates that AI is moving towards *General AI*, thereby indicating that they have developed the skills and knowledge to act, behave and think more and more like humans, as they indicate the ability think on independently and take decisions just as humans do. As of now, it's just limited to popular cinema, but the pace at which AI is improving itself, it may challenge existence of humans someday.

## AI and Job Market

Last few years have been difficult for the world with Covid-19 pandemic followed by wars (Ukraine vs. Russia and Israel vs. HAMAS) creating turbulence in all spheres of lives. The job loss and wage loss globally has brought policy thinkers back to the drawing boards on thinking of ways and use of technology to ensure livelihood and protection of the marginalized from economic shocks. While, technology came as a rescuer in many ways during the

lockdowns, it is also acting as a threat to occupation of millions of people around the world. The transformation in the job market expected by advent of widespread usage of AI may lead to a chaos especially in the white and blue collar jobs.

Sizeable literature is available on the subject of the bearing of AI on the jobs and employment (Frey and Osborne, 2013; Finnigan, 2016; McDonald, 2017; Bessen, 2018; Acemoglu and Restrepo, 2018; Petropoulos, 2018; Walch, 2019; Thomas, 2020). The literature brings out a mixed picture with some concluding that there will be job losses owing to AI but others countering that while in certain sectors there might be job losses, in other areas AI will generate new jobs too.

On similar lines, the World Economic Forum published a study, *Is Artificial Intelligence Really Replacing Jobs? Here's The Truth* in September, 2018. The study states that every job that has potential to be automated may not necessarily be lost to AI. Economic, regulatory, political and sometimes even organizational factors may warrant continuance of traditional working method. The study has used the probabilistic risk analysis to arrive at the central estimate that only around 20% of existing UK jobs may actually be displaced by AI and related technologies by 2037. However, the same could be around 26% in China owing to the higher potential for automation, particularly in the fields of manufacturing and agriculture.

The study also predicted that while on the one hand, AI might displace jobs, but on the other hand, AI also has scope of boosting economies and creating whole new set of employment opportunities. Robotics and AI has potential to reduce costs of manufacturing and improving quality. All of it may lead to the companies re-investing as well as offering better income to its employees and cheaper products to its customers, thereby creating an income effect. All of this may lead to newer jobs.


*Source: World Economic Forum Study*

However, more recent study of the World Economic Forum, *Future of Jobs Report 2023*, released in May, 2023, gave an altogether different view and assessed that the AI will impact almost 23% of all jobs globally in the next five years. The study involved 45 countries and covered 673 million workers, and deduced that 69 million new jobs are predicted to be created but at the same time around 83 million are likely to be eliminated. Overall there could be a net loss of 14 million positions in the employment sector, which roughly translates to 2% of existing job market.

The study also suggests that across all jobs, nearly 44% of individual skills would require some sort of adjustment to factor use of AI by the companies. This change in employment conditions will challenge the employees to upgrade their abilities and competence on regular basis and inability to do so can frustrate their current job advancement prospects and even cause a threat to employment. The report found that 60% of the surveyed companies were concerned about gaps in the skills of their employees. 54% were worried about attracting talent.

A similar finding has been arrived at by McKinsey Global Institute which predicts that by 2030, up to 800 million jobs could vanish by the use of AI, robotics and mechanization. Similarly, a research by the Oxford University estimates that up to 47% of jobs in the United States are at a risk of being lost to automation in the next two decades.

Coming the position in India, Capgemini (2017), conducted a survey in 9 nations, including India and found that 58% of the surveyed Indian companies had already implemented AI thereby making India global leader in implementing AI with Australia at second number with 49% AI implementation and Italy with 44%. A pretty rosy picture has been predicted by Accenture in its 2017 analysis, whereby it has determined that AI may add approximately USD 957 billion, or 15 per cent of current Gross Value Added (GVA), to India's economy by 2035. It also predicted that in the longer term the job markets may have no major adverse impact,

On the contrary Gent (2017) has argued that AI will destroy the outsourcing jobs available to India in near future as it will lead to routine IT support work and repetitive back office tasks being taken over by advanced automated software which are being performed by humans. Thus, there exists a real danger of widespread job loss in the Information Technology sector. PwC (2018) also came to conclusions akin to the Gent study and stated that the IT/ITES segment may be the worst hit sector owing to usage of AI/machine learning.

The NASSCOM-FICCI-EY (2017) study on future of jobs in India opined that with the increasing deployment of AI, 9 per cent of the current Indian workforce would be involved in tasks/occupations that do not exist as of now whereas 37 per cent would of the workforce would have to work on jobs with radically altered competencies. The remaining 54 per cent will have no change in their job profile. The report suggested that BFSI (Banking, Financial Services and Insurance), IT-BPM (Information Technology-

Business Process Management) and core manufacturing sectors such as apparel and leather will be affected the most by automation.

All these studies provide a very chaotic picture for the global job market. No country/business can remain immune from any technological advancement and thereby risking economically lesser efficient manufacturing/service operations. This will lead to sluggish growth and higher cost of production thereby meaning expensive manufactured goods as compared to businesses which use more automation. In a global economy scenario, such countries/businesses will be replaced by their competitors and such businesses /economies will have difficulty in surviving.

## Conclusion – Job Loss Due To AI Vs. Economic Reality

Latest study by McKinsey Global Institute titled "Generative AI and the Future of Work in America" has impressed upon how AI and changing consumer habits will force workers to find new jobs. The report predicts that all jobs requiring automation, data collection and repetitive tasks, will be replaced by AI to make them more efficient. Employment sectors such as office support, customer service, and food service will be worst hit. It is estimated that in US alone the 1.6 million jobs of clerks, 8,30,000 for retail salespersons, 7,10,000 for administrative assistants and 6,30,000 for cashiers could decrease in next few years. A similar study in United States regarding foreseeable joblessness due to driverless cars predicted that nearly 1 million taxi drivers, school bus driver and shipment drivers could be jobless. In addition owing to lesser number of accidents nearly 4,45,000 auto body repairers could also lose their jobs.

The other major service sector that provides employment to millions around the world is food and catering industry. Aaron Allen & Associates shared an alarming statistics when they published that upto 82 percent of restaurant jobs have potential of automation, which includes 51 percent jobs of food servers. The report also claimed that nearly 51 percent of fast-food and counter workers (or 3.2 million) could also be replaced in the US.

As per Statista, a global data and business intelligence platform, globally, the top occupations that provide employment are retails salespersons, cashiers, office clerks, food industry employees, nurses, janitors, laborers, book keepers and drivers. Interestingly, all the studies discussed in the paper which are threatened the most by the loss of job prospects due to AI are precisely the jobs mentioned above, as they are repetitive in nature and can easily be automated by the use of AI. The situation is indeed frightening. The policy makers at global, national as well as organizational levels have to gear up to this huge challenge of millions of people losing their jobs in near and long term.

But this also throws an interesting economic question in the fray. Let's assume all the drivers become jobless due to automated cars, all the waiters/servers in food industry lose jobs to robots, all the clerks/accountants lose jobs to software and retails salesperson lose their jobs to block chain technology. In

such a terrifying scenario we will have millions of jobless people around the world with potentially no source of income. The question that arises is that these people are not just employees, but also potential customers for all sorts of businesses. A driver is a customer for food industry too when he busy food from an eating outlet. A waiter is potential customer for auto industry too as he has to take an Uber for commuting from his/her residence to workplace and back. Similar, is the case with clerks and salespersons. All the workers of various industries provide customers to other industries.

But if all of them become jobless owing to AI, they will have nothing to spend on. They will have no cash/income to spend on commute, or order food or eat out, or for buying goods from retailers and so on. In such a state of affairs, who will the automated cars industry build cars for? Who will the restaurants/hotels cook food for? What will business house produce and sell without these millions of customers? One option is that governments instead of taxing people provide allowances/subsidies to those who lose job, so that they have money in their hand to buy goods and service, this way economy can survive. However, this too is fraught with a complexity, how to decide who deserves more and who less? Will it be justified, if those who are capable and educated are treated at par with those who have never worked due to procrastination? In addition, what will the people do, if they have nothing productive to do? Will it not cause psychological disorders and social problems?

It's all good to know that AI will increase efficiency, decrease errors and will help manufacturing of cheaper goods but without money in hand of customers, it will be all a fruitless exercise. Many studies discussed above talk about creation of jobs of newer kinds which will offset job loss in traditional sectors. But is the world ready for such transition and that too at the rapid rate at which AI is making advancement? What about developing and under-developed countries, are they equipped to upskill majority of their work force as per needs of changing job requirements. Countries like India with huge informal labour market can neither afford to stay away from usage of AI if it wants to develop economically, nor can it afford unemployment beyond manageable limits. It's a crossroad which policy makers have to tread cautiously. We cannot have a situation wherein, in enthusiasm to implement better technologies/automation we have chaos on streets and failed economies with no one having power to purchase.

On a positive note, we should remember that when machines came after Industrial revolution, everybody expected the world to end. The world faced an economic depression yet the world and its economy survived. Same things happened when computers and then internet were invented. The employment profiles changed but the world continued to exist, in fact in the long term even thrived. The only additional fear that AI is bringing is that what if it starts generating more advanced AI on its own? Many popular culture movies have predicted that scenario and that might in

reality bring the humanity to an end. But till the time AI is controlled by humans, it can at best be the best servant humans have and can be replaced or even switched off if any threat warrants that. A cautious, evolutionary and phased implementation of AI (to enable workers to upskill themselves for change in jobs and newer jobs that would emerge) and the ultimate reins in the hand of humans could be the best solution way forward.

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# DIGITAL INDIA LAND RECORDS MODERNIZATION PROGRAMME: SCOPE FOR ARTIFICIAL INTELLIGENCE

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## Abstract

*India is a vast country with huge differences in the land revenue administration. DILRMP- the Digital India Land Records Modernization Programme is a 100 % funded programme of the Government of India primarily to strengthen the revenue administration of the country and update the various components of land records in a digitized manner. Importance of technological advancements are inevitable in the present fast-growing economy, hence the Artificial Intelligence is expected to play a significant role in integration of the land records in a much faster manner of mutation and continuous updating of Land Records and Maps and it will also support the block chain technology to ensure fool proof mechanism. This paper discusses in detail the progress of modernization of land records and its components and also explains in detail the smart land governance, block chain technology and artificial intelligence and the scope for integration in land governance through DILRMP. The discourse delves into the breadth and potential of integrating diverse technologies, examining their relevance and practical deployment within the realm of land governance.*

## History of e-governance in Land Revenue Administration and Management of Land Records

Land Governance is a complex and continuous process that needs huge resources and support for its implementation. The physical maintenance of records was very difficult due to the management of large numbers of land record documents and maintenance of the huge quantity of the records which increases upon every land transaction and its updating is a never-ending process. The management and administration of land records primarily fall under the purview of the revenue department, necessitating a cohesive integration across various departments involved in land record maintenance and administrative processes. Land records are being used by different departments for the Registration of landed properties and the Record of Rights. The Survey process and updating the land records based on these surveys cost high due to its intricate nature. Every state in India has different systems and names for the different land records related documents. In addition to this diversification of land use pattern, expansion of urban areas and subdivision of families, growing population, creation of more districts, etc, are posing great challenges for the maintenance of land records, which is essential for management and administration of land.

In this context, E-governance, which involves the use of information and communication technology (ICT) at every layer of land governance and management, becomes crucial. It streamlines services for citizens, facilitates information exchange, enables transparent transactions, and integrates

various independent systems for informed decision-making. This approach also embeds transparency and accountability into the entire process. The first step in this regard was initiated during the fifth five-year plan in 1987 through a pilot project in Bihar and Odisha named as Strengthening of Revenue Administration and Updating of Land Records (SRA&ULR) programmme. Further, Computerization of Land Records (CoLR) was launched in 1988-1989 as a separate pilot project. The merger of SRA & ULR and the CoLR in 2008 led to the inception of the National Land Records Modernization Programme (NLRMP). Later, in 2015, under the Digital India initiative by the Government of India, this program was revamped and rebranded as the Digital India Land Records Modernization Programme (DILRMP), signaling a significant step towards digital transformation in land record management (DoLR, MoRD, GoI).

Bhoomi, launched in Karnataka in the 2000s, marked a significant stride as the first e-Governance land records management system (V Acharya et al, 2018). Its digitization initiative aimed to:

- Minimize land transaction fraud by boosting transparency with digital records.
- Streamline public access to land records and governmental services via online platforms.
- Enhance state-level planning and policy-making through the integration of various databases, advancing e-governance towards a more connected and efficient governance framework.

## DILRMP- A step towards E-governance to Connected Governance

Land governance in India with a diverse record-keeping system and varied administrative and legal practices, present unique challenges. These include disparities in land record management, un-surveyed records, and non-uniform measurement units across states. Notably, some North-eastern States follow customary laws with land governed by village chiefs. Addressing these complexities necessitates comprehensive programmatic efforts for computerization and digitization, aiming to enhance transparency and efficiency in delivering citizen-centric services and managing revenue administration. The objective is to evolve towards a more effective land market. However, given that land governance falls under State and Concurrent lists of the Constitution, creating a unified e-governance framework for land records at a national level poses significant challenges. Despite these hurdles, integrating land systems and governance is crucial for reaping the benefits of various Central and State Government schemes and programs.

Initiated in 2008, the National Land Records Modernization Programme (NLRMP) transitioned into the Digital India Land Records Modernization Programme (DILRMP) in 2016 thereby, reinforcing the initiative's commitment to modernizing land records.

Table 1. The MIS data about the Computerization of Land Records(CLR)

| | |
|---|---|
| Total ROR | 338,590,429 |
| Total Villages | 657,397 |
| CLR Completed in villages (No.) | 625,121 |
| CLR Completed in villages (%) | 95.09% |
| CLR Ongoing villages | 1,663 |
| Mutation Computerized villages (No.) | 542,458 |
| Issuance of digitally signed ROR in villages (No.) | 417,543 |
| ROR Linkage With Aadhaar in villages (Completed No.) | 40,109 |
| ROR Linkage With Aadhaar in villages (Completed %) | 6.10% |
| ROR Linkage With Aadhaar in villages(Ongoing) | 21,067 |
| ROR Distribution through CSC,Kisok,Online,etc.in villages(No) | 615,846 |
| ROR Distribution through CSC,Kisok,Online,etc.in villages (%) | 93.68% |

Source: https://dilrmp.gov.in accessed on 27.12.2023

At present, the DILRMP; one of the important endeavors of digital governances system related to land record management and administration encompasses nine components or modules for the integration of different aspects of land administration and management including a citizen centric service delivery management and ease of doing business. The nine components are listed below

(i) Computerization of Land Records,

(ii) Computerization of Registration,

(iii) Survey / resurvey and innovative initiatives,

(iv) Modern record rooms (Tehsil/Taluka/ Circle/Block level),

(v) Training & capacity building, IEC and Evaluation Studies,

(vi) DILRMP Cell,

(vii) Project Management Unit (PMU),

(viii) Consent-based Linkage of Aadhaar with Record of Rights and

(ix) Computerization of Revenue Courts

## Progress of Computerization of Land Records & Consent-based Linkage of Aadhaar with Record of Rights

Out of 657,397 revenue villages of the country, computerization of land records of 625,121 revenue villages (i.e. 95.09%) has been completed as of the last quarter of the year 2023 and Land records computerization in the rest of the villages is under progress. Another important aspect of land record management is mutation of land records. The facility of online Mutation of land records is available in 542,458 villages i.e. around 82.5% of total revenue villages of the country (DoLR, MoRD, GoI). In almost all major states under DILRM digital Record of Rights (RoRs) are available.

