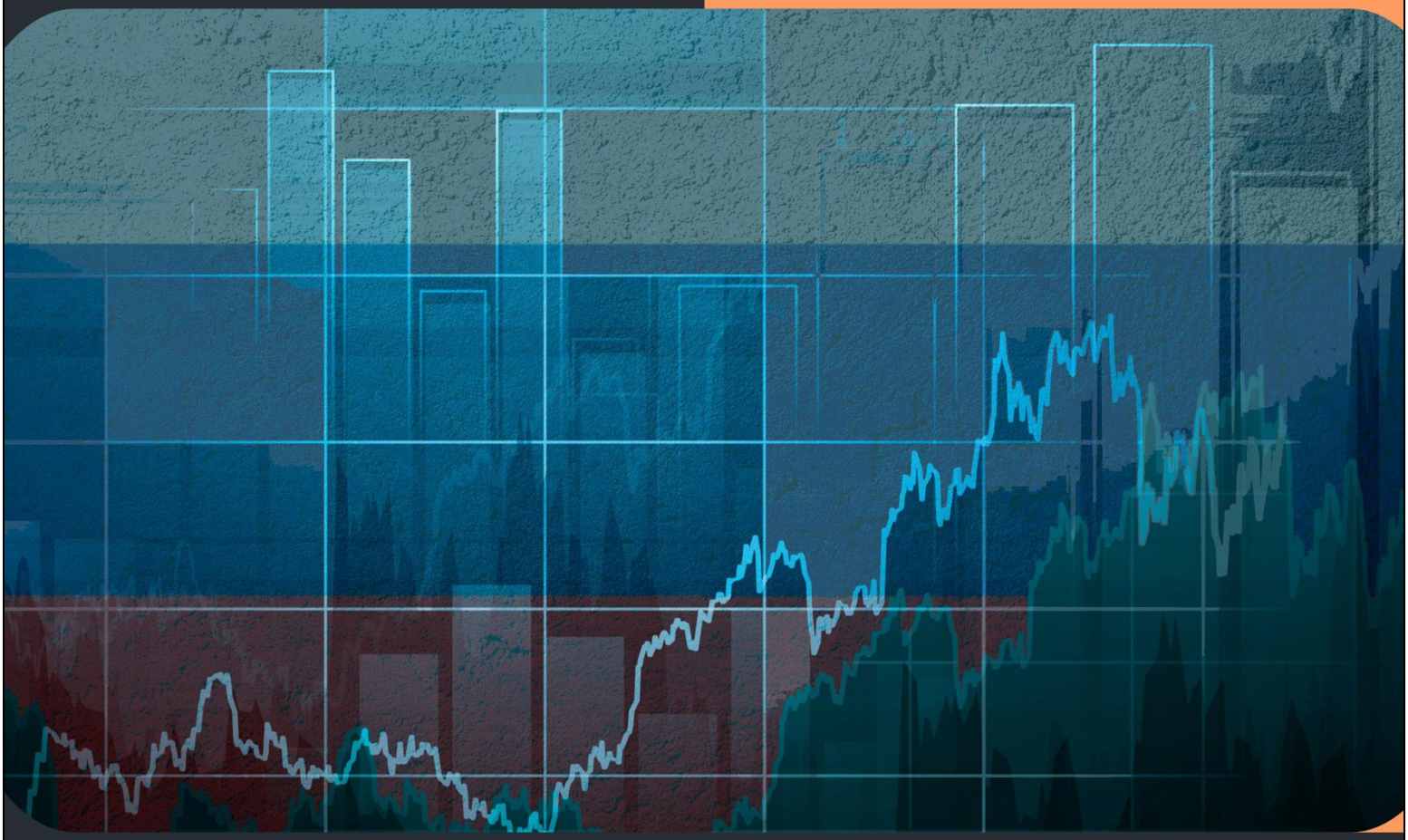
ISBN: 978-81-69967-23-5



Transforming Society, Business and Management

New Ideas and Insights

Editors:
Ms. Nishu Bhadoriya
Dr. Rajib Mallik
Dr. Shalini Ojha

Bhumi Publishing, India
First Edition: October 2026

Transforming Society, Business and Management:

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(ISBN: 978-81-69967-23-5)

DOI: https://doi.org/10.5281/zenodo.23880868

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October 2026

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Published by Bhumi Publishing,

a publishing unit of Bhumi Gramin Vikas Sanstha

Bhumi Publishing

Nigave Khalasa, Tal – Karveer, Dist – Kolhapur, Maharashtra, INDIA 416 207

E-mail: bhumipublishing@gmail.com

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PREFACE

Society, business, and management are undergoing significant transformations driven by technological advancements, globalization, changing consumer expectations, and evolving socioeconomic conditions. These developments are reshaping organizational practices, professional relationships, economic activities, and approaches to leadership and decision-making. *Transforming Society, Business and Management: New Ideas and Insights* explores contemporary perspectives, emerging trends, and innovative approaches that contribute to understanding these changes and addressing the challenges of a rapidly evolving world.

The book highlights important developments in business administration, management practices, entrepreneurship, marketing, finance, human resource management, organizational behaviour, and social development. Digital transformation, artificial intelligence, sustainable business models, innovation, and data-driven decision-making are creating new opportunities for organizations to improve efficiency, strengthen competitiveness, and respond effectively to changing market conditions. Simultaneously, evolving social structures, ethical considerations, inclusive growth, and environmental responsibilities are influencing the ways businesses operate and interact with communities.

A central theme of this volume is the importance of integrating innovative thinking with responsible management and sustainable development. Effective leadership, strategic planning, entrepreneurial initiatives, and collaborative approaches are essential for building resilient organizations and fostering positive societal change. Understanding emerging challenges and adopting adaptable strategies can help institutions, enterprises, and individuals navigate uncertainty while identifying opportunities for meaningful progress. The contributions encourage interdisciplinary perspectives and emphasize the relevance of research-based insights in developing practical solutions.

This book is intended for researchers, academicians, teachers, students, management professionals, entrepreneurs, and readers interested in contemporary developments in society, business, and management. It aims to support academic learning, stimulate intellectual discussion, and encourage further investigation into emerging ideas and practices.

- Editors

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DIGITAL PATHWAYS TO INCLUSIVE RESILIENCE: REIMAGINING INFORMAL STREET VENDING AS A DRIVER OF SUSTAINABLE URBAN BUSINESS TRANSFORMATION IN INDIA

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Abstract
Street vendors form one of the most visible yet least supported layers of India's urban economy. They supply affordable goods and services, generate self-employment and keep neighbourhood markets alive, but they operate with insecure tenure, thin capital, limited formal credit and almost no social protection. At the same time, digital payments, social commerce, delivery platforms and public programmes are changing how small traders sell, borrow and learn. This chapter argues that the transformation of informal vending should be understood as a problem of inclusive resilience rather than formalisation alone. Drawing on the informal economy, organisational resilience, dynamic capabilities and embeddedness literatures, the chapter develops the Inclusive Digital Resilience Framework (IDRF), built on four mutually reinforcing pillars: Capability, Connectivity, Capital and Compliance (the 4C model). The chapter maps the main structural and operational challenges faced by vendors, proposes stakeholder-specific strategies, offers a phased implementation roadmap with measurable indicators, and sets out implications for managers, policymakers and society. A research agenda closes the chapter. The framework is conceptual and is intended to guide empirical testing, programme design and urban policy dialogue, with illustrations drawn from the South Indian context, especially Chennai.

Keywords: Street Vendors, Informal Economy, Business Resilience, Digital Inclusion, Dynamic Capabilities, Urban Policy, India.

1. Introduction

Every Indian city runs on the labour of people who rarely appear in corporate balance sheets. The tea seller outside the bus stand, the fruit vendor on a push-cart, the flower seller near a temple and the textile hawker on a pavement together form an informal retail system that serves millions of households every day. Scholars have long noted that this system is not a marginal leftover of an immature economy. It is a persistent, adaptive and economically significant part of urban life (Bromley, 2000; Bhowmik, 2005; Chen, 2012).

The operating environment of vendors has changed sharply in the last decade. Smartphones and low-cost data have made QR-code payments, WhatsApp ordering and platform listings accessible to micro-traders. Public policy has also moved: the Street Vendors (Protection of

Livelihood and Regulation of Street Vending) Act, 2014 recognised vending as a legitimate livelihood and created town vending committees, while later credit and digital programmes attempted to bring vendors into formal finance. Yet the same period has exposed how fragile vendor livelihoods remain. Demand shocks, eviction drives, price volatility, extreme weather and sudden policy changes can erase a vendor's working capital within days.

Management scholarship has been slow to treat this population as a serious subject of business transformation (Prahalad, 2005). Research on digital transformation concentrates on large firms and formal SMEs, while research on informality often concentrates on poverty and regulation rather than on strategy and capability. This leaves a practical gap: vendors, local governments, banks, platforms and non-profit organisations lack a shared, evidence-informed model of how digital change can strengthen, rather than undermine, vendor resilience.

This chapter addresses that gap. It asks three questions:

1) What conceptual lenses best explain how informal vendors survive and adapt?
2) What barriers prevent digital and institutional change from translating into resilience?
3) What integrated framework can guide stakeholders towards inclusive and sustainable transformation?

The chapter contributes by synthesising four theoretical streams into a single practical model, by translating the model into stakeholder strategies and indicators, and by proposing a research agenda for the field.

2. Conceptual Background

2.1 Informality as an Enduring Economic System

Early dualist views treated informal work as a temporary phase that growth would absorb. Later structuralist and legalist views showed that informality is deeply linked to formal supply chains and shaped by the cost of compliance and the quality of regulation (Chen, 2012). The International Labour Organization estimates that a majority of the world's employed population works informally, and the share is far higher in India (ILO, 2018). For street vending, this means that policy should be built on the assumption that vending will remain a core urban livelihood, and that the real question is under what terms it will continue (Roever and Skinner, 2016).

2.2 Resilience as Capability, Not Just Survival

The resilience concept originated in ecology, where it described the capacity of a system to absorb disturbance and persist (Holling, 1973). In management, organisational resilience is increasingly treated as a process that combines anticipation, coping and adaptation, rather than a static trait (Duchek, 2020). For a vendor, resilience is visible in routine acts: shifting products with the season, changing location after an eviction notice, borrowing from a supplier or chit fund, or moving to digital payments when cash is scarce.

2.3 Dynamic Capabilities Under Resource Scarcity

Dynamic capabilities theory explains how firms sense opportunities, seize them and reconfigure resources in changing environments (Teece, Pisano and Shuen, 1997). Although developed for large firms, the logic applies to micro-enterprises with an important adjustment: vendors rely on improvisation and bricolage, that is, making do with the resources at hand (Baker and Nelson, 2005), and on effectual reasoning that starts from available means rather than fixed goals (Sarasvathy, 2001). Digital tools give such improvisation a new platform, but only if vendors can access and use them.

2.4 Embeddedness and Social Capital

Economic action is embedded in social relationships (Granovetter, 1985). Vendors depend on supplier trust, customer loyalty, vendor associations, kin networks and local political relationships. These ties provide credit, information and protection that formal institutions often do not. They can also constrain change, for example when dependence on a single wholesaler or local strongman limits bargaining power. Any transformation model must therefore build on existing social capital instead of replacing it.

Table 1: Theoretical lenses used to build the framework

Lens	Core idea	Relevance to street vending	Pillar informed
Informal economy theory	Informality is persistent and linked to formal markets	Legitimises vending as a policy priority	Compliance
Organisational resilience	Resilience is anticipation, coping and adaptation	Explains shock response and recovery	All pillars
Dynamic capabilities	Sensing, seizing and reconfiguring resources	Frames skill building and digital adoption	Capability
Bricolage and effectuation	Creating value from available means	Explains low-cost improvisation	Capability, Capital
Embeddedness and social capital	Economic action is socially embedded	Explains trust-based credit and networks	Connectivity

3. Challenges to Transformation

The literature and field experience point to five interlocking groups of challenges. They are interlocking because they reinforce one another: a vendor without legal recognition cannot easily get formal credit, a vendor without credit cannot invest in stock or equipment, and a vendor without skills cannot use digital tools to widen the market.

- **Tenure insecurity and regulatory ambiguity.** Even where vending zones exist, implementation of legal protections is uneven. Vendors face periodic eviction, fines and

harassment, which discourage long-term investment (Bhowmik, 2005; Roever and Skinner, 2016).

- **Capital constraints.** Many vendors depend on daily informal loans at high effective interest rates. The inability to build savings or collateral keeps businesses small and exposed to shocks.
- **Digital and skills gaps.** Phone ownership does not automatically translate into effective use. Language barriers, limited literacy, fear of fraud and low trust in platforms restrict adoption, particularly among older and women vendors.
- **Market and supply-chain vulnerability.** Vendors are price-takers in wholesale markets and face rapid spoilage, seasonality and competition from organised retail and quick-commerce.
- **Social protection gaps.** Health shocks, accidents and old age are largely uninsured, so a single event can push a household back into deprivation.

Table 2: Key challenges, consequences and transformation levers

Challenge	Typical Consequence	Transformation Lever
Tenure insecurity	Short planning horizon, low investment	Vending certificates, designated zones, grievance systems
Capital constraints	Dependence on costly informal debt	Digital credit history, small-ticket formal loans, savings groups
Digital and skills gaps	Limited market reach, fraud exposure	Vernacular training, peer mentors, simple interfaces
Market vulnerability	Price shocks, wastage	Collective buying, cold-chain access, platform listings
Social protection gaps	Household shocks become business failure	Portable insurance and pension schemes linked to vendor identity

4. The Inclusive Digital Resilience Framework (IDRF)

4.1 Rationale

Existing programmes often address a single constraint, such as a loan scheme or a payment app, and then record disappointing results. The IDRF is built on the proposition that resilience emerges when capability, connectivity, capital and compliance are strengthened together and when they are anchored in the vendor's own social context. The framework treats digital technology as an enabler of the four pillars and not as an objective in itself.

4.2 The Four Pillars

- **Capability.** The ability to sense demand, manage stock and cash, use digital tools and adjust the business model. It includes financial literacy, digital literacy, basic record

keeping and customer management. Capability is the micro-level engine of dynamic adaptation.

- **Connectivity.** Access to people, markets and information. It combines digital connectivity, such as payment networks, messaging and platforms, with social connectivity, such as vendor associations, supplier relationships and customer networks.
- **Capital.** Access to financial, physical and informational resources. A key mechanism is the digital transaction trail, which allows lenders to assess creditworthiness where no collateral or formal accounts exist.
- **Compliance and governance.** Legal recognition, fair regulation and participation in decision-making. This pillar covers identity documents, vending certificates, representation on town vending committees and transparent rules on space allocation.

The pillars interact. Legal recognition improves the willingness of banks to lend; credit allows investment in better equipment and stock; improved capability allows better use of digital channels; and wider connectivity feeds back into stronger bargaining power and information. Figure 1 presents the framework.

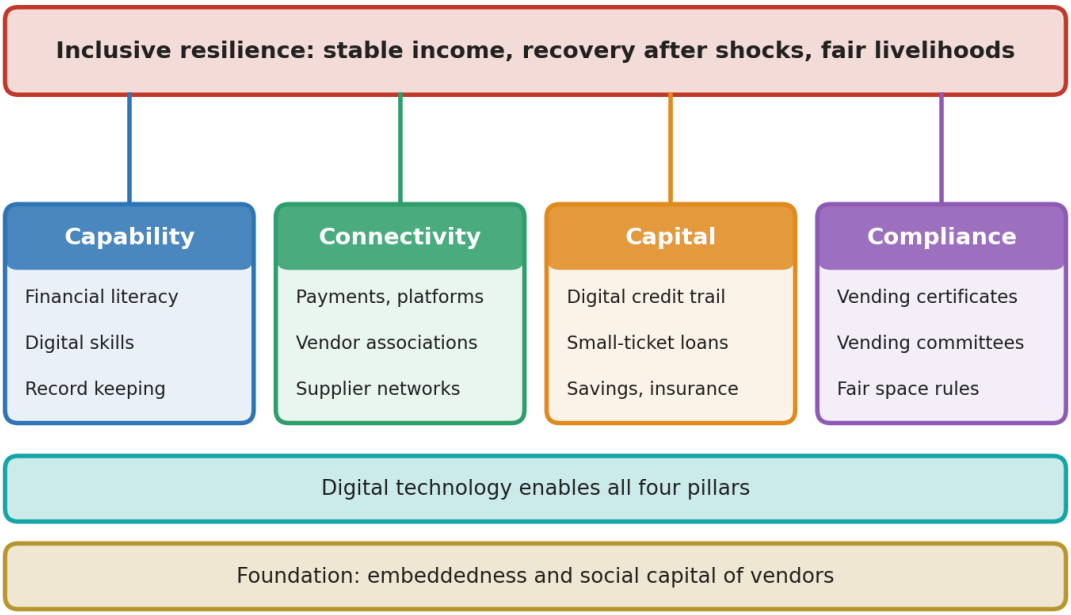


Figure 1: The Inclusive Digital Resilience Framework (IDRF)

4.3 Propositions

The framework generates five propositions that can be tested empirically.

- **P1.** Vendors with higher digital and financial capability show faster recovery after external shocks.
- **P2.** Digital transaction trails increase access to formal small-ticket credit, with the effect stronger where legal recognition exists.

- **P3.** Membership in active vendor associations strengthens the positive effect of digital adoption on income stability.
- **P4.** Tenure security moderates the relationship between credit access and long-term business investment.
- **P5.** Integrated interventions across all four pillars produce stronger resilience outcomes than single-pillar interventions.

5. Stakeholder Strategies

Transformation depends on coordinated action. Table 3 summarises the main roles.

Table 3: Strategies by stakeholder group

Stakeholder	Priority Strategies	Pillars Addressed
Vendors and associations	Peer-led digital training, collective purchasing, shared storage and equipment, collective bargaining with authorities	Capability, Connectivity
Local government	Implement vending zones and town vending committees, issue certificates, publish allocation rules, create grievance redress	Compliance
Banks and fintech firms	Cash-flow based lending using QR transaction data, vernacular interfaces, small-ticket repayment aligned with daily income	Capital
Platforms and marketplaces	Low-commission onboarding, vernacular support, fraud protection, hyperlocal listing for vendors	Connectivity, Capital
Non-profit and academic institutions	Action research, training content, impact evaluation, data on vendor livelihoods	Capability, Compliance
Insurers and social security agencies	Portable health, accident and pension products linked to vendor identity	Capital, Compliance

Two design principles cut across all groups. First, interventions should be vendor-centred: co-designed with vendors, delivered in local language and sensitive to gender and age. Second, they should be trust-building: transparent charges, clear dispute resolution and strong data protection, because mistrust is a major reason for non-adoption.

6. Implementation Roadmap and Indicators

A phased approach avoids the common failure of launching ambitious digital programmes before the basic institutional conditions are in place.

- **Phase 1: Recognise and map (0 to 12 months).** Complete vendor surveys, issue identity and vending certificates, constitute or activate town vending committees and set baseline indicators.

- **Phase 2: Enable and connect (12 to 30 months).** Run peer-led training, encourage digital payment adoption, form savings and purchasing groups and onboard vendors to suitable platforms.
- **Phase 3: Finance and protect (24 to 48 months).** Introduce cash-flow based lending, insurance and pension products, and shared infrastructure such as storage and cold-chain support.
- **Phase 4: Sustain and scale (beyond 48 months).** Institutionalise monitoring, embed vendor representation in urban planning and extend successful models to other cities. Figure 2 summarises the roadmap.