Table 2. MIS data about computerization of registration process

| | | |
|---|---|---|
| Total SROs | | 5,329 |
| Computerized SROs | No. | 5,060 |
| | % | 94.95% |
| Technology used | Web | 4,628 |
| | Client server | 240 |
| Availability of Internet | | 5,043 |
| Abolish stamp paper | | 2,299 |
| Availability in the Website | Guideline | 4,935 |
| | Circle rate | 4,975 |
| | Online calculator | 4,943 |
| | Sample deed | 4,956 |
| | Online booking | 4,077 |
| Online Payment | | 3,965 |
| Connectivity with revenue offices | | 4,683 |
| Integration with LR | No. | 4,667 |
| | % | 87.58% |
| Deed searchable in web | | 4,398 |

Source: https://dilrmp.gov.in accessed on 27.12.2023

At the current stage with synchronizations of activities of various wings of land administration and management, most of the processes involved in land transitions and ownership are being undertaken digitally. The linkage of Aadhaar with the RoRs and sale deeds has led to better management of individual land rights and reduction in disputes, forgery in land transactions as well as avoidance of benami transfer of land. The credibility of land records has improved since the inception of the implementation of DILRMP. Against the total around, the issuance of digital RoRs is now happening in 417,543 out of a total 657,397 villages and RoRs now can be accessed through CSCs, online and Kiosk in 615,846 villages. (DoLR, MoRD, GoI)

Hence, under DILRMP digital records of land ownership data is available for most of the revenue villages. Table 1. show the progress of digitisation of land record available in the RoRs document can be accessed and data analytics pertaining to ownerships, fraudulent land transactions, etc. can be carried out through AI.

## Progress of Computerization of Registration

The following table shows the extent of digitalization of the process of land registration at the all India level. Across the country out of the total 5,329 sub-registration offices, 5060 SROs (94.96%) have been fully computerized (DoLR, MoRD, GoI), hence sale purchase data pertaining to land is available to a large extent. The land transitions reflect the dynamism of the land market in India. Hence land data captured through automated land registration processes can be analyzed through data analytics tools for policy making and better land governance. Apart from this data pertaining to collection of stamp duties can be analyzed for the projection of growth of stamp duties collection.

Land Registration among others impacts revenue generation, maintenance of updated land records, and transparency of land transaction and land market. In view of

this, under DILRMP integration of SROs with the Land Revenue Departments has been emphasized. As per the latest data available through DoLR, Ministry of Rural Development, around 87.6% SROs have been integrated with the land revenue offices. Availability of circle rates, online payment system and other land translation related information through online platforms has created a conductive environment for the use of AI and block chain technology.

### Physical progress of Survey / resurvey

The modernization of land records, crucial for providing accessible, high-quality online land records, hinges on integrating these records with survey data. The Digital India Land Records Modernization Programme (DILRMP) places significant emphasis on the surveying and re-surveying of villages to update land records and ensure accurate land titling. This process is key to replacing outdated survey records, which are often barriers to error-free land governance. Updating these maps through surveys and re-surveys is a critical step before implementing advanced technologies like AI and blockchain in land record management, especially from an analytics perspective. Table 3 showcases the progress made in surveying and re-surveying land across villages in India, illustrating the strides taken in updating and refining land records.

Table 3. MIS Data about the Physical progress of Survey/Resurvey works

| Total Villages | No. of Villages where Survey / Resurvey Work | | | |
|---|---|---|---|---|
| | Completed (No.) | Completed (%) | Ongoing | Not Started |
| 657,397 | 95,131 | 14.47% | 71,381 | 490,885 |

Source: https://dilrmp.gov.in accessed on 27.12.2023

### Other Digital Initiatives towards modernization of Land Management

Apart from DILRMP, Department of Land Resources, Ministry of Rural Development, Government of India has initiated two important interventions that is NGDRS and ULPIN for land management. The National Generic Document Registration System (NGDRS) is a centralized, customizable software solution initiated for property registration. It allows states to tailor the application to their specific needs. NGDRS provides an online platform for evaluating property values, understanding land types, and identifying restricted properties. Citizens can complete most registration processes online, including document submission and payments, significantly reducing the need for physical office visits. This system streamlines property transactions, benefiting both citizens and government staff by improving efficiency and accessibility. NGDRS being unified and centralized software for land registration, data analytics is being easily applied. (NGDRS, 2023)

Unique Land Parcel Identification Number

(ULPIN) or Bhu-Aadhaar is a unique initiative for the identification of the land parcels across the country by providing 16 digit unique identification numbers and also to have a consistent core data (DoLR, MoRD, 2023). ULPIN is utilized for the indexing of the land parcels whereas NGDRS provide a platform for online repository of land registration in India. The dynamics of land governance can be analysed from a policy perspective with the implementation of these programmes. Integrating Blockchain technology into the land registration system can automate the data integration process, transitioning records from a decentralized to a centralized framework. The initiation of such innovative approaches paves the way for seamlessly adopting modern tools like blockchain and AI, enabling a thorough and sophisticated analysis of the land records management system.

## DILRMP Performance Grading

The Department of Land Resources, under the Ministry of Rural Development, has classified districts across India into Platinum, Gold, and Silver categories, reflecting their performance in the DILRMP's various components. Districts with over 90% performance in all components are awarded Platinum status, a distinction held by all districts in Tripura and Chandigarh. Andaman & Nicobar Islands, Goa, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Lakshadweep, Manipur, Nagaland, NCT of Delhi, Punjab, Sikkim, Telangana, Uttarakhand were not in any other of the three categories of DoLR and need more improvements in the implementation of the DILRMP. It indicates the inability of the states due to various factors to achieve the objectives of the Digital India Land Records Modernization Programme. Further, many disputes do arise mainly during the survey & re-survey process and the Integration of the land records information between different departments within the state.

## Problems and challenges of DILRMP

The land is included in the state list; hence, to a large extent, the successful implementation of DILRMP requires active participation and cooperation from state governments. Lack of uniformity in land record management across the states is posing problems for the aggregation of land record data at the national level. As a result, the analytical perspective of the land record data becomes weak. The digitalized Record of Rights (RoRs) available through the web portals of state governments in many states is for viewing purposes only, and digitally signed RoRs are not available to citizens. Digitalization of cadastral maps forms an important intervention under the DILRMP programme. In the absence of modern surveys of land records, the cadastral maps are not truly digitized in many states. Further, updated cadastral maps are unavailable, and the textual data of revenue records is not integrated into the maps with proper geo-referencing, thereby defeating one of the purposes of DILRMP. The land disputes arising among districts and states are mainly due to the absence of updated and authentic digitized land records. Land records pertaining to all types of tenurial rights, such as land under lease, tenancy and possession through other instruments, are not captured through online platforms where the RoRs are available. Despite diversities in land records management systems, land reform acts, and policies across states, the implementation of DILRMP

has substantially achieved its objectives with respect to certain components.

## Conceptual model of Smart Governance

Smart Land Governance has a critical role in land management, which influences socio-economic institutions and policies. Smart Land governance emphasizes the necessity of managing land use shifts through timely acquisition of land use information and establishing relevant policies, focusing on four major areas: land tenure, land value, land usage, and land development. Smart Land Management (SLM) is crucial for fostering efficient land markets and ensuring environmental sustainability. It is considered an all-encompassing institutional framework that facilitates the sustainable implementation of land policies, integrating land use regulations with the functionality of land markets.

The SLG skillfully combines social technologies, geographic data, and crowdsourcing with advanced technological elements such as sophisticated information systems and extensive data analysis. This multifaceted approach is geared towards effectively tackling the complexities and challenges associated with land management. SLG requires smart technologies to support good governance in land administration, advocating for open and transparent access to land records and the use of geographical information systems (GIS) to manage land use complexity. The SLG, grounded in the mentioned technologies, also aims to build skills and expertise across all strata: individual, organizational, and societal. Leveraging a well-rounded SLG framework, strategic decisions and measures can be implemented, promoting critical areas such as food security, eco-friendly land use, sustainable urban development, and the prudent management of resources. (Azadi, H., and et al., 2023)

This article also discusses the adaptation of Smart Land Governance through Blockchain technology and Artificial Intelligence as an extension of the existing programme (DILRMP). In India, with its intricate land systems, there is a significant need for advanced technological support. This is essential to improve land utilization and productivity, which are key factors in driving economic development in various sectors. This is possible in the present context through Artificial intelligence. The digitization of land records wherever is yet to be completed may be introduced through AI systems to ensure faster computerization. Once the Integration of various databases of Land records is made available in a repository, it enables Artificial Intelligence to support the Government in effective Planning for land use and its utilization in a sustainable manner by reducing disputes.

## Blockchain Technology in Land Governance

Based on the survey of literature blockchain technology can be defined as "a decentralized, distributed ledger technology that records the provenance of a digital asset." This definition emphasizes the key characteristics of blockchain i.e., decentralization (no single point of control), distribution (across multiple nodes or computers), and its role as a ledger for tracking the history and ownership of digital assets.

The blockchain technology is quite useful for securing property transfers, particularly for updating land records and transfer of ownerships.

Blockchain technology utilizes smart contracts, which are automated contracts where the terms of the agreement are encoded into the software. This feature is fundamental in blockchain's application for streamlining land titling processes, as it allows for direct, transparent, and efficient execution of contractual terms between buyers and sellers. In fact, a property bought or sold through a smart contract automatically updates the land records and records the proper ownership rights(Singh, P. (2020)). Another important aspect of Blockchain technology used in Land record management is that this can be used at the local level thereby it gives a high level of security and transparency. Blockchain technology leads to an irreversible land record digital process, hence it helps in reducing the scope for fraud and disputes.

As blockchain technology automates the process of updating land records through smart contracts, it is both time and cost saving. This can reduce transaction times and administrative burdens for both buyers and sellers, as well as for government agencies responsible for maintaining land records. As the records are immutable and updated automatically, all parties can rely on the accuracy and authenticity of the information stored on the blockchain and this in turn can boost the land market ecosystem. Overall, integrating blockchain technology in the management of land records can significantly boost the processes' effectiveness, security, and transparency, revolutionizing how property transactions are conducted.

Hence, In India, these technologies are being used on pilot basis in the context of land record management expected to be implemented fully to have an integrated and fool-proof mechanism for any person who will be buying or selling the land.

## The concept of Artificial Intelligence (AI)

AI refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem-solving and decision-making. Artificial intelligence is become part and parcel of day-to-day life in recent times. Almost all the persons using the internet in one or the other form must have utilized AI features such as chatbots, AI search tools, etc., The adoption of Artificial Intelligence (AI) is rapidly expanding across various sectors. India, through NITI Aayog, released a paper titled "National Strategy for Artificial Intelligence #AIforAll," highlighting AI's potential in healthcare, agriculture, education, smart cities, and transportation. This strategy aims to enhance service accessibility, efficiency, and quality. It acknowledges challenges like research expertise and data access, proposing a framework that emphasizes research, skill development, and ethics, alongside public-private partnerships (NITI Aayog, June 2018). However, the integration of AI with land records management, a critical area, remains unaddressed in the strategy.

## Futuristic Expectations of Land Governance with Blockchain Technology and Artificial Intelligence

The digitization of land records using blockchain technology and artificial intelligence (AI) interfaces can revolutionize the way land administration and

management are conducted. Here's a look at the importance and potential benefits of integrating these technologies:

### Enhanced Security and Transparency

The Land records kept as physical records or even digital records can be altered manually without the knowledge of the authorised persons but the Blockchain's decentralized and immutable ledger ensures that once a land record is entered, it cannot be altered or deleted without consensus. This greatly reduces the risk of fraud, tampering, and corruption. AI can further enhance this by detecting anomalies and patterns indicative of fraudulent activities.

### Improved Efficiency and Accuracy

Even after the computerisation of the land records, integration with different departments for access of the land records is a challenging process for the mutation of the land records. In India, mutation of land records is only executed during the transfer of land and not during other agreements of lease, tenancy, etc. The automation capabilities of blockchain, particularly through smart contracts, can streamline land registration and transfer processes, making them faster and less prone to human error with the inclusion of every aspect of the updation in the land records. AI can assist in processing large volumes of data, ensuring the accuracy of land records, and quickly updating records based on new information.

### Reduced Operational Costs

Keeping and maintaining the records in physical form requires huge, space and labour. Automating the record-keeping process reduces the need for extensive manual labor and bureaucratic procedures, thus cutting down operational costs. AI algorithms can handle complex tasks like verifying documents and analyzing land use patterns more efficiently than traditional methods.

### Enhanced Accessibility and User Experience

Digitized records are more easily accessible to stakeholders, including landowners, potential buyers, and government agencies. AI interfaces can provide user-friendly platforms for interacting with these records, including querying, updating, and verifying land data.

### Data-Driven Decision Making

AI can analyze vast amounts of data to provide insights into land use patterns, valuation trends, and development opportunities. This can aid governments and developers in making informed decisions about urban planning, resource allocation, and infrastructure development.

### Fraud Detection and Prevention

AI can continuously monitor land record systems for suspicious activities, identifying and flagging potential fraud. This proactive approach to fraud detection is crucial in maintaining the integrity of land records.

### Integration with Other Systems

Digitized land records can be easily integrated with other governmental and private sector systems, creating a more cohesive and efficient administrative framework. For instance, linking land records

with tax systems can streamline tax collection processes.

### Support for Legal and Regulatory Compliance

Blockchain technology can help in ensuring compliance with legal and regulatory requirements by providing a transparent and verifiable record of transactions and ownership. AI can assist in regulatory reporting and compliance checks.

### Dispute Resolution

The clarity and immutability of blockchain-based land records can significantly reduce land disputes. AI can also assist in analyzing past cases and providing recommendations for dispute resolution.

### Sustainable Land Management

The utilization of AI-powered analysis of land records can enhance sustainable land management efforts by offering valuable insights into environmental consequences, the progression of land deterioration, and effective strategies for land utilization.

In brief, the digitization of land records using blockchain and AI can lead to more secure, efficient, and transparent land management systems, significantly transforming how land governance is approached and executed.

### Conclusion

The Digital India Land Records Modernization Programme (DILRMP) has created a digital environment across different facets of land record management and land revenue administration. The state Governments have accomplished the computerization of basic land records, registration process, mutation, digitization of the Cadastral maps, Field map Books(FMBs), and Record of Rights (RoR). In India, apart from these documents there are several other land records related documents, which are yet to be computerized. Moreover, from an data analytics perspective, efforts have been very less i.e. use of digital data from a policy analytics point of view has been limited. The accuracy of the computerized database has not been validated to a large extent, hence land litigations are still increasing. Further, sharing of a unified land records database with other departments, and policy level platforms has not been possible. The other digital initiatives such as the creation of National Generic Document Registration System (NGDRS), Unique Land Parcel Identification Number (ULPIN, etc. have been very limitedly attempted. In this context use of blockchain technology and AI can be meaningful. Blockchain technology reduces errors and fraudulent activities to an extent but AI technology can support in terms of land planning, zoning and also support in identifying the issues occurring in the registration process and also suggest the key solutions by analysing the data sets available with it. As we have limited land records available online and even some North-Eastern States are struggling to achieve 100 % digitization of various land records, these technological aspects take time depending on the infrastructure availability and Internet access to remote locations in the country.

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# PUBLIC ADMINISTRATION AND ARTIFICIAL INTELLIGENCE

**MOHAMMAD ASLAM**

## Abstract

*The popularity and broad use of disruptive technologies, specifically Artificial Intelligence (AI) in business organisations, would most transform personal and professional life, structures and processes of government, and the world economy in the coming days. As evidenced by the ongoing debate concerning Artificial Intelligence's potential applications and effects, there are conjectures regarding the potential imminent emergence of an Artificial General Intelligence (AGI) with superhuman capabilities with every significant advancement in AI development and application. Now, intelligent machines are proving in various settings that they can make better decisions than humans. The exponential growth in disruptive technologies has started a debate on AI's social, political, and administrative effects. This paper offers an analysis and comprehension of the challenges posed by AI in public administration. This paper examines how AI impacts various facets of public administration. The era of challenge to public administration dates to the programmed decision-making theory of Herbert A. Simon is reaching its epitome. Therefore, this paper attempts to highlight the implications of today's AI on the structure and processes of public sector organisations. This paper aims to identify the threats and prospects of adopting AI-powered applications in government organisations, which may be helpful for public administrators to make appropriate decisions concerning adopting AI in government organisations from an interdisciplinary perspective.*

**Keywords**: Artificial Intelligence, Public Administration, Digital Intelligence Governance, Intelligent Machines, Public

## Introduction

The most profound revolution of the 21st century is Robotics, which refers to the creation of nonbiological intelligence (Artificial Intelligence) that exceeds unenhanced humans (Kurzweil Ray, 2005, p.260). Intelligent machines have a competitive advantage over unenhanced humans as they can readily share their knowledge. On the contrary, except for slow, language-based communication, we unenhanced humans cannot transmit the vast patterns of interneural connections and neurotransmitter concentration levels that make up our knowledge, skills, and learning (Ibid). Intelligent machines can pool their resources in ways that humans cannot. These days, intelligent machines can accurately master billions of facts, a capacity that doubles annually, and the rate of doubling is accelerating.

In the 21st century, AI is becoming the universal engine of execution (Iansiti Marco and Lakhani Karim R., 2020). As disruptive technologies shape "all of what we do" (Ibid, p.3), no field of human endeavour will soon remain independent of artificial intelligence. In discipline after discipline and industry after industry, AI-powered applications and disruptive technologies are becoming

pervasive, defining a new age for business and government organisations. AI has already had and is predicted to continue to impact significantly every field it touches.

Thus, artificial intelligence is everywhere. Recent advancements in robotics have made it possible to implement AI-based systems in a wide range of social, commercial, and administrative organisations. Discussions concerning the algorithmic design of digital communication settings and the consequent decline in administrative processes provide instances (Kaye, 2018); algorithmically stimulating fallacies in Decision-making process (Settle, 2018); the spread of inaccurate information in public spaces made possible by generative AI (Krebset et al., 2022); the future of work and AI's role in the replacement of jobs and related automation driven unemployment (Acemoglu & Johnson, 2023; Brynjolfsson & McAfee, 2016; Frey, 2019). AI is starting to influence public administration as a concept and practice with these advancements. AI is quickly replacing traditional operational foundations in government and business. Not only is AI replacing public officials, but it is also altering the basic notion of public organisations. The most significant impact of artificial intelligence might have less to do with mimicking human nature and more to do with changing the makeup of governmental institutions and how they influence society. AI is transforming the nature of government organisations' operations and processes and, more specifically, how they deliver public services to the citizens.

When AI, software instructions and algorithms drive public organisations, they make up the critical path in working and delivering services. In most business organisations like Amazon and banks' mobile apps, all processes that would traditionally have required human intelligence, not only to design but also to execute, are done by intelligent machines in real-time (Iansiti, Marco and Lakhani Karim R., 2020). Moreover, the social fields and processes that are mediated by or dependent upon various technologies are influenced by their design, underlying mechanisms, inputs, and outputs (Winner, 1980). Because of this, technology and its advancements have an impact on public administration by favouring certain actors, factions, or organisations more than others based on how well they align or misalign with the affordances of the current technology (Bimber, 2003; Castells, 2009/2013; Jungherr et al., 2019; Müller, 2021).

In this context, it is necessary to analyse how AI influences the concept and practice of public administration (Risse, 2023). Artificial General Intelligence (AGI) or Artificial Human-Level Intelligence is frequently debated as a threat to civilisation if not human existence itself (Bostrom, 2014). Nick Bostrom (1997), in his piece *How Long Before Superintelligence* started a debate on the technical feasibility of Superintelligence. Therefore, this discussion is based on the assumption that AI is capable of autonomously seeing, reasoning, deciding, and acting in various circumstances with human or superhuman skills. This idea, primarily based on science fiction, has little in common with AI systems that are now in use or with laboratory research on the advancement of AI (Agrawal et al., 2018/2022; Larson, 2021; Smith, 2019). The majority of AI now in use is narrow AI, which

has been trained on domain-specific data to carry out domain-specific tasks. (M. Mitchell, 2019, p.45f.). Therefore, it is crucial to avoid becoming distracted by hypothetical AGI while analysing the implications of AI on public administration and instead concentrate on particular examples of narrow AI, the prerequisites for its effective use, its applications in specific fields of interest, and their outcomes.

In the twenty-first century, the introduction of AI-powered devices has significantly impacted our personal and professional lives. However, our understanding of how AI-powered technologies are changing public sector organisations is still developing. Thus, this paper aims to investigate how artificial intelligence has affected public administration. In order to do this, a thorough literature analysis has been carried out to understand how artificial intelligence affects the procedures and structures of public organisations. Peer-reviewed English language articles have been our primary focus to establish a literature background with articles from academic journals. We searched the following EBSCO host and ResearchGate databases for titles. Most importantly, this paper investigated AI service provision by the government, highlighting the bilateral relationship between the needs of the public sector and the solutions provided by AI applications. This paper also highlights that supporting e-government tools with AI technology increases efficiency and improves government service provision.

## Artificial Intelligence Vs Human Intelligence

According to Josh Simons (2023), Artificial Intelligence is a scientific field rather than a single technology that proposes to build intelligent machines to achieve particular goals. Ray Kurzweil (2005) asserts that intelligent machines are superior to humans and that a computer will inevitably surpass human intellect if it can match its complexity and range and then continue its double-exponential ascent. He contends that once robust AI is developed, it can easily be enhanced and given more capabilities. As soon as strong AI is developed, it will spread like wildfire and quickly advance to Superintelligence (Kurzweil, 2005).

Experts distinguish between Strong Artificial Intelligence, Weak Artificial Intelligence and, in some cases, Superintelligence. Weak AIs are often created and employed for specialised applications. Weak Artificial Intelligence-based applications are already extensively utilised; application has even made their way into everyday life through clever search recommendations or optimal route calculation. Weak Artificial Intelligence is primarily the reproduction of language and logical-mathematical intelligence, according to the notion of many intelligences. This notion is evident, for example, in Finlay's definition. Strong AIs, conversely, refer to systems that can reason, plan, learn, and make rational judgments in the face of uncertainty. Superintelligence is predicated on a system that is cognitively superior to any human person. Hence, a system of that kind should be more adept than any human at mapping every facet of multiple intelligences. Presumably, for the foreseeable future, powerful artificial intelligence and Superintelligence will be kept for scientific fiction.

However, technologies that learn independently and provide superior results but whose solution is opaque are frequently

called "black boxes." The experiments on the Explainable AI aim to communicate the operation of artificial intelligence algorithms understandably, not just to increase confidence and unambiguousness in systems, but also to develop more familiarity by detecting logics and contexts. In public administration, which is either democratic or authoritative, verifiability and transparency in decision-making are mandatory.

## AI and Public Administration

We have been witnessing an unprecedented change in disruptive technologies, specifically AI, for the past few years. We have entered a new age in which AI-powered applications, digital networks, and algorithms are woven into the structures and processes of organisations. It is changing how business and government organisations function and how the economy operates. In this new age, understanding the new opportunities and challenges has become essential to all of us in general and public functionaries in particular. In this era of AI, the emergence of AI-powered applications is transforming how government organisations work. Thus, we need to understand better how to manage, transform, grow, and control government organisations in an era of AI. It offers new opportunities for private and public organisations.

Artificial intelligence has drastically enhanced the capacity of people and organisations to acquire information and lowered the barrier to access to all sorts of information. However, public managers are not yet prepared to tackle the threats of or efficiently respond to this non-gradual and exponential change (Arthur P. J., 2008). AI is utilised to control the authority that public administrators have been granted in policy execution, and technological improvements may shift policy-making from expertise to technology-driven mass production with the future development of AI technology. According to some academics, the application of new technologies will not completely upend management and production systems and disturb almost every industry in the world. It will drastically alter how public resources are distributed and how public organisations function. It will also have a significant impact on how government management and politics are currently conducted, reshaping state-society relationships and how the power of the state is exercised and even turning new technology companies into the leading institutions of governance. AI-powered applications will strengthen governance, but many new problems will go outside its purview. Conventional governance will also bring about fresh adjustments to how the government performs its duties, and a compromise between various options for policies and practices will be looked for.

In this age of AI, Physical time and space have been broken down by the assimilation of the real and the virtual, the geographical hierarchies have been breakdown by the integrated platform, and data visibility has transcended empirical rationality to form an artificial intelligence governance with information at its core that achieves a significant functional leap and iterative upgrade. Through extensive data analysis and algorithmic decision-making, artificial intelligence governance introduces several artificially manufactured threats into the domain of human life. Thus, to incorporate a

quick and adaptable, collaborative participation, citizen-oriented response dynamic mechanism, it is imperative that the law of development of artificial intelligence shall be respected throughout the processes of artificial intelligence-powered governance. This will allow for a complete understanding of the ability and boundaries of artificial intelligence, the prevention of technology misuse and abuse, and the strengthening of risk early warning and tracking research. Public administrators are knowledge workers. Their main job is to make decisions. They think that their judgements cannot be quantified or turned into rules. They imagine that the combination of art and science we deploy in our decisions cannot be modelled or programmed. They believe that their collaborative work processes are too variable and unpredictable to be computerised (Devenport, Thomas. H & Kirby, Julia, 2016). In actuality, they are wrong if they think so. A greater degree of automation of knowledge work that they perform is inevitable.

The dramatic change in the nature of their jobs is unavoidable, even for the most educated knowledge work roles public administrators perform. In this context, public administrators need to do things that intelligent machines do not do well or somehow add value to the work that has largely been taken over by the machines (Ibid, 2016). Davenport (2016) claims that through augmentation, people and computers pool their abilities to produce better results than either could on its own (Ibid, 2016). Starting with what minds and machines can perform independently, augmentation entails determining how a partnership between the two could enhance rather than lessen that task. The five augmentation strategies that Devenport (2016) proposes are Stepping Up, Stepping Aside, Stepping In, Stepping Narrowly, and Stepping Forward. These five options are critical for augmenting public administrators' roles in the AI age. Thus, it is critical to strengthen public administration systems to adapt to AI-powered systems in governance, particularly at this momentous remarkable moment when the Indian government is fully encouraging the automation of its national administrative system and administrative capacities.

Change occurs outside of public institutions more quickly than it does within. There is an issue with that. Public administration must immediately become involved and take proactive measures. They cannot just wait to build fences around the terrain till technology shapes it for them. This paper advocates for increased government involvement and activity in developing change-related policies.

## Threats to Public Administration

The area of public administration practice shifts from "digital governance" to "digital intelligence governance," public administrators' dependence on AI grows, and the difficulties they encounter become more complicated and varied. It may even be argued that the arrival of the AI era necessitates reworking the ideals of public administration training for personnel. The future direction of development is expected to be making full use of data resources held by various parties, strengthening big data

mining and analysis while performing well in information sharing and system linkage, improving the perception of the cyber security situation, performing well in risk prevention, and achieving digital intelligence governance in technology applications and information security in a situation. It is anticipated that "digital intelligence governance" will take centre stage in Indian government reform efforts and establish itself as the primary mode of governing.

However, public managers are still ill-prepared to handle Artificial Intelligence's threats to the administration. In terms of "technological empowerment," artificial intelligence is shaping the foundational environment and serving as a crucial instrument for social and national governance, all while propelling the growth of disruptive technologies through deep penetration into administration. Digital governance, e-governance, and other technology-enabled governance innovations refer to using technology-enabled practices to alter the information flow system within the governance process. This improves the way governance subjects interact with one another and creates a kind of social governance mechanism, which in turn may lead to modifications to the governance system itself.

One of the main obstacles to government AI transformation in a country like India is the lack of AI and IT skills among civil service servants. Similarly, in the US, data governance success is dependent mainly on governmental agencies and their data-keeping ability to replace antiquated systems with the latest, cutting-edge technologies and procedures. This is because, in developed nations outside of the country, actively addressing the challenges of data governance and enhancing data information literacy on the competency requirements of public administration personnel has become a norm. Thus, it goes without saying that for public administrators, the significance of data or information quality, or "artificial intelligence quality," is paramount.

## Prospects and countering threats

According to American researcher P. K. Agarwal, public administrators should take proactive measures to address existing difficulties rather than passively waiting for technological advancements to alter the external environment and erect hurdles (Agarwal, P. K, 2020). In order to determine the most appropriate intervention and corrective strategies, public administrators need to be extremely sensitive to the application of AI-powered decision-making support systems and eagerly anticipate their availability. These systems should enable planning and defining areas at risk and forecasting potentially catastrophic events (G. Adorni, 2000). Moreover, Herbert A. Simon has proposed that knowledge is organised and condensed rather than accumulated and "exploding" in research. He contends that the primary goal of science and technology should be to create efficient information processing systems that support administrative decision-making. Further, he states that advancement in human ability to information processing—that is, Decision making, human thinking, and problem-solving —will be more significant in the future

than advances in computer design. The public administrator's quality and competence in the age of AI will inevitably determine the professionalism and reason for his/her administrative actions in response to the misuse of data resources.