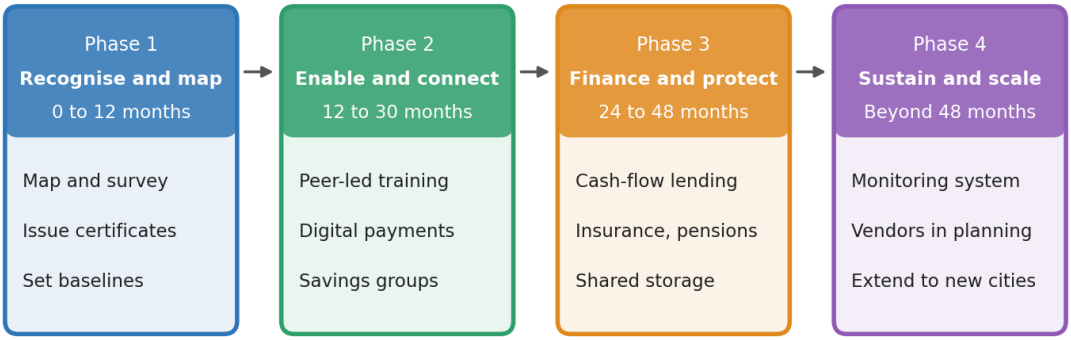


Figure 2: Phased implementation roadmap

Table 4: Illustrative indicators for monitoring resilience

Pillar	Indicator	Measurement Approach
Capability	Share of vendors keeping basic records; digital payment use	Periodic vendor survey
Connectivity	Active association membership; number of digital sales channels	Survey and platform data
Capital	Share with formal credit; reduction in daily informal borrowing	Lender data and survey
Compliance	Vendors with valid certificates; grievances resolved on time	Municipal records
Overall resilience	Time to recover income after a shock; income stability over 12 months	Longitudinal panel study

7. Implications

- **Theoretical implications.** The chapter extends dynamic capabilities and resilience theory to micro-enterprises operating without formal protection, and highlights the role of embeddedness as both resource and constraint. It also shows that digital transformation in

informal settings is best seen as a socio-institutional process and not merely a technological one.

- **Managerial implications.** Banks, platforms and fintech firms can serve vendors profitably only if products match the rhythm of daily cash flows and the realities of trust and language. Vendor associations can act as intermediaries that reduce acquisition and monitoring costs for these firms.
- **Policy implications.** Legal recognition is a foundation and not an optional extra. Effective town vending committees, transparent space allocation and linkages between vendor identity and social protection schemes can unlock the benefits of digital and financial inclusion.
- **Societal implications.** Strengthening vendor resilience supports affordable urban food and goods supply, women's livelihoods, public space that is shared fairly, and progress towards sustainable and inclusive cities.

8. Limitations and Future Research

The IDRF is conceptual. It draws on established theory and published literature, but its propositions have not been empirically tested and its relative weights across pillars may differ by city, product category and vendor profile. The framework also does not capture every dimension of vendor life, such as political economy at the ward level. Table 5 outlines a research agenda.

Table 5: Future research agenda

Theme	Research Question	Suggested Method
Testing the framework	Do the four pillars jointly predict resilience outcomes?	Survey with structural equation modelling
Digital trails and credit	Does QR transaction history improve loan access and repayment?	Quasi-experimental or field study
Gender and age	How do barriers and benefits differ for women and older vendors?	Mixed methods
Shock response	How do vendors adapt to evictions, floods and demand shocks over time?	Longitudinal panel and case studies
Platform effects	When do platforms empower vendors, and when do they create dependence?	Comparative case analysis

Conclusion

Street vending will remain central to India's urban economy, and its future will be shaped by how digital technology, finance and regulation are brought together. This chapter has argued that inclusive resilience, and not formalisation alone, should be the goal. The Inclusive Digital Resilience Framework offers a practical structure built on Capability, Connectivity, Capital and Compliance, supported by stakeholder strategies, a phased roadmap and measurable indicators.

Its central message is that no single tool, scheme or app is sufficient: resilience is built when vendors are recognised, skilled, connected and financed together. Researchers can now test and refine the framework, and practitioners can use it to design interventions that treat vendors as capable business actors and not as problems to be removed.

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Bhumi Publishing, India
October 2026

RECENT TRENDS IN ORGANIC FARMING SYSTEMS, CONSUMER BEHAVIOUR AND AGRIBUSINESS OPPORTUNITIES

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Abstract
Organic farming has grown from a traditional method into a major commercial sector across the world and in India. Excessive application of chemical fertilizers and synthetic pesticides during past decades damaged soil fertility, polluted underground water, and created health problems among people. Today, farmers and consumers are actively looking for safer and sustainable alternatives. This review paper examines how organic farming systems are changing, how consumer buying habits are developing, and what business opportunities are emerging for farmers and agricultural entrepreneurs. Modern organic farming is now moving beyond simple input replacement. It uses beneficial soil microbes, jeevamrut, neem formulations, cow dung compost, and low-cost farm tools to maintain good yields and soil health. On the consumer side, families are buying organic foods mainly to protect their health from harmful chemicals and lifestyle diseases. New business avenues such as organic biofertilizers, direct farm-to-home delivery, farm producer companies, and local retail outlets are expanding quickly. However, farmers face serious hurdles like high certification charges, lower yields during initial conversion years, and lack of fair prices. Government schemes like Paramparagat Krishi Vikas Yojana and Participatory Guarantee Systems are helping small farmers. This paper highlights practical solutions to make organic farming profitable, scalable, and beneficial for Indian farming communities.

Keywords: Organic Farming, Consumer Behaviour, Agribusiness Opportunities, Biofertilizers, Farm Producer Organisations, Participatory Guarantee System, Sustainable Agriculture.

Introduction

Agriculture is the backbone of the Indian economy and rural society. In the 1960s, the Green Revolution was introduced in India to achieve food security and eliminate hunger. The country adopted high-yielding crop varieties, chemical nitrogen fertilizers like urea, phosphatic fertilizers, and chemical plant protection chemicals. Without doubt, this strategy succeeded in making India self-sufficient in food grains like rice and wheat. However, after four to five decades of continuous and heavy chemical farming, our farming lands are showing severe distress. The organic carbon content in most Indian agricultural soils has fallen below 0.5 per cent, which is alarming. Beneficial soil organisms, earthworms, and friendly insects have largely

disappeared from the fields. Ground water in many farming belts like Punjab, Haryana, and Andhra Pradesh contains pesticide residues and heavy nitrates, posing severe health hazards such as cancer and kidney ailments to rural families.

Because of these serious soil and environmental problems, organic farming has regained strong scientific and commercial importance. In simple words, organic farming is a production system that avoids or largely excludes the use of synthetic fertilizers, chemical pesticides, growth regulators, and livestock feed additives. Instead, it completely relies on crop rotations, crop residues, animal manures, green manures, legumes, off-farm organic wastes, and biological pest control to maintain soil productivity and tilth, supply plant nutrients, and control insects, weeds, and other pests.

Globally, organic agriculture is now practiced on nearly 99 million hectares across more than 180 countries, with a market turnover exceeding 145 billion euros. India holds a very unique position in the global organic map. India is home to the largest number of organic producers in the world, with over 4.4 million farmers registered. States like Sikkim have declared themselves as 100 per cent organic, while Madhya Pradesh, Maharashtra, Rajasthan, Gujarat, and Karnataka have dedicated vast tracts of land to certified organic cultivation of oilseeds, pulses, spices, cotton, tea, and basmati rice. Furthermore, agricultural exports of certified organic goods from India have grown remarkably, earning precious foreign exchange.

However, today's organic farming in India is undergoing a big change. Earlier, farmers thought organic farming was only about leaving the crop to nature without any inputs, which often caused drastic yield loss. Today, agricultural scientists, progressive farmers, and Krishi Vigyan Kendras (KVKs) have developed systematic biological methods. At the same time, Indian consumers in cities like Mumbai, Delhi, Bengaluru, Pune, and Hyderabad are willing to pay extra money for clean, chemical-free food to protect their family members. This rising domestic demand has opened up very attractive business opportunities for rural youth, Farmer Producer Organisations (FPOs), and agri-startups. The present review paper discusses the practical changes in organic farming practices, consumer thinking, profitable business channels, and government support mechanisms in simple terms.

Traditional Methods and Modern Scientific Practices in Organic Systems

Traditional Indian agriculture has always been organic by heritage. For hundreds of years, Indian farmers practiced 'Vrikshayurveda' and relied on native cattle, farmyard manure (FYM), and green manuring. However, modern commercial organic farming cannot depend solely on old, unstandardized methods. Today, researchers have combined traditional wisdom with scientific microbiology to develop standardized on-farm biological inputs that provide balanced plant nutrition.

The most popular and successful development in Indian organic farming is the systematic preparation and application of liquid organic formulations like Jeevamrut, Beejamrut, and Ghanjeevamrut. Jeevamrut is prepared using fresh desi cow dung, cow urine (gomutra), jaggery, pulse flour (besan), and a handful of fertile virgin soil. When fermented for 48 to 72 hours, billions of beneficial bacteria and fungi multiply rapidly. When applied through irrigation water or as a foliar spray, it acts as a powerful culture to revive dormant soil microbes and earthworms. Beejamrut is used for treating seeds and seedlings before planting, which protects young roots from fungal infections like collar rot and damping-off.

Apart from liquid formulations, the management of soil organic matter through vermicomposting and enriched compost has become standard practice. Using earthworm species like *Eisenia foetida*, crop stalks, vegetable wastes, and cow dung are transformed into nutrient-rich vermicompost within 45 to 60 days. Vermicompost contains 2 to 3 times more available nitrogen, phosphorus, and potassium than normal cattle manure, along with essential micronutrients like zinc and iron. Agricultural universities across India also recommend the application of biofertilizers like Rhizobium for pulses, Azotobacter and Azospirillum for cereals, and Phosphate Solubilizing Bacteria (PSB) which release locked phosphorus from soil particles.

Green manuring is another indispensable agronomic practice. Farmers grow fast-growing leguminous crops such as Sunnhemp (*Crotalaria juncea*) or Dhaincha (*Sesbania aculeata*) for 40 to 45 days until flowering, and then plow them directly into the soil using tractor rotavators. This practice adds 15 to 25 tonnes of green biomass and fixes 60 to 100 kg of atmospheric nitrogen per hectare, improving soil porosity and water infiltration.

Non-Chemical Pest and Weed Management in Organic Agriculture

Pest and disease management without toxic chemical sprays is often viewed as the most difficult part of organic farming. In conventional farming, farmers simply spray systemic insecticides like chlorpyrifos or imidacloprid whenever insect attacks occur. In organic farming, the basic principle is 'prevention rather than cure'. Farmers design their fields in such a way that pest populations remain below the economic threshold level.

The first line of defense is botanical formulations. Neem (*Azadirachta indica*) is the king of organic plant protection. Neem seed kernel extract (NSKE 5%) and commercial neem oil formulations containing 1500 ppm to 10,000 ppm azadirachtin act as potent insect antifeedants, repellents, and egg-laying deterrents against sucking pests like aphids, jassids, and whiteflies. In addition, farmers prepare concoctions such as Dashaparni Ark (extract of ten native leaves), Agniastra, and Brahmastra using bitter leaves like neem, papaya, custard apple, vitex, and datura boiled with cow urine, garlic, and green chilies. These natural mixtures control caterpillar pests effectively without leaving any toxic residues on food crops.

The second major strategy is biological control using friendly insects and bio-fungicides. Trichoderma viride and Trichoderma harzianum are widely used bio-agents against soil-borne fungal diseases like root rot, wilt, and stem rot. For controlling bollworms and pod borers, farmers release egg parasitoids like Trichogramma chilonis cards at 10 to 15-day intervals, and apply Bacillus thuringiensis (Bt) formulations or Nuclear Polyhedrosis Virus (NPV).

Weed management in organic fields is managed through agronomic and mechanical practices rather than chemical weedicides. Farmers use mulching with dry crop straw, sugarcane bagasse, or black plastic sheets to block sunlight and prevent weed seeds from germinating. Intercropping with spreading cover crops like cowpea suppresses weeds naturally. In row crops like cotton, maize, and sugarcane, bullock-drawn intercultural implements, tractor cultivators, and manual cycle hoes are used for weeding. Recently, solar-powered lightweight mechanical weeders and brush cutters have made weed control much easier and affordable for small and marginal farmers.

Changing Consumer Behaviour and Awareness Towards Organic Products

The success of any farming business depends entirely on market demand. Over the last five to seven years, consumer behaviour regarding food purchases in India has undergone a massive revolution. In earlier times, the average Indian family looked only at two parameters while buying vegetables, fruits, and grains: physical freshness and low price. Chemical sprays, synthetic wax coatings, and chemical ripening agents like calcium carbide were accepted without much thought.

Today, health consciousness has become the primary driving factor. The COVID-19 pandemic served as a major eye-opener for urban households. People realized that good immunity cannot be purchased from pharmacy shops in the form of vitamin tablets; it must come from daily pure food. News reports about pesticide residues found in daily milk samples, fruits, green leafy vegetables, and basmati rice have alarmed educated parents. Expectant mothers, parents of young infants, and senior citizens suffering from diabetes, blood pressure, and digestive disorders are leading the shift toward organic food. For these consumers, buying organic food is not a luxury; it is viewed as health insurance to avoid huge hospital bills in the future.

Along with health reasons, consumer perception of taste, flavor, and cooking quality is also very influential. Many homemakers report that organically grown wheat, native pulses (desi tur and moong), and country vegetables possess better aroma, natural sweetness, and longer cooking freshness compared to tasteless, forced-grown chemical produce. Furthermore, social media, health blogs, yoga centers, and television cooking programs have made 'Chemical-Free Living' a popular lifestyle aspiration among young urban professionals.

However, Indian researchers observe that price sensitivity remains a critical obstacle in expanding the organic consumer base. Certified organic food items in Indian supermarkets are

often priced 30 to 70 per cent higher than conventional items. While upper-middle-class consumers readily pay this premium, ordinary middle-class and working-class families hesitate. They often purchase only staple items like organic wheat flour, unpolished pulses, and cold-pressed cooking oils, while continuing to buy regular vegetables from local sabzi mandis. If the price difference between organic and regular food can be brought down to 15-20 per cent through efficient supply chains, consumer adoption will multiply tenfold.

Consumer Segment	**Key Purchase Motivations**	**Price Sensitivity Level**	**Most Purchased Organic Products**	**Common Retail Purchase Point**
Urban Health Conscious Families	Avoiding toxic pesticides, boosting children's immunity, pure nutrition	Low to Moderate; willing to pay 20-40% extra for guaranteed pure food	Organic milk, fresh vegetables, unpolished dal, desi cow ghee, fruits	Weekly organic farmers' markets, specialty health food stores, D2C apps
Patients & Senior Citizens	Managing lifestyle illnesses (diabetes, high BP, cancer prevention, gut health)	Low; treated strictly as necessary medicinal and wellness dietary need	Millets (ragi, jowar, foxtail), cold-pressed oils, herbal teas, raw honey	Ayurvedic shops, organic brand retail counters, direct farm deliveries
Middle-Class Value Buyers	Desire for clean food, but strictly restricted by monthly household budget	High; constantly checks for discounts, festive deals, and cheaper options	Staple grains (atta, rice, tur dal, jaggery), occasional seasonal fruits	Supermarket private labels (DMart, Reliance Fresh, BigBasket, Blinkit)
Young Professionals / Gen-Z	Fitness, ethical living, environmental protection, aesthetic packaging	Moderate; influenced by social media fitness trends and clean eating	Organic peanut butter, green tea, cold-pressed juices, organic snacks	Quick-commerce delivery apps (Zepto, Instamart), specialized e-commerce

Emerging Agribusiness Opportunities in the Organic Value Chain

The rising demand for organic products is generating exciting business opportunities across both rural and urban areas. Agri-business in organic farming is no longer limited to growing crops in fields; several profitable enterprises have emerged along the entire value chain.

- **Commercial Bio-Input Production:** Many small farmers cannot prepare adequate vermicompost, *jeevamrut*, or neem sprays due to shortages of time, labor, or native cows. Setting up rural bio-resource centers is a profitable business for rural youth. Producing quality vermicompost, *Trichoderma*, liquid biofertilizers, and botanical insect repellents ensures steady monthly earnings with moderate investment.
- **Processing and Value Addition:** Selling raw grains or oilseeds in local markets brings low profits, but processing multiplies returns. Running traditional wooden cold-press oil units (*Lakdi Ghani*) for groundnut, mustard, or sesame oils fetches premium urban prices of Rs. 350 to Rs. 600 per liter. Similarly, stone-ground wheat flour (*chakki atta*), ready-to-cook millet mixes, jaggery powder, and high-curcumin turmeric powder yield strong margins.
- **FPOs and Aggregation:** Marginal farmers with 2 to 5 acres cannot independently afford certification, bulk transport, or marketing. Forming Farmer Producer Organisations (FPOs) of 300 to 500 members gives them collective bargaining strength. FPOs buy inputs at wholesale rates, set up sorting facilities, and supply directly to supermarkets and exporters, eliminating middleman commissions.
- **Agro-Tourism:** Urban families and students want to experience village life and discover how food is grown. Organic farms situated near cities can offer bullock-cart rides, vegetable picking, and traditional farm meals. This brings fast weekend cash while building loyal, direct buyers.

Direct-To-Consumer Marketing, Supply Chain and Digital Innovations

One of the biggest historical bottlenecks for Indian farmers has been the presence of 4 to 6 tiers of middle-level traders (dalals, commission agents, wholesalers, sub-wholesalers, and retailers). In the conventional mandi system, a farmer who grows tomatoes might get only Rs. 5 per kg, while the urban consumer in Mumbai or Delhi buys the same tomatoes for Rs. 40 per kg. In organic farming, digital technology and direct marketing models are eliminating these middlemen completely.

The Direct-to-Consumer (D2C) model has emerged as a game-changer. Progressive organic farmer groups and FPOs now use simple digital tools like WhatsApp groups, Instagram pages, and mobile applications to take weekly advance orders directly from residential housing societies in cities. Every Saturday or Sunday, the farmer group transports freshly harvested, graded, and packed vegetable and fruit baskets directly to the apartment gates. The farmers receive Rs. 25 to

Rs. 30 per kg instead of Rs. 5, while urban families receive fresh, unadulterated food at fair rates. This direct relationship also creates strong emotional trust between the food grower and the consumer.

In addition, organized weekly Organic Farmers' Markets (Jaivik Mandis) supported by municipal corporations, NABARD, and state agriculture departments have become very popular in cities like Pune, Bengaluru, Chennai, and Chandigarh. Farmers set up stalls directly in public parks, clubhouses, or community halls, interacting directly with buyers without paying any commission.

On the logistics and technology side, two modern developments are accelerating organic supply chains. First, the introduction of decentralized, solar-powered cold storage units (such as 5 to 10 MT capacity micro-cold rooms) at the village level allows farmers to store delicate organic fruits like strawberries, grapes, and leafy greens for several days instead of being forced to sell at throwaway prices on harvest day. Second, QR-code based traceability systems are building consumer confidence. By scanning a simple QR code on a pack of organic dal or spices with their smartphones, consumers can see the photo of the farmer, the village location, the date of harvesting, and the organic lab test report.

Economics of Organic Cultivation Versus Conventional Chemical Farming

A very common question asked by Indian farmers and policymakers is: 'Can an Indian farmer really make more profit from organic farming compared to chemical farming?' To answer this question properly, one must analyze the complete farm economics over a period of three to five years, rather than looking at a single season's yield alone.