However, public administrators repair standards of sanity through an awareness of information processing techniques and technologies. In this regard, the standards for public officials' quality in the age of AI—which goes beyond information technology personnel—have increased. This includes their capacity for data-driven thinking, data mining and storage, correlation analysis, activation, precision pushing, and knowledge structure. Additionally, the "quality" these officials demonstrate will be demonstrated using data applications, information processing, and intelligent facilities. Information processing, data application, and intelligent facility application—collectively, the "digital intelligence quality"—will emerge as the fundamental competency of the public administrator.

Due to the governance level and "digital intelligence quality" of public administrators, governance by Artificial Intelligence in Europe and the United States has fallen into the dilemma of giving value to technology over governance, resulting in more and more advanced digital technology represented by Artificial Intelligence, more and more government investment and, and infrastructure, but the substantive effect of digital governance is not good. Nevertheless, individuals tend to overestimate the real impact of digital or AI governance. Public administrators' "digital intelligence quality" was greatly improved later on, and people's participation and interaction with the administration made significant progress. However, the "core" of digital governance in Europe and the US remained flawed. Emerging technologies like social networks drove the convergence of governance concepts and digital technologies. Even while the "core" of AI-powered digital governance in the US and Europe is still imperfect, it has started along the path that leads to the most significant degree of digital governance—a return to the value rationality of public administration. The closed and autonomous nature of digital innovative governance is reinforced by its technological, intricate, and automated nature, hence diminishing and limiting public engagement and social monitoring. The following actions must be taken in order to support AI-based governance better: first, digital citizenship must be developed in order to make aware of rights and obligations, participation, regulation, and supervision in the digital age. This will ensure that digital governance remains subservient to the rule of law. Second, develop your digital negotiating skills, be proficient in digital expression and communication, steer clear of cyberviolence and value tearing, and encourage cooperation and consensus in the administration of digital intelligence. Thirdly, improve the capacity for digital self-regulation. As each person is both a natural and a digital citizen, they should develop a sound sense of reason and self-control during the virtualised, mobile, and flat digital intelligence governance process to support the digital rule of law and public order, protect their legal rights and interests, and engage more effectively in the process of

digital intelligence governance (Ma Changshan, 2022).

Simultaneously, it is imperative to integrate instructional materials and ideas like artificial intelligence and big data into training public administration professionals at training institutes and universities. Consider the administrative institutions currently looking into digital intelligence literacy and AI-assisted instruction. Additionally, we need to establish a "Big Data Research Center" and release the "Government Data Asset Operation White Paper" in the administration, which gives a comprehensive overview of the state of government data asset operation today from the perspectives of technology, business model, and application scenario. In order to fully realise the information consultation and decision support role that big data plays for administration, the White Paper provides an overview of the current state of government data asset operation, showcases cutting-edge practices for government data asset evaluation, management, and operation, and assesses the industry's future development trend. The second is to include information ethics, information rights, and information policy in the public administration staff training program. The institute developed and illustrated the idea of incorporating information policy, information rights, and information ethics into training public administration talent as "digital intelligence literacy", with the opportunity to host the Symposiums on Information Capital, Property Rights, and Ethics. For public administration personnel to stay up with the information technology transformation in the "Digital Intelligence Era," the symposium and conferences encouraged training.

## Conclusion

The new technological revolution's era of Artificial intelligence is changing the lifestyle and work of humans at an incredible rate, and the use of artificial intelligence has made public administration much more convenient. It has also presented new difficulties for public administrators. However, regardless of how technology evolves, the most essential factor is people's capacity to comprehend information, referred to as "digital intelligence quality" in the study. During the chaos, public administrators can gain knowledge of information processing technology and repair and restore the chaos caused by the impact of Artificial Intelligence on human logic norms by increasing "digital intelligence." This skill will assist public managers in gaining a deeper grasp of information processing technologies, repairing and restoring the disturbance produced by the influence of Artificial Intelligence on human logic norms. The lessons of digital governance in Europe and the United States should be absorbed by Indian digital governance, and in the practice of digital governance, the integration of Artificial Intelligence and governance concepts should be realised through the reshaping of the "digital quality" of public administrators and the general public; otherwise, it will be challenging to improve the quality of digital governance significantly. At the moment, India's "people-centred" government paradigm should be infused into the blood of artificial intelligence; only then will we reach the pinnacle of digital governance. Government organisations face a challenging scenario even if using AI-powered solutions in public administration is still in its infancy compared to corporate administration. Future research in AI and public administration is advised to concentrate on enhancing current theories and methods.

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# ORGANIZATION AND FUNCTIONING OF SHGs IN PANCHKULA DISTRICT OF HARYANA

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## Abstract

The objective of the present paper is to examine the functioning of SHGs in Panchkula district of Haryana. Information based on primary survey of 17 SHGs brings out that the SHGs function democratically however have only average general management practices. Though healthy financial practices were observed, yet marginalization of inter-loans is reported by a few. Also, the credit need of members is not fully met. Strengthening the role of SHPIs is highly desirable for inculcating organizational capacities and building human resource capabilities. This shall help them undertake skill intensive modern economic activities.

**Key words**- Self Help Group (SHG), saving and inter-loans, Self Help Group Promoting Institution (SHPI).

Muhammad Yunus' brilliant idea was picked up and replicated worldwide. In India, the microfinance movement began with the introduction of self- help group-bank linkage programme (SHG-BLP) in 1992. National Bank for Agriculture and Rural Development (NABARD) launched a pilot project that aimed at promoting and financing 500 self help groups (SHGs) across the country. This project took off and the SHGs across the nation grew by leaps and bounds over the 1990s. There was no looking back after the Government of India (GOI) launched the Swarnajayanti Gram Swarozgar Yojna (SGSY) scheme on 1st April, 1999 as a successor to the Integrated Rural Development Programme (IRDP). It was envisaged as a programme of financial inclusion through provision of subsidized credit to poor rural women. It was mandated to alleviate poverty and empower them socially. The number of these SHGs has exponentially increased to 79.60 lakhs at the end of March 2012 (Joshi D. P., 2013).

The objective of microfinance programmes in general and SHGs in particular is socio-economic upliftment of poor women in India through financial inclusion. NABARD and RBI, the nodal agencies visualize that this objective can be achieved if poor women are encouraged to organize themselves in the form of cohesive and participatory groups and pool their meagre resources to meet their financial needs. As and when they need additional resources to augment their own savings, the formal financial institutions must provide them easy access to low cost, collateral-free and non-frill loans. Besides meeting the financial needs, the financial institutions and other promoting agencies facilitate the efficient organization and financial management of resources and provide necessary skill generation to beneficiaries of microfinance programmes. RBI and NABARD from time to

time issue guidelines for organization and functioning of SHGs. Therefore, the first and foremost requirement for any empirical study is to examine whether or not the SHGs studied pass on the expectations of NABARD, RBI and other promoting agencies. More specifically, the objective of the present paper is to examine the functioning of SHGs in Panchkula district of Haryana.

It is hypothesized that the SHGs function effectively and thus overcome the problem of moral hazard through joint-liability and peer-monitoring. Also the SHGs successfully meet the credit needs of their members and lead to capacity building in organizational and financial matters.

## Functioning of SHGs

Functioning of SHGs is broadly examined on the basis of four dimensions, namely, general management practices, financial activities, organizational and financial sustainability and SHG and SHPI interaction. Each of these dimensions is discussed at length in the following four sub-sections.

## General management practices

It is now well accepted that desirable healthy managerial practices play a significant role not only in efficient functioning and sustainability of an organization but also go a long way in fulfilling expectations of its stakeholders. Therefore, it would be fruitful to examine various management practices followed in the organization and day to day management of SHGs in our study area. During the field survey we collected information on various dimensions of practices of SHGs which includes democratization of SHGs, selection and rotation of leadership, participation of members in periodic meetings, collection of savings, sanctioning and disbursal of credit and maintenance and updation of financial and other day-to-day records.

On this account, information is detailed in Table 1. It shows that in 10 out of 17 SHGs, majority of members report that their views are heard in meetings and are taken care of. In the remaining seven SHGs, majority of members complain that their views are not heard or are often just ignored by group leaders. There seems to be some sort of dominance by group leaders which erodes the confidence of some members in the functioning of SHGs. It is not a healthy sign as all members are equal and everybody's views are to be heard and are to be considered at time of decision-making. The SHGs must conform to equality and democracy.

As far as the choice of leadership is concerned, all members seem to have a fair say. Except in the case of one SHG, group leaders in the remaining 16 SHGs have been selected by consensus. Thus, in 94.12 percent SHGs, the choice is by consensus. The NCAER study reports that in 87 percent SHGs, leaders were nominated by consensus of all members, while election was resorted to by the remaining (NCAER, 2008). A healthier practice of electing leaders in 65.58 percent SHGs is reported in SHGs under mission convergence (Lather, 2012).

We also see that rotation of leaders is not prevalent at all in our sample SHGs. The same leadership is seen to continue over time since formation. This is contrary to the expectation of promoters of SHG programme, whereby it is desired to have rotational leadership and a conscious attempt to groom other members to inculcate leadership qualities. There seems to be a large scope of improvement in SHGs on this account. Unlike our study, the practice of rotation of leadership over time is reported by a NCAER study, in not all but 38.8 percent SHGs (NCAER, 2008).

Another important weakness of SHG programme in our study area is a high incidence of marginalization of benefits by a few dominant members. Majority of members in41.18 percent SHGs report marginalization of benefits. This is also against the spirit of even distribution of benefits amongst all members. Egalitarianism and not marginalization should be the norm in the functioning of a SHG.

Higher frequency of meetings is desirable. Our sample SHGs meet just once a month. In these monthly meetings, members contribute their savings, repay loans and take decisions regarding who would avail an inter-loan. Ideally it is seen that weekly meetings are beneficial. Both NABARD and RBI guidelines consider more frequent meetings (once weekly) to be most desirable (NABARD, 2012) and (RBI, 2012). Weekly meetings have been the accepted practice in many sample studies (NCAER, 2008), (Paridha & Sinha, 2010) and (Kumar, 2005). Lather reports two meetings in a month in her study, one regarding savings and loaning and the other about general information of SHGs (Lather, 2012). Thus, frequency of meetings is low in our sample SHGs as compared to available evidence.

It is observed in our sample SHGs, as a matter of custom and convenience, these monthly meeting are conducted between 10 a.m. and 1p.m. Members report that this is convenient for women as they have to attend to household responsibilities. Amongst women who were engaged in economically gainful activities, the ones who were self-employed found it easy to attend meetings. However, those who were employed in labour activities found it inconvenient to attend meetings at this time. NABARD guidelines suggest that meetings should be conducted between 7 to 9 in the morning, so that the working members can attend them conveniently (NABARD, 2012). However, household engagements made it inconvenient for most members to follow these guidelines.

Length of meetings is an important factor in attendance and efficiency of meetings. If meetings are too long, members tend to arrive late, leave early or remain absent. On the contrary, too brief meetings would imply that most decisions are not taken during the meetings and they are not unanimous. On an average, the meetings were found to last 78 minutes. More than half SHGs (52.94 percent) are seen to hold meetings longer than an hour but less than an hour and a half. More than one-third (35.29 percent) groups had a 90 minute (1.5 hour) meeting.

## Table 1: General management practices of SHGs

| Variables | | Number of groups | Percent of groups | Variables | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Frequency of meetings | Monthly | 17 | 100.00 | Time of meeting | b/w 10 am -1 pm | 17 | 100.00 |
| Attendance in meetings (%) | 40-60 | 1 | 5.88 | Participation rate in meetings | Above 80 | 5 | 29.41 |
| | 60-80 | 8 | 47.06 | | 50-80 | 10 | 58.82 |
| | 80-100 | 7 | 41.18 | | Below 50 | 2 | 11.76 |
| | 100 | 1 | 5.88 | | | | |
| Average (%) | 75.47 | | | | | | |
| Percent of punctual employees | Above 80 | 5 | 29.41 | Length of meetings (minutes) | 90 | 6 | 35.29 |
| | 60-80 | 7 | 41.18 | | 60-90 | 9 | 52.94 |
| | 40-60 | 5 | 29.41 | | 60 | 2 | 11.76 |
| Average (%) | 64.41 | | | Average (minutes) | 77.65 | | |
| Frequency of updating passbooks | monthly | 0 | 0.00 | Record maintained by | Group member | 8 | 47.06 |
| | quarterly | 11 | 64.71 | | Kin of member | 8 | 47.06 |
| | Less than quarterly | 6 | 35.29 | | Others in village | 1 | 5.88 |
| Choice of borrowers in meetings | Always | 4 | 23.53 | Disbursement of loan in meetings | Always | 1 | 5.88 |
| | Mostly | 12 | 70.59 | | Mostly | 8 | 47.06 |
| | Sometimes | 0 | 0.00 | | Sometimes | 5 | 29.41 |
| | never | 1 | 5.88 | | Never | 3 | 17.65 |
| Collection of repayments & savings in meetings | Always | 1 | 5.88 | Groups keeping record of | Minutes of meeting | 17 | 100.00 |
| | Mostly | 15 | 88.24 | | Attendance | 17 | 100.00 |
| | Sometimes | 1 | 5.88 | | Savings | 17 | 100.00 |
| Democratic functioning of groups | | 10 | 58.82 | | Credit | 17 | 100.00 |
| Choice of leaders by consensus | | 16 | 94.12 | | Repayment | 17 | 100.00 |
| Rotation of leaders | | 0 | 0.00 | | Profit distribution | 0 | 0.00 |
| Marginalization of benefit | | 7 | 41.18 | | | | |

**Source:** Field survey

Attendance in one sample SHG is very poor and ranges between 40-60 percent, whereas in almost half of these SHGs, attendance varies between 60-80 percent. The average attendance of the sample is 75.47 percent. The attendance of SHGs seems to be lower than evidence available elsewhere. NCAER reports 91.5 percent members to be attending meetings on an average (NCAER, 2008). Even by NABARD and RBI guidelines above 90 percent attendance is considered to beideal, while 70-90 percent is considered less desirable (NABARD, 2012) and (RBI, 2012). Kaur found that only 48.5 percent of groups had above 90 percent attendance, while 41 percent groups had attendance between 70-90 percent (Kaur, 2013). Attendance in our sample SHGs is not up to the mark. Also, the punctuality of members in attending meetings is not very good. On an average about two-third members come to attend meetings in time, while the remaining members have a casual attitude about the same. Members report that households and workplace pressures are largely responsible for their not reaching meetings in time. No practice of imposition of fine for absentees or late comers was observed.

The situation is worse-off in active participation of members in deliberations of SHGs periodic meetings. Only in 5 out of 17 SHGs, more than 80 percent members actively participated in deliberations. In the remaining SHGs, participation is not up to the mark. This corroborates our earlier finding of poor democratic functioning of SHGs and significant proportion of members reporting that their views are not heard by the leadership. This may be discouraging some members from active participation in meetings. NCAER reports that 83.2 percent members actively participate in meetings which indicate a much happier practice as compared to the practice in our sample SHGs (NCAER, 2008).