During the initial conversion period (the first 1 to 2 years), crop yields in organic farming almost invariably drop by 15 to 30 per cent compared to high-input chemical farming. This happens because the soil biology has been damaged by years of synthetic fertilizers, and the natural soil microbes take time to re-establish. However, by the third and fourth year, as soil humus, earthworm activity, and organic carbon build up, yields stabilize to 85 to 95 per cent of conventional levels. In crops like pulses, groundnut, spices, and indigenous rice, organic yields often match or even surpass conventional yields.

When examining cultivation expenses, organic farming drastically slashes cash expenditures. In conventional farming, Indian farmers spend huge amounts of hard-earned cash every season to purchase bags of urea, DAP, potash, micronutrient sprays, and expensive chemical insecticides from private input dealers, often taking loans at high interest rates. In contrast, an organic farmer who maintains 1 or 2 native cows prepares jeevamrut, compost, and botanical sprays on the farm itself, cutting out-of-pocket input costs by 50 to 70 per cent. Although organic farming requires more family or hired labor for weeding and compost handling, the total cash investment required per acre is significantly lower, which shields small farmers from the tragic cycle of rural debt.

Farming Parameter	Conventional Chemical Farming	Organic Farming (Initial 1-2 Years)	Established Organic Farming (3+ Years)
Average Crop Yield Level	100% (High baseline yield)	70% - 85% (Temporary drop during conversion)	85% - 95% (Yields stabilize as soil fertility revives)
Cash Cost of External Inputs	Very High (Rs. 8,000 - 18,000/acre on chemicals)	Moderate (Rs. 3,000 - 6,000/acre on organic inputs)	Low (Rs. 2,000 - 4,500/acre via on-farm inputs)
Labor Requirement	Low to Moderate (heavy tractor use & chemical sprays)	High (manual weeding, liquid formulation making)	Moderate (manageable via mulching & farm tools)
Market Price Realization	Standard volatile APMC mandi minimum support price	Regular mandi price (cannot sell as certified organic)	20% - 50% premium price in direct or retail markets
Soil Organic Carbon Status	Depleting gradually (often <0.4% in dryland regions)	Starts improving (+0.5% to 0.7%)	High fertility (0.8% - 1.5% with high water retention)
Net Profitability & Risk	Low to Moderate profit; high debt risk if crop fails	Low profit due to lower yield without price premium	High net profit; very low debt risk and climate resilience

Finally, on the revenue side, once the farm is established and recognized as organic, the farmer receives a premium price of 20 to 50 per cent over ordinary mandi rates. Even with a 10 per cent lower yield, lower production costs combined with higher sale prices result in 25 to 40 per cent higher net profit per acre for the farmer. More importantly, organic soils act like sponges, holding moisture during dry spells and absorbing excess water during heavy downpours, giving farmers climate resilience in this era of unpredictable weather.

Major Challenges, Government Schemes and Practical Recommendations

Despite all the benefits and commercial prospects, organic farming in India faces several ground-level challenges that prevent it from expanding as rapidly as it should. Understanding these bottlenecks is essential to design practical, farmer-friendly solutions.

- **The Initial Conversion Hurdle:** The mandatory three-year conversion period severely strains small farmers. As yields decline during this phase, produce must still be sold at conventional mandi rates without organic price premiums. Consequently, many farmers revert to chemical farming. Direct annual financial transition support of Rs. 10,000 to Rs. 15,000 per acre is essential to help farmers navigate these three lean years.

- **Costly Certification and Administrative Barriers:** Commercial third-party systems like NPOP (APEDA) entail prohibitive inspection fees, complex English paperwork, and expensive soil testing, which marginal two-acre farmers cannot afford. To resolve this, the government introduced the Participatory Guarantee System (PGS-India). This decentralized, peer-review model relies on local farmer groups inspecting one another's fields, offering an affordable, officially recognized pathway to the domestic organic market.
- **Government Financial Initiatives:** Key national schemes actively subsidize this transition. The Paramparagat Krishi Vikas Yojana (PKVY) grants Rs. 50,000 per hectare over three years for inputs, capacity building, and value addition. MOVCDNER provides complete supply-chain support for northeastern states, while the National Mission on Natural Farming promotes chemical-free agriculture along river corridors.

Conclusion

Organic farming has evolved into a practical, scientifically backed, and economically viable alternative to chemical agriculture, which has severely degraded soil, water, and public health. Rather than reverting to primitive methods, modern organic farming blends traditional practices—such as indigenous cow inputs, crop rotations, and green manuring—with biofertilizers, biological inputs, and mechanical weeding tools.

Simultaneously, increasing consumer demand for pure, chemical-free food has unlocked profitable business opportunities in bio-input production, millet processing, cold-pressed oil extraction, and direct-to-consumer delivery.

Although initial yield reductions and certification expenses pose challenges for smallholders, initiatives like the Participatory Guarantee System (PGS-India), Farmer Producer Organisations (FPOs), and schemes like PKVY offer effective remedies. Providing farmers with fair prices, transitional aid, and direct market access will enable India to model an agriculture that is both ecologically regenerative and commercially thriving.

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FROM AI USERS TO AI ORCHESTRATORS: PREPARING FUTURE MANAGERS FOR THE AGENTIC AI ERA

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Abstract

Agentic artificial intelligence is transforming business from human-directed AI assistance toward autonomous, goal-oriented systems capable of planning, executing, and adapting with reduced human supervision. This chapter examines how this transition reshapes managerial work, graduate employability, and business education. It identifies five essential competencies for the emerging agentic workforce: agentic AI literacy, AI orchestration, strategic judgement, human-centred capabilities, and ethical governance. The chapter explores implications for pedagogy, faculty roles, management disciplines, industry collaboration, and responsible AI governance. It proposes the Agentic AI Readiness Framework for Business Education (AIRF-BE), integrating institutional inputs, educational processes, graduate competencies, and continuous renewal. The framework positions the AI-orchestrating manager as an emerging professional identity capable of delegating to, supervising, evaluating, and governing autonomous systems while retaining human accountability. The chapter argues that business schools must move beyond teaching AI tool usage toward developing responsible managerial judgement, adaptive capability, and human–AI orchestration skills. Manuscript

Keywords: Agentic AI, Business Education, AI Orchestration, Managerial Competencies, Responsible AI.

1. Introduction: Business Education at the Agentic AI Turning Point

The application of AI in business has come to the forefront and is no longer just a niche technical feature but a growing player in the organisation's workflow. Early automation of business, enterprise systems, rules-based software, standardised reporting and increased efficiency without relinquishing control of objectives, interpretation or decisions to humans. This was followed by the advent of machine learning and predictive analytics which expanded the potential of data and later by generative AI which could generate text, analysis and content from human inputs (Kasneci *et al.,* 2023). In all these phases, however, the use of AI was still essentially human-driven: someone asks for, considers, and chooses. Agentic AI is the next step from systems that follow commands to systems that can achieve more ambitious goals on their own, plan steps,

choose tools, take actions, and adapt to new situations in a way that requires less ongoing human supervision (Acharya *et al.,* 2025; Sapkota *et al.,* 2026). The difference can be stated as transition from ‘assistance to agency'. The traditional sequence of human request, AI generation, human evaluation, human action has evolved to an agentic environment, where the sequence is human goal, AI planning, autonomous execution, monitoring and adaptation, human oversight. In this way, the point at which human intervention is to be exercised is modified: Instead of specifying the individual activities, a manager may set goals, boundaries, acceptable autonomy, and monitor results.

Going forward, managers may have to deal with multiple contexts that include human workers, AI agents, automated workflows, and digital platforms in one.AI literacy alone isn't enough preparation; future managers may face environments with multiple contexts that include human employees, AI agents, automated workflows, and digital platforms. The graduates have more of them being able to decide on their own what can be automated by AI, set goals and boundaries for autonomous systems, observe the behaviour of agents and assess their results, be aware of failures or biases in systems, and take responsibility for impacts on the organisation, skills this chapter calls AI orchestration (Raisch & Krakowski, 2021). This does not make the traditional human managerial skills less important; in fact, the strategic sense, creativity, contextual understanding, empathy and ethics are more important than ever before, as the role of routine information processing is further automated (von Krogh, 2018).

2. Understanding Agentic AI in Business

Automation, generative AI, and Agentic AI should not be treated as interchangeable. Traditional automation performs a structured, repetitive task based on a set of rules and repeatable actions; it uses a set of rules and triggers to repeat an action and then output the result; when the situation is not within the set of rules and triggers, it requires manual intervention. Generative AI takes this much further, generating text, analysis and recommendations based on human instructions, but is still fundamentally responsive: a human identifies the task, initiates the interaction, evaluates the outcome and determines what comes next. Agentic AI takes this one step further and allows an AI agent to be given a general goal and decide on the path to take, break down a goal into steps, choose tools and take actions, and adapt based on monitoring progress (Sapkota *et al.,* 2026). The table below (Table 1) summarizes the differences that emerged on the dimensions most relevant to managers.

This distinction is shown in Figure 1, as two contrasting process patterns. The generative AI pattern remains a closed loop of human request – AI generate – human evaluate – human action. The agentic pattern also adds one more link to the chain, where the human's main point of control moves to the start (sets the goal) and the end (oversight) and a significant amount of autonomous activity lies in between.

Table 1: Comparing Automation, Generative AI, and Agentic AI

Dimension	Automation	Generative AI	Agentic AI
Primary role	Executes predefined tasks	Generates and assists	Pursues goals and executes actions
Human input	Rules and workflows	Prompts and instructions	Goals, boundaries, permissions
Autonomy	Low	Generally limited	Potentially higher
Adaptability	Limited	Responsive	Goal-directed and adaptive
Typical output	Completed routine task	Content, analysis, recommendation	Multi-step actions and outcomes
Human role	Design and monitor	Prompt, evaluate, decide	Delegate, supervise, govern, intervene
Managerial concern	Process efficiency	Output quality	Autonomy, control, and accountability

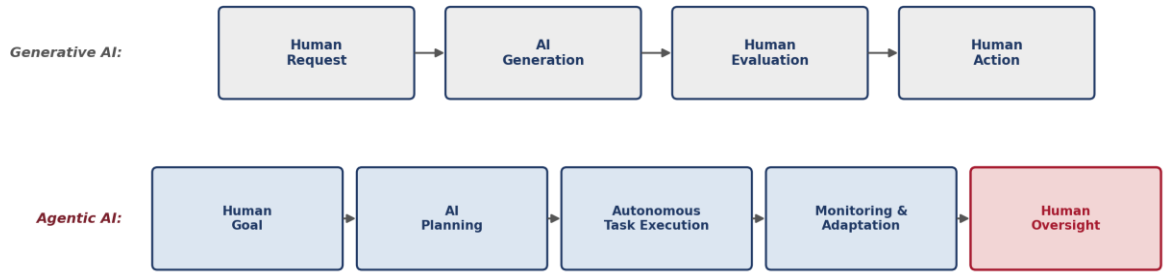


Figure 1. The shift from generative AI's human-centred loop to agentic AI's goal-directed process

One of the key features of Agentic AI is that it works towards goals and not just specific commands, breaking down high-level objectives into smaller tasks and performing within a set scope. This also lays out a spectrum of decision making powers: from fully human decisions, to decisions assisted by AI and recommended by AI to human approval, to decisions made by AI alone within clearly defined limits, that are overseen by humans. The position of a decision on this continuum should be determined by the level of risk, reversibility, ethicality and where tacit/implicit knowledge used in a decision cannot be easily formalized. (Faraj *et al.,* 2018)

Agentic applications are already beginning to appear in various functions of business. Agentic systems can review customer data, suggest campaign options, manage content consistency across channels, and adapt based on campaign performance, while staying within predefined bounds in marketing. In human resource management, agents can participate in recruitment processes and in workforce analytics, but their role in human resource management processes that can have a consequence on the working life of the employees raises issues of fairness, which are discussed in more detail in Section 10 (Newman *et al.,* 2020).

3. The Changing Nature of Managerial Work

At the same time, multiple aspects of managerial work are transforming: moving from information collection to information interpretation, from routine coordination to exception management, from analysis production to analysis evaluation and from task supervision to system supervision. A general change in the composition of teams fuels each of these changes. Future teams are more likely to consist of humans and more than one specialised AI agent, as teams are becoming more effective by providing a complementary rather than subtractive effect (Raisch & Krakowski, 2021). While AI systems excel at handling vast amounts of data, maintaining constant surveillance, recognizing patterns, and executing tasks with consistency, humans remain indispensable for their ability to understand context, show empathy, make ethical decisions, be creative, negotiate, and accept accountability. The manager's goal should not be to maximize automation, but to decide which ones to use in a specific activity.

Trust is a key and crucial topic of human–AI teams. But too much or too little trust means that managers may either fail to take on board the positive suggestions of AI or may be prone to the automation bias, whereby individuals accept the output of AI without critically evaluating it (Buçinca *et al.,* 2021). Collaborations, then, should be based on a level of trust that has been "calibrated" to the actual performance, transparency, and constraints of the system and not on what appears to be sophisticated (Wischnewski *et al.,* 2023). This escalation, from AI user to AI collaborator to AI supervisor to AI orchestrator, takes delegation, a core managerial skill, from humans to autonomous AI systems, and calls on managers to consider risk, reversibility, ethics and context-dependency when considering the extent to which a task may be automated—and whether it should be (Kellogg *et al.,* 2020).

All of this does not take away from the value of distinctly human management. Notwithstanding the potential capabilities of AI systems, organisations are social systems in which managers have to negotiate conflicting interests among stakeholders, build trust, manage ambiguity, handle conflicts, and perform other non-quantifiable functions (Faraj *et al.,* 2018).

4. AI-Driven Futuristic Careers for Business Graduates

The transformations outlined in Section 3 are already transforming current business careers, not just creating a new niche of jobs for AI. Marketing jobs are becoming more about orchestrating campaigns and AI-supervising the process of them, HR jobs more about overseeing algorithmic recruitment and workforce analytics for fairness and effectiveness, finance jobs more about reviewing and validating AI-generated forecasting that is continuous, operations jobs more about supervising increasingly autonomous supply-chain coordination, and strategy and consulting roles more about interrogating AI-driven scenario analysis rather than manually creating it. In all of these, the pattern is similar to the general evidence on the labour market that technology enhances, but does not replace, tasks that involve judgment, communication and context-appropriate skills (Autor, 2015; Deming, 2017).

The five capability areas outlined in this chapter, and further elaborated as a competency model in Section 5, are found repeatedly throughout this environment and are crucial to future employability: agentic AI literacy, AI orchestration capability, critical and strategic judgement, human-centred capabilities, and ethical and governance competence. The traditional definition of a person being 'job ready' – having a defined range of technical skills that relate to a particular job description – is being replaced by adaptive employability – the ability to continually rearrange one's skill set as the tools and technologies that are used at work evolve and are applied in different ways over the lifespan of an occupation or career (Bridgstock, 2009).

It should be noted that these career transitions will not be uniform across industries, company size and location. Agentic systems are more likely than SMEs with limited resources to be adopted by large organisations with their own technology budgets, and to routinise orchestration and governance duties, reflecting wider size differences of adoption for the earlier stages of digital transformation (Nambisan *et al.,* 2019).

5. Competencies for the Agentic Workforce

The section builds on the capability areas outlined in Section 4, and introduces each competency sequentially, and then combines them into one model. Agentic AI literacy means having the knowledge and skills necessary to understand when an AI agent is doing a job well done and when it is not. That is, understanding the capabilities of an autonomous system, its level of autonomy, and understanding its characteristic failure modes, as autonomous systems can fail in ways that are silent, can pursue a technically correct, but contextually inappropriate interpretation of a goal, and can compound small errors across a multi-step process in ways that a single generative AI response cannot (Long & Magerko, 2020).

Table 2: An Integrated Competency Model for the Agentic Workforce

Competency	Central Question	Expected Capability
Agentic AI Literacy	What can AI agents do?	Understand capabilities, autonomy, limitations, and failure modes
AI Orchestration	How should AI be coordinated?	Delegate, supervise, configure, and intervene appropriately
Strategic Judgement	Should this AI-supported action be taken?	Interpret context and critically evaluate alternatives
Human-Centred Competencies	Where does human value remain essential?	Lead, communicate, collaborate, empathise, and create
Ethical & Governance Capability	Is the action responsible and accountable?	Govern autonomy, fairness, privacy, transparency, and accountability

The four practical sub-skills of AI orchestration, introduced in Section 3, involve goal setting (setting goals that are specific enough for an agent to perform without ambiguity), delegation

(judging what should and should not be automated), monitoring and intervening (monitoring and intervening to prevent problems from becoming more severe), and coordinating (coordinating between multiple agents operating in the same workflow). Strategic judgement is related to whether or not a particular activity should be automated, including the citing of context, critical evaluation of AI outputs, making decisions in the face of ongoing uncertainty, and importantly: knowing when not to automate an activity even if it is technically possible to do so.

6. Pedagogical Metamorphosis in Business Schools

To develop the skills outlined in Section 5, learners cannot just be taught about Agentic AI, they have to experience it in practice, by delegating, evaluating, and governing it. Agentic AI can play a part in this learning process not by providing students with answers, but by setting cognitive challenges, providing personalized support based on the identified gap of each individual learner instead of providing the same content to all learners in a course (Wang *et al.,* 2024). The risk, which is well described in the growing literature on the use of generative AI in education, is that students can become metacognitively lazy if they engage with AI tools freely without reflection and effort, resulting in a reduction in critical thinking sub-skills when students use AI tools in ways that have not been structured (Essien *et al.,* 2024) and measurable drops overall in critical thinking sub-skills among those who use AI tools in an uncritical manner for coursework (Fan *et al.,* 2025). Pedagogical design should thus be planned to leave behind rather than take away productive cognitive struggle.

The case method, which has been a core part of management education, is adapting to the change. Students can then engage with an AI agent that plays a role within the case, a stakeholder, a market simulation, and evaluate the agent's recommendations, which helps to cultivate managerial judgment better than the mere discussion of a static case (Kolb, 1984).

7. Reimagining Business-School Faculty

Alongside pedagogical changes outlined in Section 6, above, roles of faculty are evolving, from knowledge provider moving towards learning architect, from explainer to critical challenger who questions AI-generated content with students, from content controller to curator and validator of an increasing number of content assisted by AI, and from evaluator of output to evaluator of thinking, in line with the process-oriented mode of assessment described above. It is best to develop these skills in a progression of steps, starting from a foundational level of familiarity before moving to an advanced level of application, and to focus on them in a manner appropriate to the field rather than present them as stand-alone technology courses, as the orchestration judgement needed for a finance case will be significantly different from that required for a marketing simulation (Cukier, 2024).

8. Agentic AI Across Management Disciplines

Skills and practices developed in Sections 5 and 6 are different for various management functions, because decisions delegated and risks of delegating wrong are different for each function. Table 3 presents some representative agentic applications and the associated educational implications for six key disciplines.

Table 3: Agentic AI Applications and Educational Implications Across Management Disciplines

Discipline	Representative Agentic Application	Core Educational Implication
Marketing	Customer intelligence, personalisation, and campaign orchestration across channels	Students supervise and evaluate AI-supported campaign decisions, not just generate content
Human Resources	Algorithmic recruitment screening, workforce analytics and planning	Students examine fairness, bias, and human oversight in employment-consequential AI use (Newman *et al.,* 2020)
Finance	Continuous financial monitoring, forecasting, and scenario analysis	Students critically validate AI-generated forecasts rather than accept them uncritically
Operations	Autonomous supply-chain coordination and exception-based management	Students design escalation thresholds for autonomous operational decisions
Entrepreneurship	AI-supported opportunity identification and resource orchestration	Students learn to treat AI as a capability-orchestration tool under resource constraints
Strategy	AI-supported scenario development and competitive intelligence	Students treat strategy as human–AI judgement, not delegated AI output

9. Academia–Industry Collaboration for Agentic Readiness

Creating the orchestration judgement that can be applied to business problems in Section 8 is not a task that business schools could be responsible for doing without the organisations where the agentic systems in question are actually being used. Curriculum–industry alignment calls for horizontal alignment mechanisms to identify emerging competencies before becoming broadly recognized in the industry, such as industry advisory boards and co-designed curriculum modules that are developed in collaboration with the industry, not only in the end of the process (Valiente Bermejo *et al.,* 2022).