It is desirable that SHGs get their passbooks updated regularly. However, two-third SHGs did so only once in 3 months, while the others were even more irregular. NCAER and Paridhaand Sinha report a little more than 80 percent SHGs to regularly update passbooks (NCAER, 2008) and (Paridha & Sinha, 2010). Kaur studied SHGs in a district in Punjab and reports that 67.8 percent SHGs got their pass-books updated monthly, while 18.5percent did so every 2-3 months. She found only 13.7 percent SHGs who got pass-books updated only once a year (Kaur, 2013). In this respect, it is clearly evident that our sample SHGs are functioning poorly as compared to SHGs elsewhere.

Information about maintenance of organizational and financial accounts shows that only half SHGs are self-sufficient. The remaining half is dependent on kin of office bearers for the same. In the case of only one SHG, book-keeping is outsourced. Book-keeping is poor in the study area as compared to that reported by NCAER and Paridha and Sinha (NCAER, 2008) and (Paridha & Sinha, 2010). NCAER reports 57.9 percent SHGs maintain books without outside help (NCAER, 2008), while Paridha and Sinha find as many as 81 percent groups doing so independently (NCAER, 2008) and (Paridha & Sinha, 2010). High

dependence on outsiders for book-keeping as compared to evidence of other studies is observed in our sample. Thisis not very healthy for sustainability of groups. High illiteracy or inability of poorly educated members to keep financial records makes groups dependent on outsiders.

Table 1 also indicates that more than two-third SHGs report that mostly they selected borrowers in monthly meetings and thus the decision of sanctioning inter-loans is democratic and unanimous. About one-fourth (25.53 percent) of the total SHGs report that as a matter of rule they ensured that choice of borrowers is always made in meetings so as to ensure that benefit is not marginalized. Only 5.88 percent SHGs report that choice of borrowers is never done in monthly meetings as the demand for inter-loans is generally for contingency needs. These needs cannot wait for a monthly meet and also it is too inconvenient to call for a sudden meeting. In almost half the cases the loans are mostly disbursed in meeting. SHGs report that disbursement of inter-loans is done in meetings only if it was convenient for the cashier to visit the bank in time. Lather reports a much healthier practice as compared to our sample SHGs. She informs that loan required approval from all members and also a verbal guarantee from two members (Lather, 2012). Thus such loans are always sanctioned in meetings.Whether the loan was sanctioned or disbursed in meetings or not, the repayment and collection of savings is mostly done in meetings by more than 88percent of the groups in our study area.

All SHGs are seen to maintaina record of meetings including dates, attendance, savings, credit and repayment collection. However, the practice of maintaining a record of distribution of profit arising from interest on inter-loans disbursed is not found in the sample SHGs as the practice of distribution of profits at the end of a fixed time period is not observed. The profit arising from interest on inter-loans is deposited into the savings account and is used for further facilitating more inter-loans.

## Financial activities

Having studied the general management practices above, the present section discusses the financial activities of SHGs.

### *Saving activities of SHGs*:

Table 2reveals the saving practices inour sample SHGs which include the frequency, size and regularity of group savings. As per the mandate, all SHGs in the study area are regular in periodic collection of their monthly savings. At time of formation,82.35 percent of the SHGs collected Rs.100 per member per month while the rest collected Rs.50 per member per month. Over time, 4 out of the 17 SHGs revised their mandatory monthly savings while one group doubled its mandatory monthly savings from Rs. 100 to Rs.200 per month. Three SHGs doubled it from Rs. 50 to Rs. 100 per month per member. The remaining 13 SHGs continued with earlier agreed contribution of Rs. 100 per member per month.

Interestingly, though all SHGs are regular in pooling resources, but all members in all groups are not. 100 percent of all members in 12 SHGs are regular whereas not all members of five SHGs are very regular in

contribution to their monthly savings pool. During field enquiry, it is found that some other members contribute the share of those who are unable to pay the mandatory savings. It is interesting to note here that the joint-liability hypothesis is expected to operate on the recovery side of the loan but the same is voluntarily operating on the savings side of the loan as well. The members who contribute the share of non-payee members recover their money later, as and when the non-payees have earned enough surplus to pay both their current and past dues.

**Table 2: Saving habits of SHGs**

| Variables | | Number of groups | Percent of groups |
|---|---|---|---|
| Periodicity of savings | once monthly | 17 | 100.00 |
| Monthly savings per member at time of formation (Rs.) | 50 | 3 | 17.65 |
| | 100 | 14 | 82.35 |
| Average (Rs.) | 91.18 | | |
| Monthly savings per member on date of survey (Rs.) | 100 | 16 | 94.12 |
| | 200 | 1 | 5.88 |
| Average (Rs.) | 105.88 | | |
| SHGs that have revised savings | | 4 | 23.53 |
| Percent of members saving regularly | 100 | 12 | 70.59 |
| | 80-100 | 5 | 29.41 |
| SHGs where all members save timely | | 7 | 41.18 |
| Savings per group per month (Rs.) | 1000 | 7 | 41.18 |
| | 1100 | 2 | 11.76 |
| | 1200 | 7 | 41.18 |
| | 2400 | 1 | 5.88 |
| Average(Rs.) | 1176.47 | | |
| Gross group savings on date of survey (Rs.) | 0-10000 | 5 | 29.41 |
| | 10000-20000 | 0 | 0 |
| | 20000-40000 | 3 | 17.65 |
| | 40000-60000 | 5 | 29.41 |
| | 60000-80000 | 3 | 17.65 |
| | 80000-100000 | 1 | 5.88 |
| Average (Rs.) | 36798.35 | | |

**Source:** Filed survey

Olsen and Morgan report that peer pressure leads to timely collection of saving amount and also that members never pay for each other, rather those who delay payment, face strong pressure from peer group to do so (Olsen & Morgan, 2010). Thus, contribution to savings pool in place of defaulting members by other members seems to be a unique feature in our study area.

Monthly group savings varied from 1000 to 2400 hundred rupees, depending on group size and per member monthly savings. The average monthly group savings are found to be Rs. 1176.47 per month.

Information in Table 2 indicates that all SHGs have adequate savings to meet small emergency loan requirements of their members. The average saving of SHGs is found to be Rs. 36798.35. More than half the SHGs have a saving balance exceeding Rs. 40,000 in their bank accounts.

On comparing SHGs in our study area with their counterparts elsewhere, we find better performance of SHGs in our study area in their saving practices. For example, Paridha and Sinha report per member average monthly savings of Rs. 36.1 (NCAER, 2008) and (Paridha & Sinha, 2010). Reddy and Reddy studied SHGs in eight Indian states and found that 80 percent SHGs save regularly and the saving ranged from Rs. 20-200 per month (Reddy & Reddy, 2012). Similarly, Paridha and Sinha report regularity in the saving behaviour of their sampled SHGs. Also, the average monthly savings of our SHGs are higher than that reported by Paridha and Sinha and NCAER (Paridha & Sinha, 2010) and (NCAER, 2008). Though mostly the practice of fixed monthly savings per member is observed, Olsen and Morgan report the provision of saving variable amounts each month in southern Andhra Pradesh (Olsen & Morgan, 2010).

However, average savings available to meet the credit requirements of members in our sampled SHGs is slightly less than Rs. 40995.2 and Rs.43439 reported by Paridha and Sinha and NCAER respectively (Paridha & Sinha, 2010) and (NCAER, 2008). This seems to be mainly because the average group size in our study is less than that reported by their studies. The general practice in our study area as well as that of Paridha and Sinha and NCAER is pooling of savings by members once a month (Paridha & Sinha, 2010) and (NCAER, 2008). None of the SHGs provided weekly or fortnightly provision of pooling of members savings as expected by SHG guidelines issued by promoting and regulatory authorities like NABARD and others.

### *Credit activities of SHGs*:

The credit activities of SHGs are of two types. Firstly, the groups receive loans from the bank they are linked to. Secondly, they loan money to its members from group savings. Both types of credit practices are examined separately.

### SHG borrowings from linked banks

Table 3 providesa detail of the bank loans received by SHGs and distribution thereof among their members. The cumulative bank loan varies from 1-6 lakh rupees. The

average cumulative bank loan received by a SHG in the study area is Rs. 285965.88. This includes both the revolving fund and large group loan received from the bank.

**Table 3: Features of SHG borrowings from linked banks**

| Variables | | Number of groups | Percent of groups | Variables | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Total loan received by a group (lakhs) | 100000-200000 | 2 | 11.76 | Average loan disbursed per member (Rs.) | Less than 20000 | 2 | 11.76 |
| | 200000-300000 | 6 | 35.29 | | 20000-30000 | 9 | 52.94 |
| | 300000-400000 | 5 | 29.41 | | 30000-40000 | 2 | 11.76 |
| | 400000-500000 | 2 | 11.76 | | 40000-50000 | 2 | 11.76 |
| | 500000-600000 | 2 | 11.76 | | more than 50000 | 2 | 11.76 |
| Average (Rs.) | 285965.88 | | | Average (Rs.) | 32409.47 | | |
| Number of times in which loan was disbursed | 2 times | 13 | 76.47 | Time for which revolving fund was sanctioned | 6 months | 2 | 11.76 |
| | 3 times | 4 | 23.53 | | 12 months | 15 | 88.24 |
| Period of loan advancement | 36 months | 10 | 58.82 | Average (months) | 11.29 | | |
| | 42 months | 1 | 5.88 | SHG satisfaction with loan size for economic activity | | 9 | 52.94 |
| | 48 months | 3 | 17.65 | | | | |
| | 60 months | 3 | 17.65 | Groups desiring more loan | Yes | 11 | 64.71 |
| Average (months) | 42.71 | | | | No | 4 | 23.53 |
| | | | | | If subsidized | 2 | 11.76 |

**Source:** Filed survey

Majority of the SHGs borrowed between Rs. 2-4 lakhs. NCAER found average loan from external sources (more than 95percent from banks) in 2006 to be Rs.141219 (NCAER, 2008). This is much lower than our sample's cumulative borrowing from banks.

On calculating the average loan per member, we observe that a member on an average received Rs.32409.47. All members of a SHG received an equal amount. Majority of members received a bank loan ranging between Rs.20000-30000. In case of two SHGs it exceeded Rs. 50,000 per member and on the other extreme it is less than Rs. 20,000 per member in the case of two SHGs. This includes both the revolving fund and group loan received by the SHGs from their linked banks.

Every SHG received a revolving fund loan of around Rs. 25000 from the linked bank. This is given out to acquaint SHG members with credit and repayment practices. Once this amount was repaid, groups received large group loans ranging from one to six lakhs in one or two instalments. Of the total loan, the revolving fund is sanctioned for almost a year (11.29 months). Though the time for which loan is advanced varies depending on the bank to which the SHG is linked, 88.24 percent of SHGs received it for 12 months. The remaining SHGs are advanced the same for only six months. The linked banks decide the period of loan on the basis of monthly repayment capability of SHG members. However, most SHGs were found to repay revolving fund within six months.

The large group loan is advanced for an average period of 42.71 months. Majority of groups (58.82 percent) are advanced the same for 36 months (three years) while one-third of all SHGs are advanced the same for more than the average period (42 months). The maximum time period for which group loans are advanced is 60 months (five years).

On adequacy of group loan size for starting an economic activity, majority of members in only half the SHGs reported satisfaction on this account. Not all groups were satisfied with the loan size. The remaining demanded a larger one time loan for starting an income generating activity. On further enquiry about the desirability of additional loan, about two-third SHGs report the need for additional loan, whereby another two SHGs were keen on an additional loan conditional to availability of a government subsidy. Only 4 out of 17 SHGs were not desirous of additional loan for any purpose.

### Inter-loans: Loans within SHGs

SHGs lend money to members from their own accumulated savings categorized as inter-loans. Though inter-loans form only a small proportion of the total loans provided to members, yet the promptness with which these loans are approved and disbursed makes them very popular amongst members.The information about various dimensions of inter-loans of sample SHGs are briefed in Table 4. It must be noted at the very outset that all except one SHG amongst the sampled SHGs engaged in lending group savings. On enquiry about this group's abstaining from inter-loans, its leaders report lack of coherence amongst the SHG members to carry out credit transactions amongst themselves in the absence of an institutional body in control.

In the present study, it is seen that on an average, the sample SHGs start to lend group's accumulated savings after 10.8 months of formation. Almost one-fifth of the SHGs used group's savings for lending within the group even before they received their first bank loan (revolving fund) at the end of six months of coming into formation. More than three-fifth SHGs ventured into lending within the group (inter-loans) in less than 12 months of coming into existence. Another one-fourth of sample SHGs took between 12 to 18 months from formation to advance the same. Much fewer groups took longer than a year and a half for the same. NCAER found that groups started within group lending 6.5 months after formation (NCAER, 2008) while Kumar found that groups on an average started lending within four months from formation though they were advised to do so only after six months of savings (Kumar, 2005). As compared to the evidence provided by others, the SHGs in our study area took only a little longer than others.

The promptness with which these loans are disbursed varies from 5 to 15 days. On an average 11 days were taken to disburse a loan demanded by a member. Almost half the SHGs report that it took 10 to 15 days for disbursal of loan from the time it is demanded. Members report on enquiry that they felt that they are using their own savings and their respect is not compromised. Lather found average time to receive loans to be 8.9 days (Lather, 2012). This is similar to our findings. She also reported that time ranged between a minimum of 1 day to a maximum of 60 days. Thus, our finding is in tune with the findings of existing literature.

Most of the inter-loans were small in size and used only to meet small immediate needs of members. On an average each of the sample groups inter-loaned as much as Rs. 49250 since inception with almost Rs. 10092.21 per year. But lending activities within an SHG vary largely across groups. Almost half of the groups are found to loan between Rs. 5000 to Rs. 15000 per year. A maximum of Rs.35000 was used to meet inter-loan demand and that too by a small proportion of groups.

In our study on an average each member of a group has borrowed Rs. 5669.07 since they joined the group and borrowed around Rs. 1161.69 each year. Our finding is very close to that of NCAER which reports average loan borrowed from pooled savings per member since inception to be Rs. 5129.43 (NCAER, 2008). However, our finding is lower as compared to Kumar reports average loan taken per member to be Rs. 8939.2 since inception (1.5 years) and Rs. 5959.47 in one year. The age of groups must be considered to have real insight into performance of lending practice within the group. (Kumar, 2005).

The average time for which money was loaned to members within the group in our study area is around 10 months, only around 1.19 loans were advanced in a year. The frequency of inter-loans was limited by the size of a group's internal savings. When compared to other studies, inter-loans were not as popular in our sample. NCAER found average inter-loans in a year to be 8.3, given out for 11.7 months on an average (NCAER, 2008). Kumar reports as many as 9.66 loans in a year on an average (Kumar, 2005). The number of inter-loans is limited by the increasing size of each loan.