10. Ethical Governance and Responsible Agentic AI

In Section 3–9, the delegation, orchestration, and collaboration mechanisms rely on a governance foundation that has been introduced only implicitly. This section spells that out. The first and most basic condition is accountability; the reason for the actions of an agent should be traceable in decision logs and be reliably auditable throughout the entire AI lifecycle from design to deployment, monitoring and evaluation (Kellogg *et al.,* 2020). Otherwise, organisations are in danger of exactly the same accountability shortfall that was found in Section 3, where the more that machines are autonomous, the less the individuals are accountable.

The second dimension is algorithmic bias. Predictive and decision supporting algorithms can systematically disadvantage specific groups, whether through deliberate bias in their design or because the training data and goals of the algorithm only reflects historical inequities that are reproduced at scale (Baker & Hawn, 2022). This is a managerial problem as well as a technical one: Bias in agentic systems accumulates over multiple steps of autonomous action in a fashion that is unlike the accumulation of bias in single-output generative AI systems, and it is important to differentiate between algorithmic bias and human bias, as assuming automatics systems will be inherently more neutral than human judgment is incorrect (Newman *et al.,* 2020).

Table 4: A Responsible Agentic AI Governance Framework: Five Pillars

Pillar	Core Requirement
1. Accountability	Every autonomous process has identifiable human and organisational responsibility, supported by auditable decision logs
2. Fairness	AI-supported actions are monitored for inappropriate bias and discriminatory consequences across affected groups
3. Transparency	Stakeholders receive appropriate clarity on AI involvement; consequential decisions remain explainable
4. Privacy & Security	AI agents operate with minimum necessary data access, permissions, and protection against autonomous-action risk
5. Human Oversight	Humans retain meaningful understanding, authority, and practical capability to intervene in consequential processes

Transparency and explainability constitute the third pillar. The stakeholders involved in decisions made with AI should also be given clarity of the use of AI and decisions that result from it; and the decisions made with AI should be sufficiently explainable, so that a manager can defend a decision instead of hiding behind what can be called the black-box excuse: that an AI system is not explainable, so it should not be asked to be explained. (Memorian & Doleck, 2023)

The fourth pillar is privacy and security: AI agents operate with the principle of minimum necessary data access and permission, meaning that autonomous action is introducing security risks, an agent with excessive permissions can do more harm at a faster pace than a human error,

and thus necessitates privacy governance as a more urgent concern for agents than earlier generative contexts (Slade & Prinsloo, 2013).

The fifth pillar is human oversight and the one most closely related to the orchestration competency of Section 5. There is a spectrum of oversight, from a close human-in-the-loop review of all actions, to more remote human-on-the-loop monitoring of the aggregate outcome and the organization will need to understand the level of oversight required for each application and not assume that the one that works best for them is the one that is the most convenient. The other four pillars are made real by the human override principle, that a human must have the practical ability and not just the theoretical ability, to intervene to stop autonomous action.

11. The Agentic AI Readiness Framework for Business Education (AIRF-BE)

The above sections can now be combined into one that serves as an integrated framework for business education Agentic AI Readiness Framework for Business Education (AIRF-BE), outlined in Figure 2. The framework's four layers run from inputs of the institution, to an educational process, to the outcomes of the graduate, to a new professional identity, including a continuous loop of renewal between the output and the input that produced it.

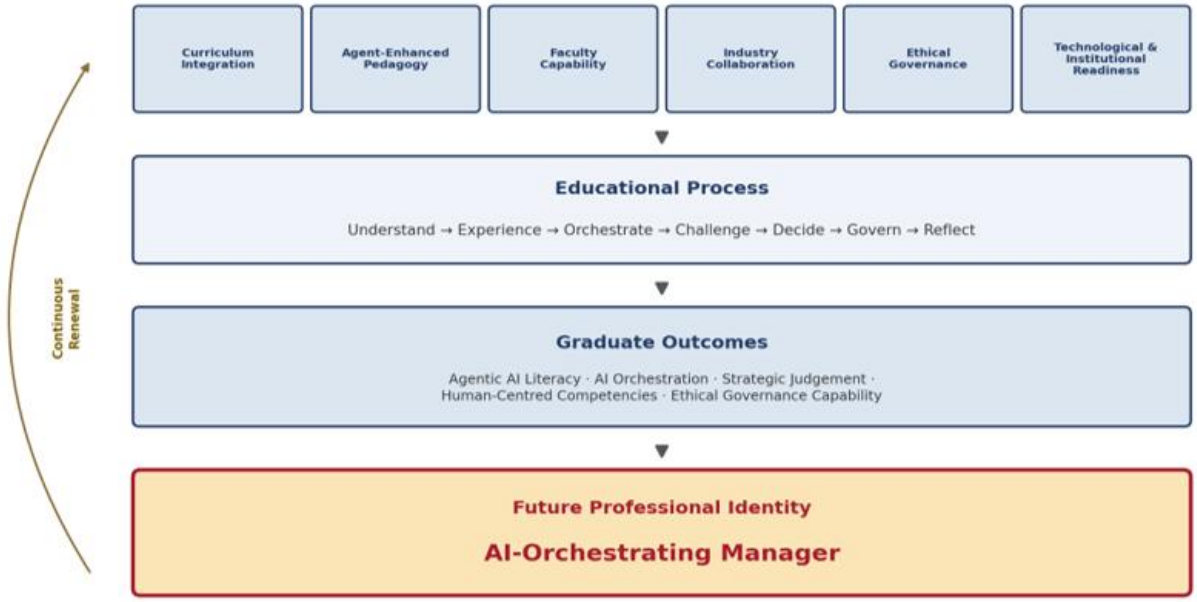


Figure 2: The Agentic AI Readiness Framework for Business Education (AIRF-BE)

The first tier consists of six institutional inputs which are developed in each of the specific sections above: curriculum integration (Sections 5 and 8), agent-enhanced pedagogy (Section 6), faculty capability (Section 7), industry collaboration (Section 9), ethical governance (Section 10), and technological and institutional readiness, the infrastructure, data access, and organisational commitment necessary to ensure sustainability of the other five inputs over time. One thing alone is not enough. A school with strong curriculum design, but poorly developed faculty capability, or strong industry partnerships, but weak governance practice will yield sub-optimal and potentially risky graduate outcomes.

The second tier is the learning process itself, which this chapter represents as a seven-step process: Students first develop an understanding of what AI is and is not (Section 2), then learn first-hand about agent enhanced case studies and simulations (Section 6), practise orchestrating the AI agent in a supervised manner, challenge their reasoning through process-aware assessment, practise delegating to the AI agent and keeping tasks on their own, govern autonomous action through the five pillars developed in Section 10, and reflect on their own judgement, which is a stage that research on AI-related metacognitive laziness suggests that they will skip. The second tier is the learning process itself, which we characterize in this chapter as a seven-step process: Students first understand what AI is and is not (Section 2); then learn first-hand about agent enhanced case studies and simulations (Section 6); then practise orchestrating the AI agent under supervision; then have their reasoning challenged through process-aware assessment; then practise delegating tasks to the AI agent while retaining responsibility for them; then govern autonomous action using the five pillar developed in Section 10; then reflect on their own judgement which research on AI-related metacognitive laziness shows is easily skipped.

This is a process for producing the third tier: Graduate outcomes that are directly aligned to the five-competency model presented in Section 5: agentic AI literacy, AI orchestration, strategic judgement, human-centred competencies, and ethical and governance capability. These five outcomes overlap on the fourth level, which is a new professional profile in this chapter – the AI-orchestrating manager: the manager who has progressed from the position of AI user to AI orchestrator, and views delegation, supervision and governance of autonomous systems as a fundamental competency rather than a technical, specialist issue.

12. Implications and Future Research Directions

The AIRF-BE has different implications for the stakeholder groups identified in each of the sections of this chapter. The framework suggests that for business-school leaders, the AI readiness of their agents is not a task to be left to one technology committee or elective, but one where coordinated investments in curriculum, pedagogy, faculty development, industry partnership, and governance are all necessary because, as Section 11 made clear, a lack of strength in one input renders the other inputs useless as well. The message for faculty is that to be an effective teacher in this new learning environment, it is no longer something faculty can choose to do, but is essential for faculty to become competent in personal agentic AI as outlined in Section 7. The framework rethinks collaboration as not only a recruitment pipeline, but as co-production of curriculum and applied learning experiences as advocated for by industry partners (see Section 9). The framework proposes that assessing business programmes based on the summative assessment of the disciplinary content is increasingly inadequate without assessing the competence in governance and practice of agentic AI by accreditation and quality-assurance bodies.

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TRANSFORMING INSURANCE MARKETING FOR A CHANGING SOCIETY: CONSUMER-CENTRIC INNOVATION, TRUST AND SUSTAINABLE VALUE CREATION

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Abstract

Insurance Marketing is changing because of improved expectations of consumers as well as advances in technology, new monetary realities as well as sociocultural changes. The old product-oriented concepts are transforming and shifting into efficient communications, transparency, quality customer service and building long-lasting relationships with customers. The article analyzes insurance marketing through the interdisciplinary approach which involves consumer behavior, IT innovations, financial services, trust, and sustainability. They applied conceptual research which is based on literature, legal documents, and reports. The interdisciplinary framework consists of different parts such as consumer perception, predictive technologies, customer intelligence, responsible personalization, digital trust, and sustainable insurance value. The article analyzes the new models of insurance marketing, such as AI-supported personalization, omnichannel communication, embedded insurance, and preventive services. It also raises issues such as data confidentiality protection, data discrimination, cybersecurity, digital exclusion as well as irresponsible communication practices. It is important to mention the necessity to take into consideration the importance of human judgment and ethics in the context of increasing technological capacities.

Keywords: Insurance Marketing, Consumer Behaviour, Digital Innovation, Digital Trust, Sustainable Value Creation.

Introduction

Insurance provides financial protection to people and businesses from unforeseen losses. As a type of intangible service, insurance requires its users to know about the financial risks, the affordability of premiums, and the benefits of the policy. Hence, for insurance marketing to be effective, the customer must be educated about insurance, be able to trust it, and have access to it. In earlier times, insurance marketing was done through agents, adverts, and comparison of premiums. However, with consumers' changing expectations, there is a need for insurance companies to provide services that are more accessible and personal due to the impact of technology. With artificial intelligence, machine learning, big data analytics, and automation,

insurance companies could better understand their customers' preferences and improve their communication and marketing.

Thus, the discipline of insurance marketing has to be regarded from a multidimensional perspective that integrates aspects of the stakeholders' behaviour, new technologies, ethics principles, and sustainability basics. Consumer behaviour theories explain risk perception and making decisions, while technology enables them to conduct customer intelligence, offer personalised suggestions, and deliver services. Trust and sustainability stimulate ethical behaviour, financial inclusion, and long-term customer value. Thus, the present chapter analyses these aspects and discusses innovative marketing approaches and the ethical aspects of insurance services.

Need and Significance of the Study

The insurance marketing field is transforming due to shifts in customer expectations, technological innovations and social needs. Insurance companies must go beyond promoting their products. It is necessary to comprehend the buyer's choice of insurance and their various needs.

Customers differ in terms of financial literacy, perception of risk, income, life stage and need for insurance protection. As a result, standard marketing will not meet customers' expectations. Present-day digital technologies provide communication with customers as well as the analysis of customer information, but they must be used with caution.

Trust among customers is important because they need insurers to provide them with fulfilling contracts, clear explanations and efficient help with claims. Nevertheless, affordability, digital divide and low financial literacy may create haziness around ordinary customers' insurance needs.

The chapter brings together consumer behavior, digital innovation, trust, inclusion, and sustainability in one conceptual framework. This indicates how many different disciplines may be applied when establishing good relations with customers and making insurance marketing more effective, transparent, inclusive, and socially responsible.

Objectives of the Study

The objectives of this chapter are the following:

1. To explain the changes in insurance marketing as a result of the new customer needs and social conditions.
2. To analyze the relationship between customer behavior, technological innovations, and customer knowledge.
3. To show how personalization, transparency, and digital trust are used to attract customers in the field of insurance.

4. To present an interdisciplinary model of insurance marketing which is customer-oriented.
5. To identify the latest trends in insurance marketing resulting from the combination of technology and finance.
6. To analyze the ethical, technological, and social issues related to the evolution of insurance marketing.
7. To describe the tools and regulations used for creating inclusive, reliable, and sustainable insurance value.

Interdisciplinary Literature Review

- Insurance Marketing: An Integrated Perspective
- Insurance marketing merges several concepts: consumer behaviour, digital innovation, customer intelligence, trust, and sustainability.
- Consumer Behaviour and Insurance Marketing**:** Insurance choices are based on risk awareness, financial knowledge, ability to pay for a policy and family obligations. By knowing these factors insurers can help clients make wise decisions and avoid wrong purchases.
- Digital Advances and Marketing: The improvement of customer relations and service provision is accomplished by digital tools such as AI, machine learning, big data, and digital platforms. However, in order to get desired results, the following components should be available: good quality data, the right technology in place, clear communication, and involvement of people.
- Customer Intelligence and Personalisation**:** The majority of companies able to use customer intelligence know how to transform information into practices and product recommendation as well as personalized communication and customer service.
- Digital Trust and Ethics: Trust relies on various factors such as open policies, unambiguous restrictions, safety of data, impartial treatment, and prompt service. The automation process should guarantee clarity and possibilities for human intervention.
- Sustainability and Financial Inclusion: Sustainable insurance marketing supports financial security, affordability, inclusiveness, and sustainability. The 2047 aim of universal coverage in India underlines the significance of digital accessibility, financial literacy, and regional language-supporting programs.
- Summary of the Literature: Combining consumer insight, technological advancement, customization, ethics, and sustainability creates the basis for sustainable insurance marketing.

Methodology

This chapter employs a theoretical methodology using secondary sources to look at the evolution of insurance marketing. It reviews academic articles and policy documents relating to consumer behavior, digital marketing, artificial intelligence, personalization, trust, finance, and sustainability.

A careful study of various documents such as IRDAI annual reports, certificates from authorities, and the Bima Sugam Insurance Electronic Marketplace Regulations, 2024 has formed the basis of analysis of the Indian insurance industry. The literature was applied in a systematic way to derive central concepts, new studies, plans, and obstacles.

It was necessary to blend various disciplines to create a theoretical model linking the needs of the customers, the digital innovation, customer intelligence, smart personalization, e-trust, and sustainable creation of value.

No empirical studies, interviews, or original statistical analyses have been performed in the current study.

Proposed Interdisciplinary Framework

The suggested cross-disciplinary method combines customer behavior, digital innovation, customer intelligence, responsible personalization, digital trust, and sustainable insurance value. Customer behavior provides the foundation by determining the customer's needs for protection, perception of risk, level of financial literacy, and expectations. Digital innovations such as AI, Machine Learning, Big Data, and digital platforms help to establish proper communication and provide services. Customer intelligence makes information meaningful by transforming it into knowledge concerning customer behavior, which would help the insurers meet their clients' demands and make informed marketing strategies. Responsible personalization allows utilizing such understanding for effective communication regarding the product, transparency of communications, and service provision while ensuring that all clients keep their rights to make choices independently as well as protecting ethical governance and digital trust. The objective of the above-mentioned elements is to provide sustainability for the insurance services through inclusion, satisfaction, solid protection, and long-term relations with consumers. The received knowledge can also improve marketing techniques. The suggested approach opens horizons for customer-oriented insurance marketing but needs to be empirically verified.

Integrated Discussion

In order to reformulate insurance marketing, it is important to take into account consumer knowledge, development of digital technologies, ethical accountability and opportunities for sustainable value creation. It is essential to grasp consumer knowledge, protection needs and expectations to meet customers' needs with pertinent communications and products.

Digital technologies such as artificial intelligence assist in enhancing customer engagement, determining service needs, and delivering adequate information in time. At the same time, recommendations produced by computers should be supportive rather than substitute the human intelligence, especially when it comes to complex insurance decisions.

While promoting responsible personalisation, one needs to ensure transparency, confidentiality and customers' right for choosing for themselves.

Moreover, for value to be sustainable, there has to be congruence between the promises made by the marketing and the actual delivery of a service. Information Policy, proper support, and sufficient protection are supportive of relationships with customers.

In general, technology provides opportunities, understanding provides relevance, trust leads to gaining acceptance, and sustainability ensures sustainable value, thus allowing for the comprehensive approach used in insurance marketing to go beyond merely acquiring customers.

Emerging Insurance Marketing Models

- AI-Enabled Marketing: Artificial intelligence enables companies to evaluate prospective customers and communicate better with them, delivering useful information about products. Correct evaluation and fairness mechanisms are necessary.
- Omnichannel Marketing: The use of online systems, apps and intermediaries guarantees that information is the same and consumers have a consistent experience in different channels.
- Embedded Insurance: To add insurance services to travel services, car purchases, and online retailing is the way to make use of convenient services. Nonetheless, responsible pricing, clear coverage rules, and a customer being knowledgeable about what he/she signs remain necessary.
- Behaviour-Based Marketing: Telematics and usage of connected devices enables one to foster safe behaviours and avoid negative practices. In the meantime, voluntary participation, safety and fairness come first.
- Financially Integrated Marketing: Focusing on insurance linked to the needs in saving and planning for retirement and protection against risks gives the opportunity to reach a wider audience of the clients. Well-informed clients are not likely to make wrong purchases.
- Inclusion-Oriented Marketing: Use of technology, financial literacy, possibilities to contact in local languages and community initiatives enhances accessibility for those who need it.

The above-mentioned innovative approaches help us make insurance marketing more personalised, affordable and socially responsible.

Challenges and Ethics

Insurance marketing needs to have responsible ethical and technological issues.

- Data Privacy and Consent: Data can only be collected from customers with appropriate and valid reasons providing full transparency, consent, and a sufficiency of protection.
- Algorithmic Bias and Fairness: AI tools should continuously be reviewed and monitored by a human being to prevent any discrimination or unfair treatment of customers.
- Digital Exclusion: Poor internet connections, inadequate knowledge about how to use the internet, language barriers, or disabilities all present a roadblock to inclusion. Hence such services should set up accessible platforms and helping services.
- Misleading Communication: Ambiguous policies, unrealistic promises made, and hidden exceptions all lead to wrong buying decisions. Hence marketing should be effective and clear.
- Cybersecurity: To secure the clients' information and the integrity of services provided, it is important to employ antivirus software and proactive solutions while implementing a good incident management process.
- Loss of Personal Touch: Automation should support human efforts, especially when empathy and human judgment are needed to solve complex insurance problems.
- Sustainable Value Measurement: Measuring marketing performance should take into account not only sales but also the satisfaction of customers, their convenience, usefulness, trust in the service, and quality of provided services.

Ethical governance, transparency, and accountability are required to address the issue effectively for the benefit of customers.

Managerial Implications

The framework provided offers various implications for market participants, particularly those in the fields of insurance and marketing. The following points summarize the main aspects.

1. Build customer-centered plans. Planning should begin with identifying customers' needs in terms of protection, financial situation, and expectations and not only with regard to products.
2. Use customer data responsibly. Companies should aim at ensuring the quality and consistency of customer information and try hard to limit data collection and its usage.
3. Apply AI under supervision. Artificial intelligence makes it easier to segment markets and manage inquiries, but decisions made on behalf of customers should always be backed by adequate accountability verification.
4. Improve information provision. Information defining product features, exclusions, premiums, conditions, etc. has to be supplied in a non-complex and comprehensible language.

5. Ensure coherent omnichannel experience. Digital platforms, brokers and customer service units have to keep providing the same information to customers and maintain a consistent communication process.
6. Cultivate the skills of employees. Marketing specialists and brokers should be educated in responsible digital technologies usage and ethical concerns.

Policy Implications

It is essential for insurance regulators and policymakers to ensure that the pace of digital transformation will be followed by the implementation of the policies ensuring consumer protection, transparency, and inclusiveness in insurance.

Firstly, regulations need to ensure that marketing communications are clear and that proper disclosure of terms of the contract, complete exclusions, and costs takes place.

Secondly, the governance of AI technology must guarantee respect of privacy, fairness, accountability, and the necessity of human control.

Moreover, the new digital insurance infrastructure should aim at the provision of access, interoperability, cybersecurity, and customer support while being able to guarantee individual freedom.

In addition, financial and insurance literacy programs must help to raise public awareness of the existence of coverage and exclusions, premiums, and claims.

Additionally, the inclusion policies must make it possible for people to have affordable products, contents in their mother tongue, and assistance in obtaining access to the internet.

Finally, regulators' evaluation must include the consumer experience, complaints, and transparency along with the growth of the industry.

Future Research

The proposed model has the potential to add value to future research in different fields such as marketing and customer behavior, information technology, finance, and sustainability.

To begin with, empirical research can help identify the relationship between customer intelligence, personalization, digital trust and customer engagement by means of using questionnaires or structural equation modeling. Secondly, some comparative research can analyze the customer attitude toward AI-oriented marketing in different spheres of insurance such as life insurance, health insurance, car insurance, etc.

Thirdly, the research can reveal the impact of digital literacy, financial literacy, age, income, and geographical factors on the level of adoption and availability of digital insurance services. Fourth, experimental studies can show the relevance of support in achieving positive consumer responses during AI-driven customer interactions.

In the fifth place, longitudinal investigations can examine effects of the responsible personalization on consumer satisfaction, loyalty, suitability perceptions, and concerns. In the

sixth place, a comparative policy study can evaluate the regulatory techniques in terms of data protection, algorithmic fairness, and consumer protection. And finally, an effort should be made to create and verify the measurement model for sustainable marketing value in insurance with regard to customer welfare, inclusiveness, trust, service quality, and organizational performance. Such directions will enhance the empirical credibility of the framework and enable to introduce the evidence-based, responsible and sustainable insurance marketing practices.

Conclusion

Insurance marketing is going through a transformation where product-oriented marketing is giving way to customer-oriented marketing that is reliant on modern technology, trust and sustainability. This chapter is focused on this transformation from the interdisciplinary angle of consumer behaviour, digital technology, customer intelligence, and personalisation as well as financial services and sustainability.

The scheme that is put forward indicates that customer needs must be treated as the beginning of the process, while digital transformation plays the role of the means of transformation, customer intelligence acts as a connecting element of the process and responsible personalisation and the trust in digital technology is essential for the value of sustainable insurance.

Emerging concepts such as AI-driven marketing, multinetwork distribution, integrated insurance, and socially responsible services create possibilities to enhance customer interaction and accessibility of insurance services. At the same time, these opportunities should comply with challenges of confidentiality, algorithm discrimination, cybersecurity, false advertisement, and digital exclusion.

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DARK PATTERS AND ARCHITECTURE OF ALGORITHMIC MANIPULATION: IMPLICATIONS FOR CONSUMER AUTONOMY IN DIGITAL MARKETS

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Abstract

As AI becomes more prevalent in digital markets, it has revolutionized consumer decision-making by delivering tailored recommendations, predictive analytics, targeted ads, algorithmic pricing, and automated marketing actions. While these technologies enhance convenience, product discovery, and market efficiency, they also raise concerns regarding consumer autonomy, privacy, fairness, and informed choice. This chapter critically analyses the way algorithmic persuasion and dark patterns affect consumer behaviour and may jeopardise meaningful consumer decision-making. Using a conceptual and interdisciplinary lens, it combines insights from consumer behaviour, behavioural economics, persuasion theory and digital nudging with frameworks from the field of ethics and AI to differentiate between personalising for the consumer and influencing the consumer through commerce. The chapter examines some of the most important ways in which digital manipulation works, such as by creating the impression of urgency, by exploiting data without transparency, by using asymmetric consent forcing users to adjust their habits, by deliberately canceling features that users want, and by targeting users' vulnerabilities. It encompasses consumer autonomy in three mutually related aspects: informational autonomy, decisional autonomy and operational autonomy. On this basis, the chapter introduces the Responsible Algorithmic Persuasion Framework (RAPF) that is composed of six principles: purpose legitimacy, data responsibility, autonomy-preserving design, transparency and explainability, fairness and vulnerability protection, and accountability with continuous monitoring. The framework provides a conceptual foundation for assessing AI-powered marketing practices and creating effective, ethical digital design and management. The chapter offers suggestions for the business sector, technology developers, policy makers, and consumer-protection bodies, and points to areas for future empirical studies. It argues that sustainable and trustworthy digital markets should be based on AI-driven innovation in a manner that is aligned with consumers' welfare, ethical responsibility and meaningful choice.

Keywords: Artificial Intelligence, Algorithmic Persuasion, Dark Patterns, Consumer Autonomy, Digital Markets, Responsible AI, Consumer Protection.

1. Introduction

1.1 Digital Markets and Consumer Decision-Making Leveraging AI

Artificial Intelligence (AI) has revolutionized digital markets by helping businesses understand consumer preferences, predict customer needs, and customize their business interactions. Popular applications include recommendation systems, predictive analytics, conversational agents, targeted advertising, and algorithmic pricing, among others, in e-commerce, social media, online retail, travel, and digital marketplaces. Systems analyze the search terms, web surfing, purchase records, ratings, and other data to make a guess about what people might want and subsequently adjust the products and information forwarded to consumers.

There are real benefits to personalisation. It can eliminate the cost of searching for information, enhance the discovery of a product, streamline the comparison of products and support the consumer in large catalogues. These technologies can be leveraged by businesses for better service provisioning and customer relationship. But algorithms play a role in the decision environment too: Which products come first, which are repeated as offers, which information is highlighted, and which alternatives are less visible. The technology, therefore, can not only respond, but can shape preferences and decision making. The question is, does AI serve the consumer's interest or does it mostly go to what's best for the platform. Personalization, if it offers relevant information and meaningful alternatives, can be supportive to autonomy. It becomes more concerning when it is built on the basis of opaque profiling, is based on behavioural vulnerabilities or is hiding a commercial motive. The ethical standards of AI-based business, then, lie not just in its ability to predict, but on its intentions, data usage, user interaction and control.

1.2 Algorithmic Persuasion, Dark Patterns, and Consumer Autonomy

Algorithmic persuasion is defined as the use of computer systems, behavioural information and personalized interventions to shape and change consumer attitudes and decisions. AI driven persuasion can continuously adjust recommendation, message, promotional offers, notification time and more based on user interaction, unlike traditional marketing. Communication may become more relevant, but so can commercial influence be harder to detect or to fight.

Dark patterns are interface designs that mislead, coerce, or hinder users from exercising their interests or meaningful choices. This may include false urgency, hidden fees, pre-selected answers, confusing consent options, tricky disclaimer cancellation, or designs that are more likely to make it easy to accept an offer than to reject it. These patterns can be made unique by integrating AI, and can be refined through successive iteration to produce an optimized pattern.

Consumer autonomy will be manifested by making informed and voluntary decisions that coincide with the preferences, values, and interests of the consumer. It does not only need to be a choice that is formally offered, it must also be information that can be understood, alternatives be

reasonably available, terms be clear, and decisions be reversible with reasonable barriers. The ethical goal is not to remove persuasion from marketing, but to define what it is and what is not persuasion that would have a negative impact on informed choice. With platforms having a lot of behavioural data, there may be increased risks for consumers who lack digital literacy, financial resources or who are in other situations that make them more vulnerable.

The aim of the chapter is to describe the purpose and objectives of the chapter and outline its scope.

1.3 Purpose, Objectives, and Scope of the Chapter

Purpose

This chapter aims to analyse the role of AI personalisation features, algorithmic persuasion and dark patterns on consumer decision-making and autonomy in digital markets. It cultivates a consumer-focused approach to responsible AI, exploring the interplay of algorithmic influence, ethical digital design, transparency, and meaningful choice.

Objectives

The aim of the chapter is to:

1. Discuss the role of personalization, recommendation systems, predictive analytics, and digital marketing in consumer decision-making, when powered by AI.
2. Describe the connection between algorithmic persuasion, dark patterns and consumer autonomy.
3. Recognise ethical issues related to the exploitation of data, manipulation of behaviour, lack of transparency in algorithms, and vulnerability of consumers.
4. Discuss the implications of responsible design, transparency, explainability, and consumer protection in the design of AI systems and learn how these can help improve informed decision-making.
5. Outline the concept of consumer autonomy and the role of AI in influencing it.
6. Offer practical suggestions for companies, technology providers, policymakers and consumer protection groups.

Scope

The chapter is dedicated to consumer interactions in technology-mediated commercial environments, such as e-commerce, digital retailing, social media, online marketplaces, and others, in the context of information technology and Artificial Intelligence. It takes into account recommendation systems, personalized advertising, predictive analytics, conversational AI, dynamic pricing, behavioural targeting, and user interface designs that can impact the purchasing process. It covers the concepts of autonomy, informed choice, privacy, transparency of algorithms, behavioural manipulation, digital inequality, ethical AI, responsible marketing, and regulation. The chapter takes a conceptual and interdisciplinary perspective that aims to assist in

academic debate and to provide a practical support to digital markets that are transparent and consumer-centred. A deeper look into the basics of Algorithmic Persuasion and Consumer Autonomy.

Algorithmic persuasion needs an interdisciplinary understanding of consumer behaviour, behavioural economics, persuasion research, digital nudging and ethics. Digital platforms are not just a place to put products: they curate information, control visibility, and dictate the order that consumers see commercial messages. These understandings are useful for identifying personalisation which supports consumers and influence which takes advantage of consumers' cognitive shortcomings or limits meaningful choice.

2.1 Theories of Consumer Behaviour and Decision-Making

Consumer behaviour theories describe how consumers become aware of their needs, look for information, consider alternatives, make their purchase and evaluate their experience. Preferences and resources are not the only factors that influence decisions, but also emotions, social norms, situational cues, and cognitive constraints. AI-driven markets can personalize these impacts to user. Theory of Planned Behavior (Ajzen, 1991) relates attitudes, subjective norms, and perceived behavioural control to behavioural intentions. Personalized advertising can influence attitudes through highlighting benefits; popularity cues can influence perceived social norms; and simplified and/or obstructive interfaces can change perceived control. The Stimulus–Organism–Response perspective examines the impact of external stimuli on internal stimuli (e.g. offers, rankings, notifications, countdown timers) that can influence the behaviour of the person (e.g. trust, excitement, urgency, anxiety).

The Elaboration Likelihood Model distinguishes between central route processing (which involves careful consideration of arguments) and peripheral route processing (which involves cues, like popularity, familiarity or attractiveness) (Petty & Cacioppo, 1986). AI can help with comparisons and/or useful explanations; AI can also highlight peripheral information and reduce substantive information. Time, information, and cognitive resources are limited (Simon, 1955); choice can be affected by framing (Kahneman & Tversky, 1979). Consumers thus must resort to shortcuts, which can be advantageous in systems that reduce their options, but can be taken advantage of in algorithms that highlight loss, urgency, or specific options.

2.2 Personalization, Digital Nudging, and Behavioural Influence

Personalization makes customisation of products, information and marketing communication according to the stated preferences, previous actions, demographic data and inferred interests. Can help mitigate information overload and enhance product discovery. Systems, however, learn or derive preferences based on previous interactions, which may not align with their current needs. Routinely suggesting the same thing can limit exposure to different brands and contribute to reinforcing the pattern.

Digital nudging is the method of creating an arrange of choices that is designed to reliably affect behaviour while not outright eliminating options or significantly altering economic incentives (Thaler & Sunstein, 2008). Defaults, rankings, reminders and streamlined checkout processes can assist consumers with their decisions. The same mechanisms raise ethical issues when they are mostly designed for platform's purposes—for instance, when the process to sign up is straightforward but to cancel is not, or when a countdown timer is an imaginary time limit rather than an actual one.

AI can experiment with different nudges, such as messaging, interface designs, and notification schedules, to customize them. We should distinguish between a positive and manipulative influence by examining the following: transparency, consumer benefit, freedom to opt out of intervention, proportionality, and responsible data use. Just because a conversion rate is high doesn't mean that it's ethical. Systems should also be assessed with regards to their relevance, trust, user control and consumer welfare in the longer term.

2.3 Consumers' autonomy and meaningful choice in digital environments

Consumer autonomy is the ability to make voluntary decisions that are in line with preferences and on considerations. In the context of digital commerce, a meaningful choice is only possible under the condition of understandable information, accessible alternatives, clear terms and practical possibilities to accept, reject or reverse a choice. A platform can offer formally cancellation, yet make it hard to find, leaving a distinction in between nominal and also effective option. There are three dimensions that are helpful. Informational autonomy relates to the ability to access and comprehend the information that is relevant to the product, such as pricing, personalization and sponsorship details. Decisional autonomy refers to evaluating options without being deceived or pressured into making a decision. There is an operational autonomy issue – which relates to settings, consent, subscriptions, accounts and disconnection of services. The dimensions are interdependent; if there is no information, then there is no alternatives and if there is no opt-out then there is no alternatives.

When it comes to comparing alternatives, providing users with explanations for their recommendations, and allowing users to correct incorrect assumptions, AI can bolster autonomy. It can be problematic with autonomy since platforms may have a wealth of knowledge about what they know consumers will do, yet they may not know or be able to challenge the influences guiding their actions. Therefore, responsible systems must make material influences from the commercial sphere visible, offer meaningful alternatives and exclude barriers to consent and cancel (Susser, Roessler, & Nissenbaum, 2019).

3. Personalization in the service of Artificial Intelligence, Algorithmic Influence.

By leveraging AI, companies can process customer information, anticipate user needs, and personalize shopping experiences on a massive scale. Recommendation systems, predictive

analytics, targeted advertising, and algorithmic pricing can help to make things easier but can also influence what a consumer is directed to, and their perception of alternatives. The moral difference is whether these systems enable consumers to reach their ends or focus on commercial ends without regard to consumer welfare.

3.1 AI-Enhanced Data Analysis and Reporting

Recommendation systems recommend products, services, content etc. based on browsing behaviour, purchase history, ratings, search, etc. Collaborative Filtering looks for similarities among users and/or behavior with respect to the product; content-based systems recommend products that have similar characteristics to those previously liked; hybrid systems mix and match. With the help of deep learning and NLP, more advanced patterns can be detected, and suggestions can be customized according to context.

These tools can help cut search costs. A travel platform can suggest a hotel based on cost, where the traveler is going and their expressed wants. A retailer can recommend condos that go with a purchase. Predictive analytics takes this one step further and predicts what somebody will buy, churn, demand, or whether they will respond to a promotion. However, just because a person searches, it doesn't necessarily mean they intend to buy, and past actions may not represent new circumstances.

Algorithms also influence product selection, their visibility, and the repetition of their suggestions, all of which constitute the choice environment. Systems designed just for engagement or sales may focus on the highest dollar product instead of a better one. When a click is interpreted as being an interest, it leads to even more similar recommendations, which may restrict your exposure. Responsible systems should also take into account diversity, relevance to declared purposes, transparency of the system, quality of the data and reset and modify preferences—transcend predictive accuracy.

3.2 Personalized advertising and dynamic pricing

AI-powered advertising tailors the message, timing, format and placement to anticipated consumer reactions. It can link consumers to relevant products and can minimize search effort, but it can also take advantage of inferred emotional state, financial situation or behavioral weaknesses of the consumers. The effectiveness of retargeting will vary based on context and consumer's decision process stage; sometimes more personal retargeting is more effective and appropriate (Lambrecht & Tucker, 2013). Excessive or misleading messages and urgency cues can cause pressure.

Dynamic pricing is a strategy of adjusting prices based on the demand, inventory, time, competition, or operating costs. Personalised pricing, on the other hand, incorporates individual features or inferred willingness to pay in determining different prices for different consumers. The difference is important: changes that are responsive to the market are not always based on

individual profiling, while personalized pricing can be worrisome for fairness, privacy and unequal treatment. Price variations could be due to market dynamics or consumer data analysis, and consumers may not be able to distinguish between the two.

The use of targeted advertising and algorithmic pricing is not inherently bad. The main issues are: lying, misusing data, exploiting a weakness, and lack of useful information. Businesses need to accurately price products, safeguard data, consider the varying impacts and offer a complaints process. If the interventions of advertising, ranking and pricing work together, the effect of the combination should be taken into account and not the effect of each of the interventions separately.

3.3 From Customer-Centric Personalization to Algorithmic Persuasion

Customer-centric personalization is the use of technology to allow consumers to identify products they've stated that would meet their needs, like if a consumer says they want a laptop, a technology can suggest one based on their budget and performance needs. This becomes problematic when the main goal of a system changes to revenue or conversion (no matter if it is suitable or not), such as constantly trying to sell a product that makes a lot of money, hiding cheaper products or targeting behaviour predictions to increase pressure.

The difference can be measured in five areas: objective alignment, transparency, consumer control, vulnerabilities used and outcome measurement. Customer-centred systems are developed to meet the consumer's goals, include information about factors that affect the consumer, provide options for consumers and take into account consumer satisfaction and suitability. Manipulative systems can have commercial objectives, leverage on anxiety, impulsivity, and maximize for quick conversion.

Different outcomes are possible depending on design and governance using the same technology. Responsible personalisation should not create the impression that there is only a limited supply of information, show details of the sponsorship, ensure that there are easy ways to opt-out and to cancel, and allow consumers to control their preferences. Evaluation should be based on commercial performance and satisfaction, perceived fairness, complaints, privacy expectations and meaningful access to alternatives. The real question is, is AI enhancing consumers' ability to make an appropriate choice or is it gaming their system to achieve a desired commercial end

4. Dark Patterns and the Architecture of Digital Manipulation

Digital interfaces structure information, and drive user choice. Reducing effort is achieved through well-designed interfaces, while manipulative designs take advantage of cognitive biases or information asymmetries to incentivize consumers to act in a way that aligns with a platform's interests.Manipulative designs take advantage of cognitive biases or information asymmetries to encourage consumers to act in a manner that is advantageous to a platform, while well-designed interfaces reduce effort. Dark patterns are found in e-commerce, mobile apps, subscription

services, social media, travel platforms, and financial services. The challenge of AI is that it can continuously test and customize interface and persuasive messages to optimize for each platform.

4.1 Types and Mechanisms of Dark Patterns in Digital Platforms

Dark patterns can impact the order of information, focus on information, what choices are presented, and the difficulty of undoing a choice. These practices were observed by Mathur et al (2019) in thousands of shopping sites. Common examples include:

- False urgency and scarcity: Countdown timers or limited stock messages put pressure on – they are misleading if they are not accurate or are reset often.
- Hidden costs and drip pricing: costs which the consumer must cover are imposed at a later stage, after the consumer has devoted time to the transaction.
- Obstructive cancellation and subscription traps: sign up is simple but canceling is confusing or too many steps.
- Confirm shaming: using "emotional language" to dissuade people from turning down offers.
- Preselected options and asymmetric consent: environments that encourage the acceptance of an option and force a refusal of an option to work harder.
- Unclear renewals or repeated consent requests: weakened meaningful control, due to forced continuity and repeated prompts.
- Sponsored or commercially prioritized content is disguised or looks like independent information or neutral search results.