**Table 4: Features of borrowings by SHG members from own their pooled resources**

| Variables | | Number of groups | Percent of groups | Variables | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Amount of inter-loans since inception (Rs.) | 0-20000 | 2 | 12.50 | | | | |
| | 20000-40000 | 2 | 12.50 | Amount inter-loaned per year since inception (Rs.) | 0-5000 | 3 | 18.75 |
| | 40000-60000 | 1 | 6.25 | | 5000-10000 | 5 | 31.25 |
| | 60000-80000 | 5 | 31.25 | | 10000-15000 | 3 | 18.75 |
| | 80000-100000 | 4 | 25.00 | | 15000-20000 | 1 | 6.25 |
| | 100000-120000 | 1 | 6.25 | | 20000-25000 | 1 | 6.25 |
| | 120000-140000 | 0 | 0.00 | | 25000-30000 | 2 | 12.5 |
| | 140000-160000 | 1 | 6.25 | | 30000-35000 | 1 | 6.25 |
| Average (Rs.) | 49250.00 | | | Average(Rs.) | 10092.21 | | |
| Amount inter-loaned per member since inception (Rs.) | 0-2000 | 2 | 12.50 | Average amount inter-loaned per member per year(Rs.) | 0-500 | 3 | 18.75 |
| | 2000-4000 | 4 | 25.00 | | 500-1000 | 6 | 37.5 |
| | 4000-6000 | 4 | 25.00 | | 1000-1500 | 2 | 12.5 |
| | 6000-8000 | 2 | 12.50 | | 1500-2000 | 1 | 6.25 |
| | 8000-10000 | 3 | 18.75 | | 2000-2500 | 2 | 12.5 |
| | 10000-12000 | 0 | 0.00 | | 2500-3000 | 1 | 6.25 |
| | 12000-14000 | 1 | 6.25 | | 3000-3500 | 1 | 6.25 |
| Average (Rs.) | 5669.07 | | | Average (Rs.) | 1161.69 | | |
| Number of inter-loans since inception | 0-5 | 2 | 12.50 | Average number of inter-loans per year | Less than 1 | 2 | 12.50 |
| | 5-10 | 9 | 56.25 | | 1-2 | 6 | 37.50 |
| | 10-15 | 2 | 12.50 | | 2-3 | 6 | 37.5 |
| | 15-20 | 3 | 18.75 | | 4-5 | 1 | 6.25 |
| | | | | | 5-6 | 1 | 6.25 |
| Average | 5.81 | | | Average | 1.19 | | |
| Number of months taken after inception to disburse first loan (months) | 0-6 | 3 | 18.75 | Time period of loan(months) | 6-12 | 7 | 43.75 |
| | 6-12 | 7 | 43.75 | | 12-18 | 9 | 56.25 |
| | 12 to 18 | 4 | 25.00 | Average(months) | 10 | | |
| | 18 to 24 | 1 | 6.25 | Rate charged forinter-loans(%) | 2 | 14 | 87.50 |
| | 30 to 36 | 1 | 6.25 | | 1 | 2 | 12.50 |
| Average (months) | 10.80 | | | Average (%) | 1.88 | | |
| Average days taken to disbursal of an inter-loan | 5 to 10 | 3 | 18.75 | Major purpose of inter-loans | Consumption | 11 | 68.75 |
| | 10 to 15 | 7 | 43.75 | | Repair | 1 | 6.25 |
| | 15 days | 6 | 37.50 | | Health | 1 | 6.25 |
| Average (days) | 11.31 | | | | Marriage | 3 | 18.75 |

**Source:** Field survey

The norm is to charge two percent monthly for every advance. Group leaders and members express that this rate is lower than the rate charged by village moneylenders and prevents exploitation in time of need but is high enough to check unnecessary borrowing and misuse of money. 14 out of the 16 SHGs practicing within group lending charged two percent per month. However, in poorer villageswith members covered under the Anatodya Scheme, sample SHGs follow the practice of charging only one percent per month. The average rate charged by SHGs in the study area is estimated to be 1.88 percent. Our findings are very much in consonance with NABARD guidelines and findings of Kumar and NCAER (NABARD, 2012), (Kumar, 2005) and (NCAER, 2008). However, the rate is greater than that reported by Olsen andMorganin southern Andhra Pradesh (Olsen & Morgan, 2010). They report that the group is supposed to charge only 0.25 percent monthly, but it chargesonepercent monthly, yet it is lower than rates charged by usurious moneylenders.

Members in our study area avail of such credit to meet marriage expenses, impending health expenditure, and houserepair costs etcetera. However, these advances were most frequently made to meet contingency consumption expenditure. More than two-third SHGs report that they largely lent inter-loans to meet some consumption expenditure. Our findings are different from thoseof NCAER study that report investment in agricultural activities to be the most popular use of an inter-loan,followed by social needs such as health, education et cetera (NCAER, 2008). But our findings are similar to those of Lather who reports that these loans are used to meet sudden expenditure such as marriages, health, trips to native villages etcetera and not for any productive activity (Lather, 2012).

## Sustainability

Sustainability is the ability to survive over time. It is one of the primary requirements for successful and efficient functioning of SHGs. Organizational and financial sustainability of SHGs is studied subsequently. Table 5 provides information on indicators of financial and organizational stability.

### *Financial sustainability of SHGs*

It is the continued existence and functioning of groups providing financial services to its members, facilitating access to higher level financial institutions with low costs and high recovery (Srinivasan, 2008). Information on financial indicators explained in Table 5shows that the SHGs in the study area are highly sustainable as they exhibit excellent performance in repayment of loans to their sponsoring banks. In 2 out of 17 SHGs, all members were regular in repaying their individual share of loan. However, in the remaining SHGs some members had some problem in repaying their share on time. In case of such defaulting members, other members of the group came ahead to

cover up for defaulters. This suggests the successful application of joint-liability hypothesis operating amongst SHGs in the study area. On enquiry it is found that in three-fourth of such SHGs, low income is the primary reason for repayment default whereas it was health contingency in family of some members that caused delay in repayment of their arrears. Though repayment arrears are found in most SHGs, no case of imposing penalty on defaulters is seen. This is because the SHGs are close knit and members could see that default is only on account of a genuine crisis. The practice of penalty is not unheard of in the credit industry in India but is not very popular amongst the SHG model as it is a scheme to facilitate the poor. Fine imposition on late payment was reported by more than one-third SHGs by an NCAER study (NCAER, 2008). The information on regularity in repayment suggests that the SHGs in the study area are quite sound and sustainable as far as their financial features are concerned. On comparing repayment performance with findings of NCAER and Paridha and Sinha we see that peer pressure and joint-liability have ensured better repayment in our study area (NCAER, 2008) and (Paridha & Sinha, 2010).

On an average an amount of Rs. 57572.71 was outstanding per SHG to linked banks on date of field visit. Interestingly, in two-fifth of the SHGs, nothing is outstanding against them. All bank borrowings stand repaid. In SHG scheme in the study area, loans are subsidized by Ministry of Rural Development, Government of India under SGSY. Subsidy is provided on revolving fund and the first group loan taken by a SHG for self-employment. Information in Table 5 shows that average subsidy received by a SHG in the study area is Rs. 88993.36.

**Table 5:Distribution of SHGs by financial and organizational sustainability**

| Variables | | Number of groups | Percent of groups | Variables | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Cent percent recovery rate | | 17 | 100.00 | Repayment arrears | | 15 | 88.24 |
| Cause of arrears | Health contingency | 4 | 26.67 | Maximum delay in repayment (months) | 1 month | 1 | 6.67 |
| | | | | | 2months | 11 | 73.33 |
| | Less income | 11 | 73.33 | | 3 months | 3 | 20.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Amount outstanding to banks (Rs.) | 0 | 7 | 41.18 | Amount outstanding to SHG (Rs.) | 0 | 3 | 18.75 |
| | Less than 50000 | 2 | 11.76 | | Up to 10000 | 4 | 25.00 |
| | 50000-100000 | 3 | 17.65 | | 10000-20000 | 4 | 25.00 |
| | 100000-150000 | 2 | 11.76 | | 20000-30000 | 2 | 12.50 |
| | 150000-200000 | 2 | 11.76 | | 30000-40000 | 2 | 12.50 |
| | 300000-350000 | 1 | 5.88 | | 90000-100000 | 1 | 6.25 |
| Average (Rs.) | 57572.71 | | | Average (Rs.) | 16825.63 | | |
| Government subsidy received (Rs.) | 40000-60000 | 1 | 5.88 | Number of drop outs | 0 | 14 | 82.35 |
| | 60000-80000 | 1 | 5.88 | | 1 | 2 | 11.76 |
| | 80000-100000 | 1 | 5.88 | | 2 | 1 | 5.88 |
| | 100000-120000 | 11 | 64.71 | Number of new members | 0 | 15 | 88.24 |
| | 120000-125000 | 3 | 17.65 | | 1 | 2 | 11.76 |
| Average (Rs.) | 88993.36 | | | Reason for dropout | No money to save | 2 | 11.76 |
| Level of cohesion amongst group members | High | 6 | 35.29 | | Not satisfied with group | 1 | 33.33 |
| | Medium | 7 | 41.18 | | | | |
| | Low | 4 | 23.53 | | | | |

**Source:** Field survey

It varied from Rs.40000 to Rs.125000 (No group got subsidy more than Rs.1.25 lakh). Almost two-third of SHGs availed subsidy between Rs.100000 to Rs.120000. This is quite substantial assistance to start an economic activity and comes out to be almost one-third of the total bank loan. Also at the time of survey, members are found to owe money to their respective SHGs. On an average Rs.16825.63 is due to a SHG from its members.

### *Organizational sustainability of SHGs*

Since SHG-BLP was launched in the early 1990's, most studies focus on its impact assessment. Little has been looked into their organizational stability. It is healthy and essential for a group to be stable and possess organizational sustainability, which is the ability of these groups to function effectively and prevent any major disruption in their functioning despite any internal or external disturbance. One way to look at organizational sustainability of SHGs is the continuity of their membership. The SHGs in our study area function well on this account as 14 out of 17 SHGs studied, report no case of dropout of members since inception. In two SHGs only one member each dropped out and in one SHG, two members dropped out. A new member joined each of the two SHGs. On enquiring it is found that two members dropped out as they found the functioning of the group unsatisfactory. They report marginalization of benefits at time of securing a loan from the group's savings. Another two dropped out as they found it difficult to contribute to the monthly savings pool. However, such low rate of dropout is not a serious issue. NCAER reports that more than two-fifth of the groups reported cases of dropout (NCAER, 2008). Compared to available evidence, SHGs in our study area performed better in terms of stability of membership.

However, when level of cohesion is examined, only one-third SHGs in our study report high degree of cohesion amongst members, while two-fifth report medium cohesion and the remaining one-fourth report low cohesion. Thus, overall average cohesion is observed which is indicative of average organizational stability.

## SHG and SHPI interaction

The subsequent section is divided into two parts. The first part discusses the frequency of SHG members meeting SHPI functionaries, while the second part discusses the issues of SHGs related to skill formation and economic activity.

### *Frequency of SHG and SHPI interaction*

Greater interaction of SHGs with SHPIs is a healthy sign. SHPIs keep a check on functioning and ensure that there is no marginalization of benefits, no discrepancy in maintaining records, no unfair dominance of leaders et cetera. The Microfinance Information Exchange emphasizes in its report that it is essential to monitor microfinance institutional development and ensure that the sector is moving in a direction that will ensure its sustainability (Microfinance Information Exchange, 2006). This confirms the role SHPIs play in healthy growth of SHGs. The information on frequency of SHG and SHPI interaction is detailed in Table 6.

**Table 6: SHG and SHPI interaction**

| | | Number of groups | Percent of groups | | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Frequency of visit of staff of Rural Development Department to SHGs per year | 2 | 2 | 11.76 | Frequency of visit of SHG leaders to staff of Rural Development Department per year | 0.5 | 5 | 29.41 |
| | 4 | 8 | 47.06 | | 1 | 7 | 41.18 |
| | 5 | 5 | 29.41 | | 2 | 5 | 29.41 |
| | 6 | 2 | 11.76 | Average | 1 | | |
| Average | 4 | | | | | | |
| Annual frequency of SHGs attending meetings at BDO | | | | | 0.5 & less | 10 | 58.82 |
| | | | | | 0.5- 1 | 7 | 41.18 |
| Annual frequency of visit of bank staff | | | | | Nil | | |

**Source:** Field survey

Frequent visits of SHPI staff to groups are desirable. In this study, on an average a functionary visits a SHG four times a year. Almost half the SHGs report four visits by functionaries of Rural Development Department, Haryana in a year. While maximum visits are six in a year, in remote areas it is as low as only two visits a year.

Sometimes SHG leaders/office bearers visit functionaries of Rural Development Departmentin Panchkula town. However these visits are a lot less frequent. Since inception on an average group leaders visit functionaries of Rural Development Department at their office once each year. Leaders of less than one-third SHGs visit SHPI functionaries as often as twice a year, but this is true in villages closer to the SHPI office. This indicates low mobility amongst women-folk to nearby towns despite SHG membership.

The SHPIs in collaboration with NABARD and village panchayat leaders hold meetings at BDO where a large number of groups are invited to attend training and orientation meetings. They are provided free food and stationery. This takes place once or twice annually. No SHG in our study area visits this meet more than once annually. Three-fifth of SHGs attend this meet only once in two years, while the remaining do so once a year. These meetings are one of the ways in which SHG members are acquainted with group functioning, benefits, new schemes launched etcetera. Bank personnel of linked banks are not found to visit SHGs.

NCAER reports that two-third of SHGs were satisfied with the frequency of visits of SHPI staff which is 5.4 times annually. Office bearers are reported to visit SHPI staff more than six times a year (NCAER, 2008). Lather found that NGO workers attended meetings regularly and worked hard to maintain records (Lather, 2012). Thus, compared to existing evidence, interaction level between SHPIs and SHGs in our study area is poor.

### *SHGs, skill development and economic activity*

The activity level of members is summed up in Table 7. In this study we find that all members in 16 out of 17 SHGs are completely aware of their group's objectives, working and processes. In one group, less than one-fifth members are unaware of the same. NCAER and Paridha and Sinha report only two-fifth of SHGs where members are highly aware of group functioning while the remaining groups exhibit moderate awareness amongst members about group objectives and functioning (NCAER, 2008) and (Paridha & Sinha, 2010). Lather reports that a significant proportion of women members believe that SHGs are a source of buffer savings while only 35percent know that the actual purpose is to start a business activity (Lather, 2012). Thus, when compared to SHGs in other areas, SHGs in our study area perform very well on this count. But greater participation of members in groupdecision-making is highly desirable so that functioning is democratic and all members get an opportunity to develop leadership, management and learn other skills.