Patterns may run concurrently. A travel site may also add a late disclosed cost and a countdown timer to entice a person to book before searching for other options. But AI doesn't solely constitute a dark pattern because accuracy, transparency, proportionality and informed choice are still key aspects of the evaluation.

4.2 Behavioural Manipulation Through Interface Design

Ranking, defaults, visual salience, and task difficulty all affect attention and action as they are a part of choice architecture. These mechanisms can make decisions easier to make, but can become manipulative if they systematically favour commercial outcomes while omitting material information. Consumers have limited time and attention to give to numerous products, complicated pricing, or lengthy consent notices.

The principles of attention steering give selected options a sense of focus; defaults give a sense of “preserving” a setting that is easier for users to keep; social proof helps make decisions based on apparent group behaviour; loss aversion and urgency cues make actions easier to take to avoid a felt loss; and friction asymmetry makes acceptance easier than rejection. These methods do not always involve unethical behavior: its popularity data may be used as accurate information, or a

helpful default to assist the consumer. The concern is raised if claims are made that are not based on factual evidence, alternatives are not clear or refusal is deliberately complicated.

AI-powered experimentation can pinpoint the best designs for conversions. When only short-term buying is optimized, it may provide a benefit to interfaces that take advantage of cognitive biases. Trust can be damaged and frustration can be generated with repeated manipulation. Responsible design should reveal material costs prior to commitment, create equally easy access to acceptance and rejection, provide identification of sponsored content and allow easy cancellation. Performance should also be evaluated by understanding, task completion, satisfaction, fairness, reversibility and clicks/sales in addition to performance.

4.3 Algorithmic Targeting and Consumer Vulnerability

Algorithmic targeting is a data-driven approach that allows the targeting of specific consumers by predicting their responses. It can enhance relevance, but can also pose risks if platforms assume vulnerabilities and leverage them to increase the pressure. Vulnerability can be situational, not a fixed demographic attribute: financial stress, limited digital literacy, emotional stress, time pressure, age, and unfamiliarity with a product can impact ability to evaluate offers.

There are three risks which are particularly significant. Platforms have more information about targeting than users can easily find out. Inferred vulnerability: Models that have detected individuals who are likely to be motivated by urgency, sales discounts, or emotional triggers. When multiple recommendations and advertisements add up, cumulative exposure occurs even though the single recommendations may be mild. For instance, if a person is looking for immediate help, they might be exposed to a high-cost financial product perhaps more than once, which could take advantage of the situation, but not the need.

In addition, targeting can also produce inequitable outcomes as it may reflect socioeconomic disadvantage in historical data or proxy variables. Businesses must limit inappropriate targeting from inferring on sensitive data, evaluate campaigns for disproportionate risks, maintain a log of data sources used, track results, and add controls over personalization. There are situations in which disclosure is insufficient when consumers have no reasonable options. Ethical targeting is both transparent and allows for meaningful control, oversight and protection from exploitation.

5. Ethical Challenges and Risks in Algorithmic Markets

Ethical issues surrounding privacy, fairness, transparency, and power dynamics arise in AI-driven markets. Consumers can be impacted by predictions and also rankings they can not view or problem. Ethical evaluation must therefore take into account not only the performance of the system, but also the impact of the practices of data, the outputs of algorithms and the design of platforms on meaningfully informed consumer choices.

5.1 Consumer Privacy, Data Exploitation, and Surveillance

Personalization relies on data extracted from searches, browsing, purchases, location signals, social interactions, device identifiers and engagement patterns. These data, when coupled with machine learning, can show preferences and enable platforms to determine financial limitations, lifestyle traits, or likely reactions to marketing. This concern becomes more acute if the use of data goes beyond reasonable expectations, or when information given in one context is joined and used in another without there being a meaningful understanding of it.

Consumers may not be aware that normal interactions can be used to create behavioral profiles, or how a behavioral profile can be used to determine offers. Continuous tracking generates an imbalance between organizations that have many tools to analyze data and those who have limited visibility into data processing. However, privacy decisions are also influenced by cognitive limitations and complicated information environments, so that long-term consequences are hard to predict (Acquisti, Brandimarte, & Loewenstein, 2015). Complex and lengthy notices and settings are no guarantee of meaningful consent, particularly if opting out of tracking is more difficult.

Purpose limitation, data minimization, appropriate retention, security, clear communication and accessible options for managing optional processing are essential for responsible governance. Companies should categorize data that is required to render a service from data that's gathered to enhance their commercial influence and question the appropriateness of inferred characteristics for the service they render. The principle of Privacy-by-design shifts the responsibility for handling consumer information from a commercial asset to a responsibility.

5.2 Algorithmic Bias, Transparency, and Accountability

Inequalities are also likely to be reproduced by machine-learning systems if the data used for training are not representative, or if fairness is not a goal of the objectives. In commerce, bias can influence how the product is advertised, recommended, priced, served, or be available to get promotions. When systems are geared towards converting or LTV, they might prioritize certain consumers that are deemed more commercially appealing, potentially at the expense of different customers who may not be equally as valuable. In order to assess any fairness, one must also assess the actual results and the relevant criteria will depend on the context and may include trade-offs (Pessach & Shmueli, 2022).

Transparency isn't just about saying you're using AI. Consumers may require information regarding the reasons for recommendations being made, whether they are sponsored by the content provider, what data practices apply and how to get alternatives. Explanations should be easily understood and correct, but should not make it seem that every complicated model output will have a simple explanation. Information should be accompanied by controls where possible to modify preferences or provide options that are not personalized.

Organizations are still responsible for systems deployed. They should record key decisions, evaluate risks, review outcomes with relevant groups, explore complaints and rectify negative outcomes. The data and consumer behaviour are constantly changing and periodic monitoring is required. Accountability should have well-stated ownership, human accountability, and consumer opportunities for challenging the consequences or seemingly unfair results.

5.3 Consumer Vulnerability, Digital Inequality, and platform dependence

Vulnerability can be a combination of the personal factors, information disparity, and platform design. AI can predict when someone is feeling urgency, repeating a request or when they are emotionally triggered by a message, etc. – exploiting the urgency, repeated requests, or emotional salience through financial pressure is a bad idea and unethical. Dark patterns can also exacerbate the risks as it is difficult to cancel and easy to purchase a product.

Digital inequality encompasses challenges to accessing devices, comprehending online information, utilizing privacy settings and contesting decisions made online. Recommendations could be less relevant or less favourable if some groups are under-represented in training data. Other issues of autonomy can also be platform dependent: loyalty benefits, integration, stored histories, network effects, and switching costs can inhibit consumers from looking elsewhere. With rankings and sponsored results determined by platforms, users can be led to believe that relevance is secondary to the platform's commercial interests.

Inclusive design, non-exploiting of inferred vulnerabilities, accessible controls and easy cancellation and privacy management procedures are essential for businesses. Consumer education can help but it can hardly address structural disadvantages due to platform design. Governance should explore and see if consumers can actually choose services, challenge decisions and change services, rather than just formally available options.

6. Consumer Autonomy and Responsible AI Framework

Responsible AI in digital markets should be a delicate mix of commercial innovation and consumer empowered to make informed, voluntary, and meaningful decisions. Technical efficiencies don't always lead to ethical consequences: privacy concerns, algorithmic bias, dark patterns, and platform dependence are all factors. This section builds a conceptual approach of autonomy and responsible data use, interface design, transparency, fairness and organizational accountability.

6.1 Dimensions of Consumer Autonomy and Informed Choice

There are three types of consumer autonomy: informational autonomy, decisional autonomy and operational autonomy. Informational autonomy has to do with grasping how data is being used, why recommendations are offered, and if content is sponsored. Decisional autonomy is about the ability to consider options without deceit and undue influence. Operational autonomy relates to

how well one can control personalization, permissions, subscriptions, and how they can reject and undo decisions.

The size dimensions are interdependent. Information alone is not enough when alternatives are hidden; an opt-out is virtually worthless if consumers don't understand what it applies to. A decision-making condition should therefore be assessed by the quality of the decision-making conditions rather than just by the presence of a checkbox. There must be systems in place to deliver understandable information, accessible alternatives and practical ways to adjust decisions throughout the consumer journey, which are all aligned to the Responsible System.

6.2 Ethical AI Design, Transparency, and Explainability

Ethical AI principles are to be applied across all stages of data collection, model building, interface design, deployment and monitoring. Commercial metrics (e.g., clicks, conversion, engagement) should be complemented by consumer satisfaction, quality of recommendations, complaints, perception of fairness, and ease of un-subscription. It is possible for a system that is created to boost sales to be successful in business while destroying trust.

It is important to be transparent so that sponsored recommendations are clearly marked, material practices are made transparent, and reasons for personalisation are transparent. Explainability supports consumers' understanding of how an output was produced, e.g., by providing them with broad categories of activities followed in order to recommend a product. Explanations need to be truthful, understandable, and useful, and should not be based upon more knowledge of a model than is warranted. If appropriate, explanations should be accompanied by controls to change preferences, reset histories, or experiment, in order to explore alternatives.

Other features of ethical design include fairness testing, privacy preserving practices, human oversight and organizational responsibility. Companies need to evaluate different outcomes, avoid collecting unnecessary data, safeguard information, back up choices, and address negative impacts. Ethical AI is not just about the algorithm; it's about the organization.

6.3 Proposed Framework for Responsible Algorithmic Persuasion

The chapter proposes the Responsible Algorithmic Persuasion Framework (RAPF) as a conceptual framework to assess AI-powered marketing and consumer-facing platforms. It clarifies responsible personalization from six interrelated principles from manipulative influence. The framework is suggested for further testing and is not meant to be an empirically tested scale.

Principle 1: Purpose Legitimacy

Organizations should determine if personalization is a valid business reason and a real consumer value. They should reflect on whether it would be possible to achieve the objective in a less intrusive or less manipulative way. It is insufficient to determine if an intervention is appropriate just based on conversion.

Principle 2: Data Responsibility

Data collection and inference should be conducted with regard for the purpose, reasonable expectations, privacy, and security. Important practices should be communicated, appropriate controls put in place and companies should review how they use sensitive or inferred characteristics to ensure they are not making processes more vulnerable.

Principle 3: Autonomy-Preserving Design

Interfaces should clearly be presenting alternatives, showing prices clearly and not creating a false sense of urgency, misleading social proof, hidden fees, or making cancellation difficult. It is important that consumers can refuse, modify, or cancel their options without undue difficulty.

Principle 4: Transparency and Explainability.

Consumers should be provided with adequate information regarding the role of AI, sponsored content, relevant data practices and major factors influencing the recommendations. Information must lead to action – let the user change preferences, question wrong models where appropriate, and contemplate alternatives.

Principle 5: Fairness and Vulnerability Protection

Organizations should evaluate the impact on specific groups when considering targeting and model outputs - are they at a disadvantage? Are they being exploited through financial pressure, limited digital literacy, accessibility, or other vulnerabilities they face. These protections can range from limiting sensitive inferences, to tracking products, to providing non-personal alternatives. The social enterprise must continuously monitor and be accountable. Businesses should be responsible, provide documentation, evaluate risks, examine complaints, and rectify unintended consequences. There needs to be a regular review of privacy, fairness, interface practices and controls for consumers. If a system needs to be modified or suspended due to a significant harm, this will be done. If a significant harm requires a change or a stop to a system, this will be implemented.

6.4 Operationalizing the Framework

The RAPF may be carried out as a cycle of questions:

i. what is the legitimate purpose and consumer benefit.
ii. What data needs and risks should be addressed.
iii. How should the design ensure autonomy and accessible choice for consumers.
iv. How should fairness, transparency, explainability, and outcomes be tested.
v. How should complaints be addressed, the performance be audited, the harm be corrected and safeguards be updated.

Monitoring might involve a return to previous stages. Examples of indicators include: Accessibility of opt-out/cancellation, consumer understanding of disclosures, fairness across applicable groups, privacy incidents, complaints response, and documented corrective action.

These indicators are context-specific and should not be interpreted as thresholds. The framework connects personal freedom and accountability to organizational responsibility. It acknowledges that the moral implications are a function of the goals of the algorithm, its user interface, data stewardship and commercial motivations. It serves as a framework for evaluation and should, however, be further empirical research to confirm its dimensions and to establish the effectiveness of the principles in various industries.

7. Practical Implications and Future Directions

There's a need for action from researchers, consumer protection agencies, politicians, technology companies, and businesses. It's not about the end of personalisation; it's about personalisation that brings value to consumers without taking advantage of vulnerabilities or compromising informed choice.

7.1 Strategies for Businesses to Promote Ethical Personalization

As a business, you need to think of the consumer and consider personalization in terms of relevance, satisfaction, perceived fairness, trust, complaints and future welfare as well as conversion rates. Data governance should restrict how data is collected, give explicit reasons why it is collected, ensure that data is protected and give practical controls. Characteristics inferred should be checked where they might lead to the unfair dealing of consumers.

These are the things that should be avoided in ethical interface design: False scarcity, misleading countdowns, concealed charges, confirmshaming, preselected permissions and obstructive cancellation. The process of acceptance and rejection should be equally easy; the price and material terms need to be made clear prior to commitment; sponsored recommendations need to be distinguishable. Describing consumer options and recommendations in an understandable way can enhance consumer control.

The business needs to evaluate algorithmic fairness, establish monitoring mechanisms and take responsibility among various departments such as marketing, data science, legal, technology and customer service. They should review the practice of targeting for potential imbalance and take corrective action on any practices that cause harm to vulnerable consumers. The principle of trust should be considered a long-term asset: powerful personalization should be easily understood, easily controlled and in consumer needs.

7.2 Regulatory Policies and Consumer Protection Mechanisms

Where commercial interests are seen to offer greater opportunities for engagement/revenue rather than opportunities for consumer welfare, voluntary commitments might not be enough. Rules of data protection can contribute toward lawful processing, transparency, purpose limitation, minimization, security and rights. The Digital Personal Data Protection Act, 2023 is relevant to the governance of personal digital data on the one hand, the Consumer Protection Act, 2019 and the Guidelines for Prevention and Regulation of Dark Patterns, 2023 issued by the

Central Consumer Protection Authority are relevant to deceptive online practices in India. They should be considered in light of the law and rules at play.

Misleading pricing, false urgency, subscription traps, unclear sponsorship and interfaces that make it difficult to opt out should be covered by consumer protection. There should be a balance between the amount of information provided to the users and the amount of information required to be transparent. For important systems, risks assessments, independent evaluation, documentation, complaint investigation and human review may be appropriate. There is also a need for consumers to have easy access to redress to correct misleading practices, inaccurate information, and counteracting harmful outcomes.

Regulation should be proportional to risk; and sustaining 'good innovation'. Cooperation between data protection, consumer protection, competition and technical authorities can provide clarity of responsibility across platforms, advertisers, data providers and vendors. Proportional enforcement, guidance and standards can help foster responsible implementation and regulate practices impacting consumer rights.

7.3 Future Research on AI Ethics and Consumer Autonomy.

Measures of informational autonomy, decisional autonomy and operational autonomy should be created and tested in future studies. Research could investigate the relationships between recommendation explanations and understanding, trust, perceived control, decision confidence, and behaviour. They should be able to recognize transparency that is useful and not increase the volume of information.

There's also a need to explore the relationship between personalisation and dark patterns. Experiments could involve comparing customized urgency cues, default settings and repeated reminders to non-manipulative alternatives, while tracking the immediate transaction, as well as regret, trust and freedom of choice. It should be considered and studied as a condition (vulnerability) and the interaction between factors such as financial pressure, digital literacy, accessibility and platform design.

The RAPF provides an empirical testing foundation in the form of surveys, interviews, experiments, interface audit and organizational case studies. With suitable measures, structural equation modelling could be used to explore the link between personalization, transparency, trust, perceived manipulation, autonomy and behavioural intention. Responses can be evaluated through cross-cultural studies and comparisons between India and other countries taking into consideration the legal environment, consumer expectations and the market structure. Longitudinal studies might help explain the evolution of autonomy, platform dependence, switching and trust over time. Interdisciplinary effort involving marketing, psychology, law, information systems and human-computer interaction will be crucial in assessing technical performance and consumer impact.

8. Conclusion

8.1 Summary of Key Insights

While AI-driven personalisation can enhance the product discovery and convenience, the impact is subject to practices, algorithmic goals, and interface design. To the extent that engagement and conversion are prioritized over consumer welfare, personalization can turn manipulative. Dark patterns exacerbate this problem by concealing information, creating sense of urgency and/or making it hard to refuse. The implications of privacy exploitation, algorithmic bias, digital inequality, and platform dependence also illustrate that ethical AI isn't just about how things work, but how they affect who gets what information and influence.

The chapter proposes the RAPF's six principles of autonomy – purpose legitimacy, data responsibility, autonomy-preserving design, transparency and explainability, fairness and vulnerability protection, and accountability with continuous monitoring – and introduces autonomy in three ways: informational, decisional, and operational. The framework provides a clear, conceptual approach to determining whether AI-based marketing is beneficial to consumers or potentially harmful to them.

8.2 Theoretical and Practical Contributions

This chapter combines consumer autonomy with research into AI personalisation, algorithmic persuasion and dark patterns. It offers a three dimensional description of autonomy as it can be seen that formal availability of options does not equate to meaningful choices. It also causes a difference between real and manipulation influences based on transparency, data practices, fairness, control and vulnerability usage. These concerns are combined in a conceptual framework in the RAPF, but need to be tested in practice.

In practice, the framework could be applied to audit recommendation systems, advertising, pricing, and interfaces to ensure they are privacy-friendly and fair; privacy, fairness, and explainability could be built into system design; and privacy protection could be paired with measures to combat misleading digital practices and consumer redress. Beyond conversion metrics, there are also other factors that need to be considered for evaluation, such as consumer understanding, perceived control, satisfaction, fairness, complaints, and long-term trust.

8.3 Towards Responsible AI and Meaningful Consumer Choice

AI-powered markets are only legitimate if they can be both technologically capable and ethically responsible. The consumer is a decision maker and not just a data source or conversion target. Companies need to share material information, offer true options and give users the ability to alter or decline suggestions. To maintain the effectiveness of these safeguards in the face of evolving technologies, the technical solutions of regulation, organizational governance and on-going monitoring are required.

Future studies could assess the RAPF in other industries and other cultural contexts, validate measures of consumer autonomy, and study the long-term effects of algorithmic persuasion. The aim is not to outlaw personalization or normal persuasion, but to draw lines between influence and manipulation, between a vulnerability based form of persuasion and one that resricts choices. A responsible digital marketplace is a place where consumers can benefit from intelligent technologies, and still have the information, freedom and real control to make meaningful decisions.

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Bhumi Publishing, India
October 2026

ORGANIC FARMING, ETHICAL NARRATIVES, AND MARKET TRANSFORMATION IN THE 21ST CENTURY

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Abstract
Organic farming is sold as much through stories as through standards. Narratives of purity, care, fairness and ecological harmony shape what consumers expect, what farmers claim and what policy supports. This chapter examines how these ethical narratives interact with the growth of organic markets in the twenty-first century. It outlines the ethical foundations laid out in the principles of the organic movement, reviews evidence on why consumers buy organic food and why intentions often fail to become purchases, and traces how market expansion has brought supermarkets, global supply chains and the debate on conventionalization. It then discusses tensions between the values that organic farming promises and the structures that deliver it, including the exclusion of smallholders, narrow regulation and weak consumer understanding. The chapter argues that organic markets will keep their legitimacy only if their narratives remain verifiable, their institutions inclusive, and their practices consistent with the principles they invoke.

Keywords: Organic Farming, Ethics, Consumer Trust, Conventionalization, Market Transformation, Certification, Sustainable Food Systems.

1. Introduction

An organic label tells a buyer very little about how a crop was grown, yet it often tells a rich story: a farm that cares for its soil, animals that live well, a food system that is fairer and cleaner. That story is part of what consumers pay for. Because the practices behind it are largely invisible at the point of sale, trust in the story, and in the institutions that vouch for it, carries much of the market's weight. This makes organic farming an unusually good case for studying how ethics and markets interact. The organic movement began as a values-driven alternative to industrial agriculture, and it has since become a global commercial sector. According to the FiBL and IFOAM yearbook, retail sales of organic food and drink in 2024 were around 145 billion euros, organic land was about 99 million hectares and the number of organic producers was about 4.8 million (Willer *et al.,* 2026). A sector of that size is no longer a niche, and growth brings pressures that sit uneasily with the founding ideals.

The chapter asks three questions. What ethical commitments underlie organic farming, and how are they expressed in narratives? How do those narratives shape consumer behavior, and where do they fail to? And what has market growth done to the meaning and practice of organic

farming? The discussion draws on peer-reviewed studies and on critical scholarship, and it treats the claims made for organic farming as hypotheses to be tested as well as values to be respected.

2. Ethical Foundations of Organic Farming

2.1 The Four Principles

The most widely used statement of organic values is the set of four principles adopted by IFOAM – Organics International in 2005: health, ecology, fairness and care (IFOAM, 2005). Health treats the wellbeing of soil, plants, animals, people and the planet as one connected whole. Ecology asks farmers to work within living ecological systems and cycles and to sustain them. Fairness calls for relationships that are just toward other people and toward other living beings, including fair conditions for those who work in food systems. Care asks for a precautionary and responsible approach, so that present decisions do not damage the health and wellbeing of future generations.

These principles are ethical commitments, not technical specifications. They say what organic farming is for, and leave open how any particular farm should achieve it. That openness is a strength, because it allows adaptation to different climates and cultures, but also a weakness, because it is hard to audit.

2.2 From Principles to Rules

In markets, ethical commitments have to be turned into rules that can be inspected. Certification standards do this by listing permitted and prohibited inputs, requiring records and setting minimum practices. This translation is necessary, but it changes the meaning of organic. A rule-based system tends to emphasize what is easy to verify, such as which inputs were used, over what is harder to verify, such as whether a farm is diverse, locally rooted or fair to its workers. Guthman (2014) argues, in a study of California, that the organic label came to be defined mainly as a list of allowable inputs and that the regulatory structure encouraged an organic sector resembling the conventional industry that it was meant to challenge.

2.3 Competing Ethical Emphases

Different actors within the organic world stress different parts of the ethical package. Some emphasize ecological integrity and animal welfare, others social justice and local community, others consumer health and food safety. These emphases can conflict. A large, specialized organic farm may meet input rules and supply cheap organic food to many people, yet score poorly on fairness to labour or on diversity. A small mixed farm may embody the principles closely yet reach few customers. Recognizing these tensions is the starting point for any serious discussion of organic ethics.

3. Narratives, Trust and Consumer Motives

3.1 Why People Buy Organic

A widely cited review of the consumer literature concluded that the word organic carries many meanings, that organic consumers are not a homogeneous group in demographics or beliefs, and

that motives vary across several themes (Hughner *et al.,* 2007). Personal health and food safety are frequently given reasons, alongside taste, concern for the environment and animal welfare, and support for local or small-scale producers. For some buyers, organic stands for a way of life, and for others it is a practical hedge against perceived risk. Marketing that treats all of them as one audience therefore misses much of what is going on.

The ethical narrative works differently in each case. For health-motivated buyers, the story is about purity and safety. For environmentally motivated buyers it is about ecological care, and for socially motivated buyers about fair treatment and community. Producers and retailers use these stories selectively, and consumers fill gaps with their own assumptions, sometimes crediting organic food with qualities that the standards do not guarantee.

3.2 The Attitude–Behavior Gap

Positive attitudes do not reliably become purchases. A German study that linked household purchase records to attitude surveys confirmed an attitude–behavior gap in the organic market, while finding that attitudes and actual purchases were driven by the same underlying values: naturalness and health and environmental protection pulled towards buying, while price consciousness and convenience orientation pulled against it (Janssen, 2018). A review of consumer perceptions of price in the organic market examines the price dimension of this gap in more depth (Aschemann-Witzel and Zielke, 2017). Price, limited availability, skepticism about labels and habit are the barriers most often discussed. Some consumers who doubt the credibility of organic claims dismiss them as marketing, which shows that the narrative can backfire when trust is weak.

3.3 Trust as the Real Currency

Because buyers cannot check how food was grown, trust has to be built through institutions: third-party certification, public labels, retailer reputation and, in short supply chains, personal contact. Each has limits. Certification is only as credible as its inspection and enforcement. Retailer brands depend on corporate reputation. Personal trust works at small scale but does not travel easily. The credibility of the entire narrative is therefore shared among all producers, so one visible scandal or exaggerated claim can damage honest farmers as well.

4. Market Transformation

4.1 From Movement to Industry

The organic sector has moved from alternative networks of farmers and consumers to a regulated global industry. In 2024, global retail sales were about 145 billion euros, up from some 136 billion euros in the previous year, organic farmland was nearly 99 million hectares and producers were 4.8 million (Willer *et al.,* 2026). The United States was the largest single market and Switzerland had the highest per-capita spending and market share. The same report notes that land area has been broadly stable while sales have continued to grow, which indicates that value, rather than acreage, is driving expansion. Sales growth also depends on trade flows, with large

organic imports into the European Union and the United States from producing countries elsewhere. These figures are revised every year, so the latest edition of the yearbook should be checked before this chapter goes to print.

4.2 The Conventionalization Debate

Growth has raised the question of whether organic farming is being absorbed by the industry it set out to change. The conventionalization thesis holds that, as organic production scales up and enters mainstream supply chains, it takes on the features of conventional agriculture, including specialization, larger units, input substitution and pressure on prices. Guthman's study of California is the best-known account, arguing that regulation and market structure pushed organic production toward agribusiness practice, and that the popular contrast of small, virtuous organic farms with large, industrial ones is too simple (Guthman, 2014).

Other scholars caution against treating size or structure as the test. In a review of European farm-level studies, Darnhofer *et al.* (2010) found that some certified farms comply with the regulations without following the principles of organic farming, but they argued that the debate should move beyond a split between artisanal and conventionalized farms and assess whether changes are consistent with organic principles and values. Under this view, a larger farm is not automatically a betrayal, and a small one is not automatically virtuous. What matters is whether practice stays faithful to health, ecology, fairness and care.

4.3 Alternative and Short Supply Chains

Alongside supermarket growth, many producers and consumers have built alternative channels: farmers' markets, box schemes, community-supported agriculture, cooperatives and, in some countries, participatory guarantee systems in which producers, consumers and others jointly verify compliance. These channels reduce the distance, literal and social, between buyer and farmer, and they allow ethical narratives to be backed by direct knowledge instead of labels alone. Their limits are scale, logistics and the time that both parties must invest, which is why they complement rather than replace mainstream channels.

5. Tensions and Critiques

5.1 The Gap Between Story and Practice

The central tension is that consumer expectations are built on broad ethical narratives, while certification verifies a narrower set of practices. Where the two diverge, buyers may assume more than the label guarantees. Darnhofer *et al.* (2010) make the point from the producer side: farms can satisfy the regulations while departing from the principles. Closing this gap requires either stricter and broader standards or more honest communication about what the label does and does not mean.

5.2 Whose Ethics Count?

Ethical narratives are not neutral. They tend to be written in places where organic markets are rich and consumers are affluent, and they can overlook the circumstances of producers in

exporting regions, farm workers and low-income consumers. Guthman (2014) questions the romantic image of the small organic family farm and asks what the organic label has done for social justice. A fairness principle that is applied only to the farm gate, and not to labour conditions or price-setting along the chain, is incomplete.

The same applies to access. If organic food is chiefly bought by those who can afford a price premium, the narrative of care for all and for the planet is only partly realized. Evidence that price consciousness works against organic purchasing (Janssen, 2018) suggests that affordability is not a side issue but a structural limit on how far the market can transform food systems.

5.3 Narrative Fatigue and Skepticism

Because consumers differ widely in what they think organic means (Hughner *et al.,* 2007), generic claims invite disappointment. Overpromising, for example, claiming organic food is always healthier or always local, could backfire if consumers discover otherwise. Skepticism toward green marketing can then spill over onto the whole sector. Credible narratives are specific, verifiable and modest about what they claim.

5.4 Smallholders and Certification

Certification costs, paperwork and market entry barriers fall hardest on small producers, especially in low- and middle-income countries, where many organic farmers operate on small plots and sell through intermediaries. Group certification, participatory guarantee systems and cooperative marketing are ways to widen access, though each needs institutional support and buyer recognition to succeed. The aim is for those who actually produce organic food to share in the value that ethical narratives create.

6. A Way Forward

The analysis points to five practical directions for producers, markets and policy-makers.

- **Assess practice against principles.** Standards should be supplemented by indicator systems that test whether farms follow the principles of health, ecology, fairness and care, rather than only whether they avoid prohibited inputs (Darnhofer *et al.,* 2010).
- **Communicate precisely.** Labels, retailers and public campaigns should state clearly what organic certification guarantees, and avoid claims that go beyond the evidence, so that trust is built on accuracy (Hughner *et al.,* 2007).
- Address affordability. Price consciousness limits buying (Janssen, 2018). Public procurement, efficient supply chains and support for local production can increase access without compromising standards.
- **Include small producers.** Group certification, participatory systems and producer organizations should be supported so that smallholders can share in the value of organic markets.

- **Track the market with data.** Reular and comparable statistics on land, producers and sales, such as those compiled by FiBL and IFOAM (Willer *et al.,* 2026) can support evidence-based policy and business decisions.

None of these steps requires abandoning markets. They rest on the view that markets can serve ethical aims when institutions keep the narrative honest and the benefits widely shared.

Conclusion

Organic farming holds a distinctive place in modern food systems because its market value rests on an ethical story. That story has helped the sector grow to a global industry, but it also creates responsibilities. When the narrative runs ahead of verifiable practice, trust weakens and the sector's critics gain ground. When market growth reshapes production in ways that depart from the founding principles, the debate about conventionalization becomes a debate about what organic farming is for.

The evidence reviewed here suggests that the future of organic markets depends less on how much food is sold under the label than on whether the label stays credible, inclusive and consistent with its principles. If certification, communication and market design keep pace with the ethical claims made, organic farming can remain a real force for transformation. If not, it risks becoming one more marketing category.

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WORK, MANAGEMENT AND SOCIETY IN THE AGE OF ARTIFICIAL INTELLIGENCE

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1. Introduction: Why This Moment is Different

Generative and agentic artificial intelligence (AI) represents the first general-purpose technology capable of executing complex cognitive work through natural language. Unlike previous automation waves that primarily substituted for routine manual or clerical operations, generative AI drafts, analyses, synthesises, codes, and executes actions across professional and managerial occupations (Eloundou *et al.,* 2024; Autor, 2024). Consequently, it challenges professions historically insulated from technological displacement. Empirical evidence presents a multifaceted landscape: the IMF estimates that roughly 40% of jobs globally and 60% in advanced economies are exposed to AI (Cazzaniga *et al.,* 2024). Concurrently, payroll analytics reveal that while aggregate displacement remains muted, employment among early-career professionals in exposed fields sits 19% below historical trajectories (Brynjolfsson, Chandar & Chen, 2026). In contrast, employer projections anticipate substantial gross job churn, forecasting 170 million emerging roles against 92 million displaced by 2030 (World Economic Forum, 2025).

Productivity findings reflect similar nuances. Generative assistants boost customer-support resolution rates by 14% on average and up to 34% for novices (Brynjolfsson, Li & Raymond, 2025), whereas experienced software engineers often experience coordination overhead with early tools (Becker *et al.,* 2025). At the macroeconomic scale, conservative models project modest annual total factor productivity gains of roughly 0.66% over a decade (Acemoglu, 2025). These divergences indicate that AI outcomes are mediated by task architecture, workflow design, and institutional governance (Acemoglu & Johnson, 2023).

This chapter advances three foundational arguments:

- **Tasks, Not Jobs, Are the Primary Unit of Change:** AI automates and augments specific task bundles rather than entire occupations; labour outcomes depend on the composition of these bundles and the reinstatement of novel tasks.

- **Value Capture Lags Underlying Technological Capability:** Productivity gains materialise only after complementary investments in organisational processes, workforce skills, and management structures (Brynjolfsson, Rock & Syverson, 2021).
- **Distribution of Gains Is an Institutional Choice:** Whether AI fosters broad-based prosperity or intensifies inequality depends on deliberate policy and organisational design, especially around entry-level career pathways.

The remainder of this chapter is structured as follows: Section 2 reviews conceptual foundations; Sections 3 to 5 evaluate labour markets, productivity, and skill dynamics; Sections 6 and 7 examine management and organisational restructuring; Sections 8 and 9 address socio-economic inequality and public institutions; Section 10 explores implications for the Global South with a focus on India; Section 11 outlines governance and ethical frameworks; Section 12 details strategic scenarios and actionable recommendations; and Section 13 concludes.

2. Conceptual Foundations: Automation, Augmentation and General-Purpose AI

The task-based framework provides the foundational analytical lens for evaluating AI's economic impact, treating jobs as bundles of distinct tasks altered by technological capabilities. Autor, Levy, and Murnane (2003) demonstrated that computerisation substituted for routine, codifiable tasks while complementing non-routine cognitive functions. Acemoglu and Restrepo (2018, 2019) formalised three core mechanisms driving labour demand:

- **Displacement Effect:** Direct substitution of capital for labour in automatable tasks, reducing labour's initial production share.
- **Productivity Effect:** Cost efficiencies that expand industry output and augment labour demand within non-automated tasks.
- **Reinstatement Effect:** Creation of entirely new, labour-intensive tasks where human workers retain comparative advantage, historically serving as the primary engine of secular employment growth.

The balance among these forces determines net labour outcomes. Crucially, a significant share of contemporary employment exists in job titles created over recent decades (Autor *et al.,* 2024), underscoring that long-term employment resilience relies on robust task reinstatement rather than static job preservation.

Automation Versus Augmentation

Whether an AI deployment substitutes for or complements labour depends fundamentally on system design and management strategy. Brynjolfsson (2022) cautions against the 'Turing Trap'—an excessive focus on human imitation that promotes worker replacement and capital concentration rather than expanding human capabilities. Furthermore, Raisch and Krakowski (2021) identify an automation–augmentation paradox: automating routine tasks eliminates the practical training ground through which junior professionals develop the tacit judgement

essential for higher-order augmentation. Mishra, Mishra, and Agarwal (2026c) similarly demonstrate that rigid dichotomies between substitution and augmentation obscure the nuanced cognitive reallocations occurring within modern knowledge environments.

Why Generative AI Behaves Like a General-Purpose Technology

General-purpose technologies (GPTs) exhibit pervasive cross-sector applicability, sustained technical improvement, and the ability to trigger complementary innovations (Bresnahan & Trajtenberg, 1995; David, 1990). Generative language models exhibit classic GPT characteristics: Eloundou *et al.* (2024) find that approximately 80% of US workers could experience impacts in at least 10% of their operational tasks, with 19% seeing half their tasks affected. Realising the productive potential of these models requires extensive re-engineering of workflows, human capital, and institutional arrangements.

The Jagged Frontier

AI capability exhibits a 'jagged frontier', performing exceptionally well on complex analytical problems while stumbling on seemingly intuitive human tasks. Dell'Acqua *et al.* (2023) demonstrated that management consultants utilizing frontier models achieved significant speed and quality enhancements on tasks within the capability envelope, but experienced sharp performance drops on tasks positioned outside it. Because model competence cannot be inferred solely from surface task difficulty, calibrating user trust and defining operational boundaries remain persistent managerial challenges.

Exposure, Adoption and Impact Are Different Things

Rigorous analysis requires distinguishing between technical exposure (tasks that models could theoretically perform), organisational adoption (actual workflow deployment), and net economic impact on wages and employment. The ILO observes that while one in four workers globally faces potential generative exposure, only 3.3% occupy high-exposure categories, demonstrating that exposure does not equal job loss (Gmyrek *et al.,* 2025). Similarly, Danish administrative data show negligible immediate earnings disruptions despite widespread tool usage (Humlum & Vestergaard, 2025). Mishra, Agarwal, and Mishra (2026) emphasize that wide variations in displacement projections stem largely from confounding theoretical exposure with realized structural impact.

Agentic AI

The transition from conversational text generation to autonomous agentic architectures—systems that plan, invoke software tools, and execute multi-step workflows—shifts the analytical focus from individual tasks to end-to-end workflows. In multi-agent collaborative environments, output volume expands markedly, yet oversight demands and error propagation introduce novel operational constraints (Ju & Aral, 2025).

3. Evidence on Labour Markets: Exposure, Displacement and Augmentation

Empirical assessments indicate extensive theoretical exposure, negligible aggregate net employment declines, and acute hiring compression among entry-level cohorts. Table 1 synthesises the core empirical findings.

Table 1: Selected Estimates of AI's Labour-Market Reach

Source	What It Measures	Headline Finding	Main Caveat
Eloundou *et al.* (2024)	Task exposure, US workforce	About 80% of workers could have at least 10% of tasks affected; about 19% at least half	Potential only; no adoption timeline
Cazzaniga *et al.* (IMF, 2024)	Job exposure by income group	About 40% of jobs worldwide; about 60% in advanced economies, 40% in emerging markets, 26% in low-income countries	Roughly half of exposed jobs may benefit from complementarity
Gmyrek *et al.* (ILO, 2025)	Occupational exposure gradients	One in four workers has some exposure; 34% in high-income countries; 3.3% in the highest gradient	Exposure is not job loss
World Economic Forum (2025)	Employer expectations to 2030	170 million jobs created, 92 million displaced, net +78 million	Survey of over 1,000 employers; expectations, not outcomes
Humlum & Vestergaard (2025)	Realised outcomes, Denmark	No significant effect on earnings or hours; effects above 2% ruled out	11 occupations; data through 2024
Brynjolfsson, Chandar & Chen (2026)	Realised outcomes, US payroll data	Employment of 22–25-year-olds in exposed occupations about 19% below trend; no comparable gap for experienced workers	Authors call it descriptive, not causal

Where the Effect Shows Up First

Micro-level payroll records reveal that labour market adjustments operate primarily through curtailments in entry-level hiring rather than active dismissals of incumbent staff (Brynjolfsson, Chandar & Chen, 2026). While overall displacement remains modest, early-career hiring in highly exposed occupations has declined markedly. Large-scale résumé and recruitment data corroborate that junior postings fell following widespread enterprise model adoption, whereas senior roles expanded (Hosseini Maasoum & Lichtinger, 2025). This asymmetry stems from knowledge types: novice tasks rely heavily on codified textbook knowledge readily processed by models, whereas senior positions demand tacit, contextual experience.

Why Causality Remains Contested

Disentangling technology-driven shifts from macroeconomic headwinds—such as interest rate adjustments that curtailed tech hiring—remains challenging (Brynjolfsson, Chandar & Chen, 2026). Furthermore, administrative analyses show that new integration and verification tasks frequently absorb the hours liberated by automation (Humlum & Vestergaard, 2025). Consequently, stable employment aggregates among tenured staff can obscure structural barriers facing labor market entrants.