**Table 7: Distribution of SHGs by activity level of members**

| Variables | | Number of groups | Percent of groups | Variables | | Number of groups | Percent of groups |
|---|---|---|---|---|---|---|---|
| Members aware of group working (%) | 100 | 16 | 94.12 | Members of SHGs engaged in economic activity (%) | 10-20 | 1 | 5.88 |
| | 80-100 | 1 | 5.88 | | 20-40 | 1 | 5.88 |
| All members of SHG understood records | | 4 | 25.53 | | 40-60 | 4 | 23.53 |
| SHGs facing problem in skill development | | 16 | 94.12 | | 60-80 | 4 | 23.53 |
| | | | | | 80-100 | 5 | 29.41 |
| Cause of facing problem in skill development | Illiteracy | 5 | 31.25 | | 100 | 2 | 11.76 |
| | Lack of training | 5 | 31.25 | Average (%) | 66.47 | | |
| | Lack of interest | 6 | 37.50 | | | | |

**Source:** Field survey

Only in less than one-third SHGs, above 80 percent members were participating actively in meetings (Table 1). On enquiring whether all members understood records, only one-fourth SHGs reportedpositively. This can be attributed to average participation and low literacy amongst SHG beneficiaries.

On studying employment status of members of SHGs, no set pattern is observed. Wide variations in employment activities are seen. It may be noted here that employment pattern is studied both on the basis of principal and subsidiary economic status. On an average two-third members in a group are engaged in an economic activity. Only in two SHGs all members are engaged in an economic activity, while in almost half of the SHGs 40-80 percent of their members are engaged in some type of an economic activity. Since in no SHG a group economic activity is taken up, thus employment pattern is seen to depend more on job availability in villages and family environment and less on membership of groups. When compared to other studies, employment status is higher in our study area.Latherfound only 29 percent members to be employed, and were seen to work as tailoresses, housemaids, beauticians etcetera (Lather, 2012).

Most SHGs (94.12 percent) report that majority of their members are facing a problem in developing skills. On enquiry it is found that illiteracy, lack of training and lack of interest amongst members were the primary causes for lack of skill development.

## Conclusions

The present paper examined the functioning of SHGs of 17 SHGs in the study area. We examined the profile of groups, their composition, financial and general management practices and their perception about the role of SHPIs. The main findings of the paper are summarized below:

The SHGs in the study area are functioning democratically. Almost all office bearers are selected by consensus. Meetings though only held once a month, are regular. Almost three-fourth members attend monthly meetings. A completely transparent record of savings and loans advanced is maintained in books. Negligible dropout rate indicates strong organizational sustainability of SHGs in the study area. However, non-rotation of office bearers defeats the objective of inculcating leadership qualities among SHG beneficiaries.

All SHG members benefited by getting subsidized revolving fund and group loan. However, problem of marginalization of inter-loans is reported by a few. Also, the credit need of members is not fully met. Three-fourth of SHGs reported requirement of additional loan.

The SHGs in the study area are very regular in collection of monthly savings and repayment of loans. In case of inability of a member to contribute to monthly savings or to pay loan instalment, her share was contributed by a peer. Thus, joint-liability was

found to operate both at time mobilization of savings and repayment of loan.

The SHPI functionaries visited these groups only once in three months. The role of banks was found to be limited to lending and collection of loans. This puts a question mark on the supervision and monitoring of group functioning. Strengthening the role of SHPIs is highly desirable for inculcating organizational capacities and building human resource capabilities. This shall help them undertake skill intensive modern economic activities.

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# Contributors

**Shonan Mahajan**

Shonan Mahajan is a leading figure in Cyber Protection Awareness, founder of WizCyber, and advocate for global cyber safety. With a background in management, law, and cybersecurity, she champions education and practical solutions for cyber threats. An empaneled faculty at ISTM and a practicing cyber lawyer, she brings over 20 years of experience in training and mentoring, fostering a culture of cyber resilience.

**Dr. Arun Gupta**

Dr. Arun Gupta, PhD in Computer Applications from Singhania University, boasts a rich academic background with degrees in LL.B., MBA (IT), MCA, and B.Com. An accomplished scholar, he has presented papers on cloud computing and published extensively in reputed journals. Awarded by the Chief Minister of Haryana for his societal contributions during the COVID-19 lockdown, Dr. Gupta is a respected figure in academia and community service.

**Dr. Sanjeev Gupta**

Dr. Sanjeev Gupta is a Faculty member (Deputy Director) at ISTM and a PhD. in Economics. He has been working in the Government of India for more than 24 years. He has worked in various policy legislation and Administration divisions. His topics of interest are Stress Management, Time Management, Communication skills, Negotiation Skills, Presentation Skills, Grievance Handling & CPGRAMS, Handling Court cases, Interpersonal Skills, Leadership, Gender sensitization, Parliamentary Procedures, Records Management, RTI, Conduct Rules, Noting & Drafting, File Management, Office Procedure etc.

**Yukti Gupta**

Yukti Gupta is an MBA student (2024-26) at IIM Rohtak with a background of completing BBA from the same institution. She has interned at different government offices including, HR at the Income Tax Office and contributed to social research on various topics. She is a winner of the Microsoft Office Specialist World Championship (MS Word 2013). Yukti has also been a finalist in several prestigious competitions. Her specializations include content marketing, SEO, and public policy analysis.

**Dr. Subhransu Tripathy**

Dr. Subhransu Tripathy is presently serving as Senior Research Officer, B N Yugandhar Centre for Rural Studies, Lal Bahadur Shastri National Academy of Administration, Mussoorie. He holds more than 24 years of experience in Agrarian Reforms, Agriculture Policy, and Rural Development Research & formulation. He has worked with various central & state governments in the areas of Land Reforms, Livelihood Development and Agricultural economics. He has worked in areas of application of economic modelling and forecasting and application of economic/econometrics theories in the context of Agrarian Economics and Rural Development and use of statistical tools/data analysis in STATA/R- Programming/SPSS

software. He has led various Consultancy projects, Training Programs and Research Studies in reputed Organisations like Himachal Pradesh Kaushal Vikas Nigam (Govt. of H.P.), NABARD Consultancy Services (NABCONS), Entrepreneurship Development Institute of India (EDII) and Centre for Rural Studies, LBSNAA.

**Inbarasan KG**

Shri Inbarasan K G is presently serving as a Research Associate, B N Yugandhar Centre for Rural Studies, Lal Bahadur Shastri National Academy of Administration, Mussoorie. He is a Local Governance Professional and qualified UGC-NET in Public Administration. He was associated as Researcher with The Gandhigram Rural Institute (Deemed to be University), Dindigul, State Institute of Rural Development and Panchayat Raj, Tamil Nadu and Institute of Grassroots Governance, a registered professional society, Tamil Nadu for various research projects and training programmes. His areas of interests include Rural and Urban Governance, Environmental Governance & Constituency Management.

**Md. Aslam**

Mohammad Aslam is doctorate in Public Administration and has over 17 years of work experience in academia, consulting, programme management and technical backstopping as a consultant as well as researcher in areas of core government functions including public service delivery, governmental training and administrative reforms. Aslam has also worked in research project pertaining to Reforms in Public Sector Undertakings, Environment, Water Supply & Sanitation, and Regulatory Framework for using Ground Water in India. He has been involved in evaluation of Centrally Sponsored Schemes. His key strength is intimate knowledge of how government works. He has successfully worked with senior civil servants and has adequate knowledge of the state of art in Governance and Public Management domain. Besides, He had also engaged in teaching as a guest faculty in the Institute of Secretariat Training And Management (ISTM), DoPT, Govt. of India to deliver lectures on Public Administration, Public Policy, and Sensitization of Government officials on Social, Economic and Educational conditions of Muslim Community in India to the CSS officers. He has worked as Assistant Professor in Public Administration in the College of Business Administration, University of Hail, Kingdom of Saudi Arabia.

**Simran Jaidka**

Ms. Simran Jaidka is an Assistant Professor in Economics at D.A.V. College, Chandigarh with 18 years of undergraduate and postgraduate teaching experience. She has over 14 publications in well-reputed journals and five publications in edited books. She has presented over 19 papers in National and International seminars. She has worked in the area of Development Economics and takes an interest in Welfare Economics. She is a keen observer of the impact that socio-economic policies, have on the lives of the ordinary man.

# Glimpse of ISTM Initiatives/Events

Visit of Smt. Radha Chauhan then Secretary(P) at ISTM

Foundation Laying Ceremony of ISTM's New Building "Karmayogi Bhawan"

Visit of Smt. Nila Mohanan, JS(Training)

MoU Signed between ISTM & CBSE

MoU Signed between ISTM & NASTA

MoU Signed between ISTM & SPIPA

Tree Plantation in the Hostel Campus by Director, ISTM

Book Exhibition Conducted in ISTM Library

## Recently Enlisted Faculty / Officers

### Shri Rajiv Manjhi, Joint Secretary to the Govt. of India and Director, ISTM

Shri Rajiv Manjhi, Joint Secretary to Govt. of India was appointed as Director, ISTM. He assumed the charge of Director, ISTM on 29th April 2024.

Shri Rajiv Manjhi joined Government service through Civil Services Examination 1993 and has put in more than 30 years of service with Government organisations in various capacities. He holds Master's Degree in Managements i.e. MBA (HR) and MBA (Finance) with distinctions and M.Phil in Public Administration.

Shri Rajiv Manjhi is a certified trainer by UNDP and Govt. of India on the Leadership Development Programme. He has been visiting Faculty to many institutions of national repute namely NIFM, IIPA, ISTM, IILM, DSSC and iCISA.

He has held various responsible positions with Govt. of Inida:

While working as Deputy Secretary (2008-2011) and Director (2011-2013) with DoP&T, he transformed the career progression of CSSS officials where promotions could be made after 15 years of average stagnation in a grade and during his tenure of four years, promotions of CSSS cadre officials were made for the select list year of 2000 to 2012.

While acting as nominee a of DoP&T to the Board of Directors of Kendriya Bhandar, he was instrumental in turning around the Kendriya Bhandar from a loss-making organisation to profit making.

While working as Director (2013-2016) with the Ministry of Health & Family Welfare, he amended all recruitment rules (RRs) of the attached and subordinate organisations, numbering 572 RRs, and streamlined procurement, resulting in savings of 70 crores per annum. He designed a Professional Development Programme in Finance and Administration for the Central Health Services (CHS) Officers and implemented the same in collaboration with NIFM (2015-2019).

While working as Joint Secretary to Government of India with Ministry of Health & Family Welfare from 2017-2024, he is credited with eliminating two diseases namely Kala-Azar (2023) and Trachoma(2023) from the country while working towards reduction in blindness prevalence from .32% to .28% by 2024 (March), reduction in prevalence of Lymphatic Filariasis and reduction in Case Fatality Rate(CFR) of Dengue apart from successful implementation of the other National Programmes.

As a trainer, he specialises in the following area:

- Public Finance / Financial Management in Government
- Budget-Formulation, Implementation & Expenditure Management
- GFRs for Middle and Senior Management
- Performance Management and Evaluation for Improving Effectiveness
- Strategy & Strategic Planning/ Envisioning
- Leadership Development Programme.

## Shri Nilmani, Deputy Director, ISTM

Shri Nilmani joined ISTM as Deputy Director (Accounts) on 22nd December 2023. He holds a B.Sc. (Chemistry) Hons. degree and has extensive experience in various Government departments. He began his career as an Accountant in the Department of Commerce and has served as Assistant Registrar (Audit) at NIFT, Assistant Accounts Officer in he Ministry of Water Resources, and Senior Accounts Officer in the Ministry of Home Affairs. His areas of specialization include Service Rules, Pay Fixation, TA Rules, LTC Rules, Pension Rules, Budget, GFR, DFPR and various PFMS modules. Nilmani is also a PFMS Master Trainer and has expertise in DTS and DOT.

## Shri Jitender Bhatti, Deputy Director, ISTM

Shri Jitender Bhatti has rejoined ISTM as Deputy Director (Peripatetic Training) effective from 22nd March 2024. This marks his second tenure at ISTM, the first being from 2018 to 2021 as Assistant Director. With over 26 years of service in the Government of India, his career includes roles such as Administrative Officer at Kendriya Vidyalaya Sangathan (HQ), New Delhi, Assistant Private Secretary to the Minister of Human Resource Development, and First Personal Assistant to the Minister of Science & Technology & Earth Sciences. He is a recognized DoPT trainer in the Direct Trainers' Skill Module and has completed numerous Trainers' of Trainers courses and other training programs. His areas of specialization encompass Office Management, Establishment Rules, Service Rules, RTI, Financial Rules, Conduct Rules, and professional topics for CSSS/Personal Staff Members, among others.

## Shri Pushpendra Kumar Sharma, Deputy Director, ISTM

Shri Pushpendra Kumar Sharma joined ISTM as Deputy Director (Office Management) on 1st May 2024. He hold MBA in HR Management and has over 25 years of experience of serving in various Ministries/Departments viz, Ministry of Environment, Forests & Climate Change, Delhi Electricity Regulatory Commission, Prime Minister's Office and Department of Commerce.

He has travelled extensively in various Countries and has undergone many Training Programmes held abroad. His domain for importing training at ISTM includes Pension Rules, FR/SR, RTI, Leave Rules, Ethics in Administration, International Cooperation & Trade etc.

## Shri Vijay Kumar Keshari, Deputy Director(MS), ISTM

Shri Vijay Kumar Keshari, joined as Deputy Director (Management Service) at ISTM on 10.06.2024. He hold an M.Sc in Electronics and an MBA in Marketing, along with PGDHRM and PGDOM. He also specialize in delivering training on Service Rules and CPWD procedures. Prior to joining ISTM as a regular faculty, he has delivered lectures at ISTM, INGAF, FMRRS, CPWD, and IAHE as guest faculty on several occasions. Mr. Keshari has also mentored the FRSR (Leave Rules, 1972) portal on I-got Karmayogi, launched by Honorable Finance Minister.

## Ms. Priyanka Dhull, Deputy Director, ISTM

Ms Priyanka Dhull joined ISTM as Deputy Director (Management Service) on 16 Aug 24. She is an alumnus of Delhi University and Indian Naval Academy. She holds an M.Tech in computer science and an MBA (General Management). Post Graduation Diploma in Education Planning & Administration from National Institute of Education Planning & Administration, Delhi and Graduate Certificate in Public Policy (Defence and Foreign Affairs). She has 12 years of teaching experience in different Naval training establishments where she has designed and conducted various courses for Officers and sailors of the Indian Navy and conducted sessions on technical and management subjects. She has also administered several Naval Children's Schools as Officer-in-charge. Prior to joining ISTM, she was posted at Naval headquarters where she has been part of various policy-making and established partnerships with over 30 universities including prestigious institutions like JMI and IGNOU to facilitate educational opportunities for the naval fraternity, promoting educational growth. Her areas of specialisation include IT & Cloud Computing, Artificial Intelligence, Cyber Security, Stress Management, Conflict Management and Gender Sensitisation.

## Ms. Anjali Rana, Assistant Director, ISTM

Ms. Anjali Rana joined ISTM as Assistant Director (Office Management) on 21st November 2023. She holds an M.A. in Economics and an Advanced Diploma in French. With over 13 years of experience, her specialization is in the Right to Information Act, 2005. Her broad areas of interest include RTI Act, Noting & Drafting, Presentation Skills, CCS(Conduct Rules), 1964, Motivation, MS Power-Point, Record Management, Parliamentary Standing Committee. Ms. Anjali has completed the 'Direct Trainer Skills' and 'Design of Training' courses, enhancing her expertise in these domains.

## Ms. Kavita Sharma, Assistant Director, ISTM

Ms. Kavita Sharma joined ISTM as Assistant Director on 8th March 2024. She holds a B.Sc. from Delhi University and an MBA from IMT Ghaziabad and has 31 years of experience at the Department of Science & Technology. Her areas of specialization include administration, vigilance, RTI matters, coordination, cash management, and international cooperation. Her broad interests encompass vigilance, RTI, POSH, and behavioral areas. She has also attended Cyber Law training at IIPA and PFMS training at ISTM.

## Ms. Rizwana Bano, Assistant Director, ISTM

Ms. Rizwana Bano holds an M.A. in Public Administration and is NET qualified. She joined ISTM as Assistant Director (OM) on April 1, 2024, and has a background in the Department of Posts and Central Secretariat Services. An award-winning professional, she delivers lectures on Noting & Drafting, Record Management, RTI, Stress Management, Creative Thinking and more. She has broad interest in Vigilance, Data Analysis, Cyber Security. She is also certified in DTS and DOT Courses.

She is also an Urdu poet too.

## Shri Rooshan Kumar Mishra, Assistant Director, ISTM

Shri Rooshan Kumar Mishra, joined as Assistant Director (OM) on March 3, 2024. He holds an M.A. in Public Administration. With over 14 years of experience in different roles and departments in the Government of India, he specializes in Pay Fixation, MACP, and Leave Rules. His interests encompass Noting & Drafting, the Constitution of India, Pension Rules, Conduct Rules, Vigilance, and more.

He is very keen in learning new subjects and works hard to achieve the expertise.

## Shri. Lalit Kumar Sharma, Assistant Director, ISTM

Shri. Lalit Kumar Sharma joined ISTM as Assistant Director on 01-08-2024, he completed his Graduation (B.Sc) from the University of Delhi and holds more than 10 years of experience in various executive parts i.e. Ministries / Departments of the Government of India & in Judiciary (Delhi District Court). His areas of specialisation encompass professional topics in Establishment, RTI Act 2005, FR/SR, Ethics in Administration, Conduct Rules, developing e-content on i-GoT Portal, International Relations, Computers (Networking, Various Languages – Python, Java etc., Cybersecurity, Big Data Analysts, MS – Word, Excel, Power-Point, OneNote, Suite) etc. Shri Lalit has completed the Training of Trainers (ToT), Workshop on Photonics, enhancing his expertise in these domains and other related spheres.

## Shri Kishor, Assistant Director, ISTM

Shri. Kishore joined ISTM as Assistant Director on 09-08-2024, he holds an MA in Public Administration and has 7 years of experience in the Government of India, Ministry of Defence, Income Tax Department. His areas of specialization encompass professional topics for CSSS/ Personal Staff Members, developing e-content for i-GoT Portal, soft skills like Effective presentation skills, effective communication, Interpersonal skills, Time management, and Computers (MS – Word, PowerPoint) etc,. Shri Kishore has completed Training of Trainers (ToT), Direct Trainers Skills (DTS) & Design of Training (DoT) courses, and wishes to enhance his expertise in these domains.

## Faculty Members

| SL. NO. | NAME OF FACULTY MEMBER(S) | DESIGNATION | CORE AREAS OF EXPERTIES |
|---|---|---|---|
| 1 | RAJIV MANJHI | DIRECTOR, ISTM & JOINT SECRETARY TO GOVERNMENT OF INDIA | Public Finance, Budget-formulation, implementation & expenditure ManagemenT, GFR for middie/senior management level officers, Performance Management & Evaluation for improving effectiveness, Strategic Planning & Leadership Development programme |
| 2 | CAPT (IN) YOGENDRA PRAKASH SHARMA | ADDITIONAL DIRECTOR | Leadership, POSH, Stress Management, Ethics & Value, RTI, DTS/DOT/TNA, Motivation Skills, Personality Development |
| 3 | SANDEEP MUKHERJEE | DIRECTOR (CSS) - OA | Vigilance, Reservation in Service, POSH, DTS/DOT |
| 4 | MOLOY SANYAL | DIRECTOR (CSS) - OA | Office Procedure, Noting & Drafting, Gender Issues, Posh-Act, Organisational Behaviour, Motivation, Communication Skills, Presentation Skills, Inclusiveness in Policy Making, Policy Analysis, Cabinet Note Preparation |
| 5 | NARESH BHARDWAJ | JOINT DIRECTOR | Reservations in Service, Pension Rules, Vigilance |
| 6 | DEEPAK KUMAR BIST | JOINT DIRECTOR | RTI Act, Vigilance, Pension Rules, DTS/DOT/MOT, Pay Fixation, EFC/SFC Note, Training of Trainers, Cabinet Note |
| 7 | NAMITA MALIK | JOINT DIRECTOR | Behavioural Skills, Communication, Leadership, Stress Management, Reservation, Establishment Rules, POSH, Gender sensetization |
| 8 | SANJEEV GUPTA | DEPUTY DIRECTOR | Behavioural, Economic, Handling of CPGRAMS/ Litigation/RTI/ Parliamentary Work, Vigilance |
| 9 | BISWAJIT BANERJEE | DEPUTY DIRECTOR | Vigilance including Financial Effects of Penalties, Communication Skills. Govt. Litigation, Constitution of India, Personality Development, Motivation, Parliamentary Procedure, Noting & Drafting, Reservation in Service, Spoken English for non-native speakers, Professional writing, Creative Writing |
| 10 | PRAMOD KUMAR JAISWAL | DEPUTY DIRECTOR | RTI Act, Reservation in Service, Noting & Drafting, Vigilance, Litigation Management, Cabinet Note, EFC/SFS Memo, Establishment Rules (Recruitment), Probation, Confirmation, Seniority, Promotion, DPC, Reservation in Service |
| 11 | BHAGABAN PADHY | DEPUTY DIRECTOR | Noting & Drafting, Soft skills, Communication skills, Stress Management, Leadership, Motivation, Pension |
| 12 | RAJESH SINGH | DEPUTY DIRECTOR | e-Governance, Good Governance, RTI, Govt. Machinery, ICT in governance, Emerging Technology, Data Drivin Decision Making, AI Enable of Decision Making |
| 14 | SHAILESH KUMAR I SON | DEPUTY DIRECTOR | Purchase Procedure, Gem, Pay Fixation, Noting & Drafting, GFR/DFPR |

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|---|---|---|---|
| 15 | PUNEET KUMAR SHARMA | DEPUTY DIRECTOR | RTI Act, Noting & Drafting, Reservation, DTS/DOT, Vigilance, Conduct Rules |
| 16 | VIPIN KUMAR BHARGAVA | DEPUTY DIRECTOR Drafting | Pay Fixation, Purchase Procedure, GFR/DFPR, RTI, Noting & |
| 17 | NILMANI | DEPUTY DIRECTOR | Public Procurement, Budget, Pay Fixation, Leave Rules, LTC, GFR/DFPR, Pension, PFMS - EAT & Ebill |
| 18 | JITENDER BHATTI | DEPUTY DIRECTOR | All Subject relating to CSSS-CTP, Noting & Drafting, Parliamentary Procedure, Conduct Rules |
| 19 | PUSHPENDRA SHARMA | DEPUTY DIRECTOR | Leave Rules, LTC, Noting & Drafting |
| 20 | VIJAY KESHARI | DEPUTY DIRECTOR | Public Procurement, Budget, Pay Fixation, Leave Rules, LTC, GFR/DFPR |
| 21 | PRIYANKA DHULL | DEPUTY DIRECTOR | IT & Cloud Computing. AI, Cyber Security, Stress Management, Conflict Management, Gender Sencitisation. |
| 22 | ANJALI RANA | ASSISTANT DIRECTOR | RTI Act, Noting & Drafting, Presentation Skills, CCS (Conduct Rules), 1964, Motivation, MS Power-Point, Record Management, Parliamentary Standing Committee |
| 23 | KAVITA SHARMA | ASSISTANT DIRECTOR | RTI, Gender, Sexual Harassment (POSH), LTC, Swachh Bharat Mission, Record Management, Leave Rules, CCS/CCA Rules |
| 24 | RIZWANA BANO | ASSISTANT DIRECTOR | Record Management, Noting & Drafting, Swacch Bharat Mission Dealing with Disability, RTI, Stress Management, Creative Thinking |
| 26 | ROOSHAN KUMAR MISHRA | ASSISTANT DIRECTOR | RTI Act, Noting & Drafting, LTC, Leave Rules, Pay Fixation, Conduct Rules, e-Office, Record Management |
| 27 | LALIT KUMAR SHARMA | ASSISTANT DIRECTOR | E-Content Development, Self Skills, IT |
| 28 | KISHOR | ASSISTANT DIRECTOR | E-Content Development, Data Analysis, Cyber Security, IT |

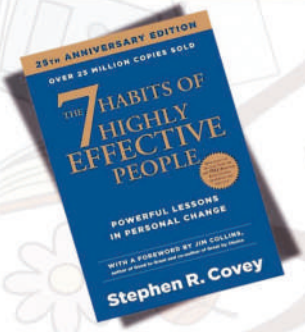
## Must read books, recommended by ISTM Library


Title: The Speaking Tree
Compiler(s): Kaur, Inderjit
Publisher: All India Pingalwara Chartiable Society, Amritsar
Format: Print; Binding: Hardbound; Pages: 186;
Year of Publication: 2005

A collection of spiritual and philosophical insights from various sources, focusing on self-realization and inner peace.

Title: Man's Search for Meaning
Author(s): Frankl, Viktor E
Publisher: Rider & Co., Great Britain
Format: Print; Binding: Paperback; Pages: 156;
Year of Publication: 2008

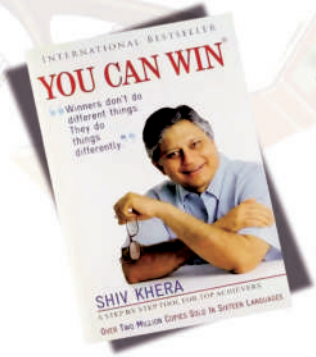

This classic work explores the importance of finding meaning and purpose in life, even in the most challenging circumstances.



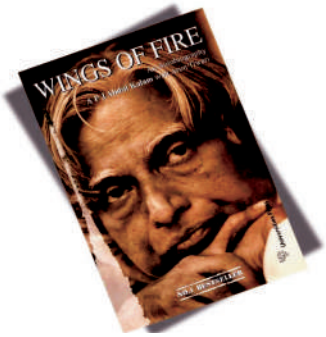

Title: The Seven Habits of Highly Effective People
Author(s): Covery, Stephen R.
Publisher: Simon & Schuster; New York;
Format: Print; Binding: Paperback; Pages: 375;
Year of Publication: 1992

Covey's principles for personal and professional effectiveness, focusing on character ethics and aligning one's life with universal principles.

Title: You Can Win
Sub-title: Winners don't do different things, They do things Differently
Author(s): Khera, Shiv
Publisher: MacMillan India; New Delhi;
Format: Print; Binding: Paperback; Pages: 269;
Year of Publication: 1998



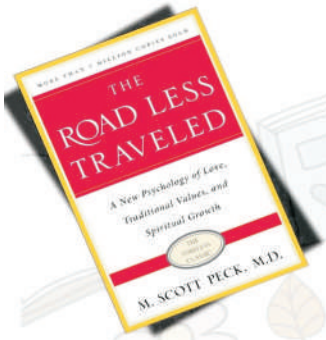

Khera's motivational guide offers principles and strategies for personal and professional success.




Title: Wings of Fire: An Autobiography
Author(s): Kalam, A P J Abdul.
Publisher: Universities Press; Hyderabad;
Format: Print; Binding: Paperback; Pages: 180;
Year of Publication: 2000

The inspiring life story of India's former President, highlighting the importance of dreams, perseverance, and integrity.

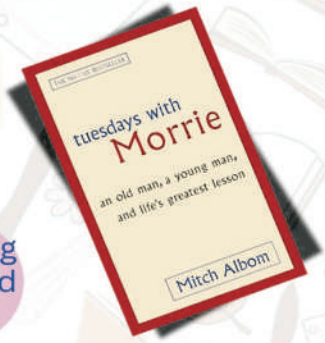
## Must read books, recommended by ISTM Library



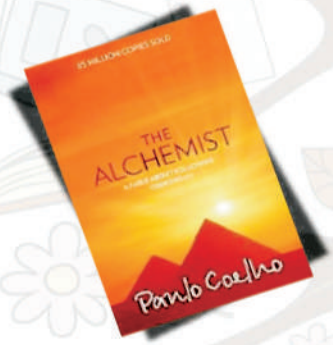

Title: The Road Less Traveled
Author(s): Peck, M. Scott
Publisher: Touchstone, USA;
Format: Print; Binding: Hardbound; Pages: 320;
Year of Publication: 1978

A collection of spiritual and philosophical insights from various sources, focusing on self-realization and inner peace.

Title: Tuesdays With Morrie
Author(s): Albom, Mitch
Publisher: Sphere, USA;
Format: Print; Binding: Paperback; Pages: 208;
Year of Publication: 1998



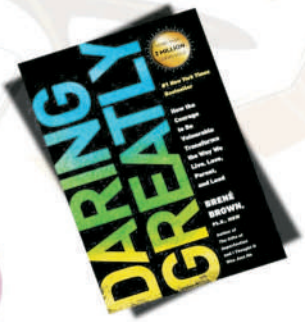

A memoir that recounts the life lessons learned from a dying professor, focusing on love, work, community, family, and death.



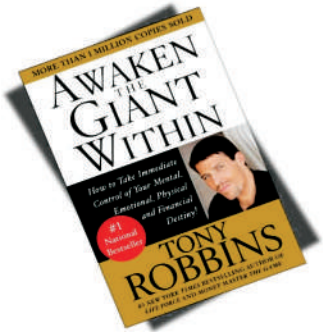

Title: The Alchemist
Author(s): Coelho, Paulo.
Publisher: Harpercollins Publisher, India;
Format: Print; Binding: Paperback; Pages: 177;
Year of Publication: 2005

A philosophical novel about following one's dreams and listening to one's heart to find personal fulfillment and destiny.

Title: Daring Greatly
Author(s): Brown, Brené
Publisher: Avery; USA;
Format: Print; Binding: Paperback; Pages: 320;
Year of Publication: 2012




Explores the power of vulnerability and courage, and how embracing these qualities can lead to a more fulfilling and authentic life.




Title: Awaken the Giant within
Author(s): Anthony, Robbins
Publisher: Simon & Schuster, UK;
Format: Print; Binding: Paperback; Pages: 544;
Year of Publication: 1991

Robbins offers strategies for taking control of one's emotional, financial, and physical destiny to create a complete and fulfilling life.