The Missing Rung

Hiring freezes constitute an invisible mode of displacement that severs the professional apprenticeship ladder. If organizations curtail junior hiring while maintaining senior tiers, they compromise the long-term reproduction of internal talent and institutional judgement (Raisch & Krakowski, 2021). Preserving structured entry-level pathways is vital to averting future human capital deficits.

Job Creation and Composition

Historical precedents confirm that technological revolutions ultimately reinstate new occupational classifications (Autor *et al.,* 2024). However, reinstated roles often emerge in different geographical locations, require alternative skills, and offer disparate compensation profiles relative to displaced positions.

4. Productivity and the J-Curve

Empirical investigations demonstrate robust, task-specific productivity gains alongside modest macroeconomic and enterprise-level returns, illustrating the classic lag required to establish complementary capital. Table 2 summarises key experimental and field results.

Table 2: Selected Productivity Evidence from Experiments and Field Studies

Study	Setting	Result	Note
Brynjolfsson, *et al.* (2025)	5,179 customer-support agents	Issues resolved per hour up 14% on average; up 34% for novices	Minimal effect on the most skilled
Noy & Zhang (2023)	453 professionals on writing tasks	Time down 40%; quality up 18%	Short, self-contained tasks
Dell'Acqua *et al.* (2023)	758 strategy consultants	Faster, more complete, higher quality inside the frontier; less likely to be correct outside it	Frontier set by task, not job
Becker *et al.* (2025)	16 experienced developers, 246 tasks	Took 19% longer with AI; had expected to be 24% faster	Early-2025 tools; small sample
Stanford AI Index (2026)	Synthesis of studies	Gains of roughly 14% to 26% in software and support; weaker or negative where judgement dominates	Agents scaled in single digits of functions

From Micro Gains to Macro Estimates

Aggregate economic impacts depend on the proportion of total tasks susceptible to cost-effective automation. Acemoglu (2025) demonstrates that when factoring in task difficulty and capital constraints, ten-year total factor productivity gains are projected at approximately 0.66%. Meaningful macroeconomic acceleration depends fundamentally on whether AI fosters novel products and scientific breakthroughs rather than simply trimming operational expenses.

The Organisational Gap

Enterprise surveys indicate that widespread experimentation rarely translates into balance-sheet profitability. The primary barrier is not algorithmic sophistication but organizational inertia—specifically, brittle legacy processes, unintegrated data silos, and inadequate change management (MIT NANDA, 2025).

The Productivity J-Curve

The Productivity J-curve explains why breakthrough general-purpose technologies initially produce muted productivity growth (Brynjolfsson, Rock & Syverson, 2021). Substantial resources must first be directed toward unmeasured complementary intangibles—including workflow redesign, data governance, and employee retraining—causing measured output to lag before exhibiting accelerated gains (David, 1990).

Perception, Measurement and Hidden Costs

Evaluating AI productivity involves addressing three core measurement challenges: discrepancy between subjective user speed and objective output time, diversion of labour into reviewing and correcting machine output, and the erosion of foundational reasoning skills when tools are utilized without cognitive engagement (Bastani *et al.,* 2025).

Implications

Organizations must prioritize verifiable business outcomes over mere software adoption metrics, treat initial integration frictions as vital intangible capital accumulation, and validate tool efficacy across real-world workflows.

5. Tasks, Skills and the Redesign of Jobs

Sustainable performance requires unbundling roles into constituent tasks, methodically allocating duties between human and synthetic agents, and preserving tasks essential for professional development (Mishra, Mishra & Agarwal, 2026a).

Unbundling and Rebundling

Redesign requires segmenting job roles by codification level and error stakes, recombining retained responsibilities into coherent human positions. Table 3 presents an analytical task classification framework.

Table 3: A Working Classification for Assigning Tasks (Author's Synthesis)

Task Profile	Typical Examples	Suggested Allocation	Main Risk to Manage
Codified, low stakes	Formatting, first-draft summaries, routine data entry	AI performs; humans sample and audit	Silent drift in quality
Codified, high stakes	Contract review, code for production, clinical documentation	AI drafts; accountable human verifies	Automation bias and skimming
Tacit, judgement-heavy	Negotiation, diagnosis in ambiguous cases, strategy	Human leads; AI supplies options and challenges	Over-reliance on plausible output
Relational	Coaching, care, sales to anxious buyers	Human performs; AI handles preparation and follow-up	Loss of trust if AI use is hidden

Expertise Is Being Reshuffled, Not Removed

AI can serve as an 'inversion technology', encapsulating elite expertise into structured platforms that empower mid-tier professionals to execute higher-stakes decisions, provided credentialing and governance structures permit (Autor, 2024).

Augmentation and Automation in Practice

Augmentation and automation operate symbiotically across enterprise workflows (Anthropic, 2026). Fully automating intermediate operational tiers risks degrading the practical experience through which workers acquire supervisory acumen (Raisch & Krakowski, 2021).

Skills That Gain Value

As synthetic content generation becomes ubiquitous, human competitive advantage shifts toward problem framing, output validation against domain truth, and contextual synthesis.

Protecting the Learning Pipeline

Cognitive reliance on unguided AI can undermine long-term capability development (Bastani *et al.,* 2025). Organizations must safeguard human capital through structured protocols: staged tool access for juniors, tutor-configured scaffolding, protected apprenticeship time, and scenario-based simulations.

Reskilling and Its Limits

Workforce reskilling programmes succeed primarily when linked directly to active job redesign, rather than serving as passive remedies for structural employment displacement.

6. Management in the Age of AI: Algorithmic Control, Agents and Decisions

AI transforms management simultaneously into a digital apparatus for directing labour and a discipline for coordinating synthetic agents, fundamentally altering authority and discretion.

Algorithmic Management and the Contested Terrain of Control

Algorithmic management operates through six primary mechanisms: restricting, recommending, recording, rating, replacing, and rewarding (Kellogg, Valentine & Christin, 2020). Extending granular algorithmic surveillance from platform gig work into knowledge workplaces risks triggering employee resistance, gaming, and disengagement.

Decision-Making Structures

Managerial decision architectures range from complete delegation to collaborative hybrid synthesis (Shrestha, Ben-Menahem & von Krogh, 2019). Mitigating automation bias and avoiding superficial 'rubber-stamp' human oversight requires tailoring verification protocols to the system's known capability limits (Green, 2022).

Managing Agents

Coordinating autonomous agentic workflows requires precise operational specification, named human accountability, comprehensive audit trails, and dedicated capacity for downstream output verification (Ju & Aral, 2025).

Hiring, Evaluation and Fairness

Deploying algorithmic screening in recruitment and appraisal carries substantial legal and ethical obligations. Automated evaluation systems must be contestable, transparent, and rigorously audited for disparate demographic bias.

The Managerial Role Itself

Rather than eliminating management hierarchies, AI shifts managerial focus toward uniquely human capabilities: contextual interpretation, conflict resolution, ethical boundary-setting, and leadership coaching (Mishra, Mishra & Agarwal, 2026b).

7. Organisations: Structure, Strategy and Human–AI Teaming

Capturing sustained organizational value from AI depends on reconfiguring operating workflows, data architectures, and accountability mechanisms rather than simply procuring software licenses.

Strategy: AI as an Operating Capability

Sustainable competitive advantage stems from proprietary data assets, deep process integration, and organizational agility, rather than generic access to frontier foundational models (Iansiti & Lakhani, 2020).

Workflow Redesign Before Technology Rollout

Superimposing automated tools onto obsolete legacy workflows merely accelerates bottleneck formation. Redesign must proceed sequentially: end-to-end workflow mapping, task-value prioritization, joint definition of roles and controls, and controlled piloting against operational baselines.

Structure and the Team

Hybrid human-agent teams generate substantial output volume but face risks of 'diversity collapse', where synthetic suggestions homogenize work styles and stifle strategic variety (Ju & Aral, 2025).

Knowledge Capture and Who Benefits

When enterprise models extract and centralize tacit know-how from top-performing employees (Brynjolfsson, Li & Raymond, 2025), organizations must establish equitable compensation and recognition systems to maintain worker trust.

Internal Governance and Risk

Addressing enterprise vulnerabilities—including algorithmic hallucination, data leakage, and security compromises—demands formal governance frameworks, such as the NIST AI Risk Management Framework (NIST, 2023).

Labour Relations and Trust

Proactive transparency, institutionalized employee consultation, and clear commitments regarding workforce transition are indispensable for securing operational cooperation and preserving organizational trust.

8. Inequality, Power and the Distribution of Gains

AI shapes economic inequality through three primary channels: compressing skill premiums within specific occupations, shifting income shares from labour to capital, and widening divergences across firms and nations.

Within Occupations: A Short-Run Levelling Effect

Empirical studies demonstrate that generative tools provide disproportionate assistance to less-experienced workers by codifying domain expertise (Brynjolfsson, Li & Raymond, 2025; Noy & Zhang, 2023). However, if firms leverage these efficiency gains to curtail entry-level hiring, productivity benefits accrue primarily to incumbent workers and capital owners (Acemoglu, 2025).

Between Capital and Labour

Automating cognitive functions risks eroding labour's aggregate bargaining power and expanding capital's share of national income (Brynjolfsson, 2022; Acemoglu & Johnson, 2023). Without robust countervailing labor institutions, productivity dividends become highly concentrated.

Between Firms and Countries

Concentrated ownership of advanced semiconductor supply chains, proprietary datasets, and compute infrastructure threatens to deepen economic divides between technology-leading nations and the broader global economy.

Gender and Other Fault Lines

Because clerical and administrative functions face high automation exposure, female employment is disproportionately impacted by early automation pressures (Gmyrek *et al.,* 2025; Cazzaniga *et al.,* 2024).

The Fiscal Dimension

Any secular shift of national income from wages to capital assets poses substantial risks for public revenue systems that rely predominantly on payroll taxation, underscoring the need for proactive tax reforms.

Power and Voice

The strategic trajectory of AI adoption reflects underlying power balances; excluding labour from technical design and deployment decisions systematically biases systems toward workforce substitution rather than augmentation.

9. Society: Education, Health, Public Institutions and the Information Environment

AI's societal footprint extends across foundational public institutions, where accelerated deployment frequently outpaces empirical validation.

Adoption Speed and Public Sentiment

Generative adoption has diffused far faster than preceding digital revolutions, accompanied by a sharp perceptual divide between technical specialists and the broader public.

Education

Unregulated student reliance on AI tools can erode independent problem-solving capabilities (Bastani *et al.,* 2025). Educational curricula must refocus on developing foundational reasoning, verifying machine output, and utilizing in-person, process-oriented assessments.

Health Care

While clinical AI promises to reduce documentation burdens and widen access to diagnostic expertise (Autor, 2024), safe deployment requires rigorous validation across diverse patient populations to avert automated errors.

Public Administration

Deploying automated decision systems in public welfare and civic administration requires rigorous standards of administrative contestability, auditability, and meaningful human oversight.

The Information Environment

The hyper-efficient production of synthetic content strains information integrity, accelerating the proliferation of disinformation and homogenizing cultural expression (Ju & Aral, 2025).

Energy, Infrastructure and Macro-Stability

Massive compute infrastructure demands vast electrical power and capital resources, generating localized environmental strains and macro-financial stability risks.

Meaning, Dignity and Agency

Maintaining employee dignity and professional purpose requires deploying intelligent tools to enhance human discretion rather than transforming knowledge workers into passive overseers of opaque algorithmic pipelines.

10. The Global South and India

Developing economies face a distinct structural challenge: lower baseline exposure due to widespread informal employment, coupled with concentrated automation risks in vital services export sectors.

Lower Exposure Is Not an Advantage

While lower formal-sector exposure limits immediate economy-wide shocks, it reflects infrastructural deficits and constrained capacity to harness productivity dividends (Cazzaniga *et al.,* 2024). Developing nations risk facing predominantly automation-oriented software deployments rather than complementary augmentation.

India: A Test Case

India's USD 250 billion IT services industry represents an important bellwether for emerging market employment dynamics. Table 4 summarises recent sectoral indicators.

Table 4: Selected Indicators from India's IT Services Sector, FY26 and 2026

Indicator	Reported Figure	Source
Net headcount change, top five IT firms, FY26	Down 7,389, versus a net addition of 12,718 in FY25	IANS (2026)
TCS net headcount change, FY26	Down more than 23,000, to 584,519	Entrepreneur India (2026)
Fresher hiring plans, TCS	About 25,000 for FY27, against 40,000–42,000 in earlier years	IANS (2026)
Under-30 share of Infosys workforce	50.7% at end-FY26, from 53% a year earlier	Outlook Business (2026)
AI-related IT hiring, June 2026	Up 16% year on year, while overall IT postings fell 3%	Naukri JobSpeak, as reported by Let's Data Science (2026)
Entry-level tech openings (up to two years' experience)	Down 44% year on year in May 2026	Xpheno, as reported by Outlook Business (2026)

Policy Responses and Their Limits

India's hosting of the AI Impact Summit and the launch of the IndiaAI Mission mark significant public infrastructure initiatives. To safeguard emerging talent pipelines, policy priorities must center on funding structured youth apprenticeships, diversifying tech employment into domestic

manufacturing and healthcare, supporting MSME technology access, and collecting granular workforce data.

11. Governance, Regulation and Ethics

The contemporary regulatory landscape is characterized by a reliance on voluntary standards and phased statutory enforcement. Table 5 outlines leading governance frameworks.

Table 5: Selected Governance Instruments Relevant to AI at Work (Status as of October 2026)

Instrument	Type	Status	Relevance to Work
EU AI Act (Regulation 2024/1689)	Binding, risk-based regulation	High-risk obligations deferred to 2 December 2027 (stand-alone systems) and 2 August 2028 (embedded in regulated products)	Recruitment and employment systems are in the high-risk category
NIST AI Risk Management Framework and Generative AI Profile (AI 600-1)	Voluntary US framework	Final, July 2024	Structures organisational risk identification and mitigation
OECD AI Principles (2024 update)	Intergovernmental principles	In force	Shared reference for trustworthy AI
New Delhi Declaration on AI Impact (February 2026)	Non-binding political declaration	Endorsed by close to 90 countries and organisations	Includes workforce development and equitable access

The Current Landscape

The EU AI Act classifies employment and hiring algorithms as high-risk systems subject to stringent conformity audits, though implementation deadlines have been deferred to allow compliance infrastructure to mature. In contrast, the United States relies primarily on voluntary standards (NIST, 2023), while international declarations emphasize non-binding cooperation.

Gaps Specific to Work

Major gaps persist in standard regulatory frameworks regarding workplace surveillance, algorithmic performance scoring, mandatory transition support for displaced workers, and granular labor market data tracking.

Economic Policy Levers

Governments must harmonize taxation structures to eliminate fiscal biases favouring capital automation over human labour (Acemoglu & Johnson, 2023), enforce antitrust policies across compute infrastructure, and establish portable benefits for platform workers.

Ethical Principles for Employers

Employers must uphold six core ethical principles: transparency regarding AI utilization, contestability of consequential automated decisions, proportionality in data surveillance, proactive algorithmic fairness audits, equitable distribution of productivity gains, and preservation of junior development pathways.

12. Scenarios and Recommendations

Organizational planning must prepare for multiple plausible trajectories. Table 6 delineates three operational scenarios.

Table 6: Three Stylised Scenarios (Author's Synthesis)

Scenario	What Drives It	Likely Labour Outcome	Signals to Watch
Quiet substitution	Automation prioritised; entry roles not replaced; weak institutions	Aggregate employment holds but early-career hiring and labour share fall; capital concentration rises	Entry-level hiring by age; labour share; headcount versus revenue in services firms
Augmented expertise	Workflow redesign; tutor-style tools; investment in training and credentialing	Wider set of workers perform higher-value tasks; wages rise where complementarity is strong	Wage growth in exposed middle-skill occupations; reinstatement of new tasks
Uneven diffusion	Adoption concentrated in large firms and rich countries; small firms and poorer economies lag	Widening gaps between firms, regions and countries	Adoption by firm size and income group; AI investment concentration

Recommendations for Employers

Employers should re-engineer core processes rather than merely purchasing technology, protect apprenticeship pathways through structured mentoring, map capability boundaries within proprietary workflows, assign human accountability for all autonomous agents, and maintain open communication regarding workforce redeployment.

Recommendations for Workers and Professional Bodies

Professionals should cultivate output verification skills and contextual domain expertise, seek early hands-on responsibilities, and update professional licensing bodies to codify standards for accountable AI integration.

Recommendations for Educators

Educational institutions must design instructional scaffolding that preserves foundational problem-solving abilities (Bastani *et al.,* 2025), integrate critical verification into curricula, and establish practical clinical training partnerships.

Recommendations for Governments

Policymakers should fund comprehensive labor market tracking, enact portable safety nets, regulate algorithmic employment management, equalize tax treatment between labour and capital investment, and support global compute access.

Research Priorities

Priority research areas include tracing long-term career trajectories under cognitive automation, examining productivity dividend distribution between firms and labour, evaluating agentic teaming dynamics, and assessing Global South adaptation.

Conclusion

Artificial intelligence is transforming knowledge work unevenly. To date, the clearest empirical manifestations are hiring compression in entry-level codified roles, substantial yet task-bounded productivity gains, and a notable lag in enterprise value realization. Three conclusions emerge: first, tasks are the fundamental unit of change across a jagged capability frontier; second, enterprise value depends on complementary organizational restructuring; and third, the ultimate distribution of gains is determined by institutional choices rather than technological inevitability. Safeguarding early-career career ladders and maintaining structured skill reproduction represent the central policy imperatives for the coming decade.

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Bhumi Publishing, India
October 2026

NATIONAL EDUCATION POLICY 2020 AND INTERDISCIPLINARY RELEVANCE: A COMPREHENSIVE ACADEMIC REVIEW

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Abstract
The National Education Policy (NEP) 2020 marks a paradigm shift in India's educational landscape (Government of India, 2020). It transitions higher education away from rigid, compartmentalized subject streams and towards a flexible, integrated and multidisciplinary framework (Aithal & Aithal, 2020). Modern 21st-century challenges ranging from climate change and artificial intelligence to public health crises demand complex problem-solving abilities that cross traditional disciplinary boundaries. This review paper examines the structural architecture, pedagogical significance, and systemic relevance of interdisciplinary education under NEP 2020. It details key operational mechanisms including the Choice-Based Credit System (CBCS), Academic Bank of Credits (ABC), Multiple Entry and Exit Systems (MEES) and the integration of Indian Knowledge Systems (IKS). Furthermore, the article evaluates implementation bottlenecks such as institutional inertia, faculty re-skilling requirements, credit transfer standardization, and infrastructure disparities. Strategic recommendations are proposed to build a sustainable, future-ready interdisciplinary ecosystem.

Keywords: NEP 2020, Interdisciplinary Learning, Multidisciplinary Education, Higher Education, Choice-Based Credit System, Academic Bank of Credits, Multiple Entry-Exit, Indian Knowledge Systems.

1. Introduction and Historical Context

For over three decades, the Indian higher education system operated under the structural provisions of the National Policy on Education 1986 (modified in 1992). While that legacy framework expanded physical access and technical specialization, it fostered rigid academic silos. Students were forced to choose early between mutually exclusive streams: Science, Arts (Humanities), or Commerce. Under that system, a science undergraduate had minimal opportunity to study ethics, public policy, or creative arts, while a humanities student was cut off from formal training in data science or molecular biology.

The publication of NEP 2020, drafted by the Expert Committee chaired by Dr. K. Kasturirangan (Kasturirangan *et al.,* 2019), formally recognized that real-world problems do not conform to artificial academic divisions. Drawing inspiration from historical Indian educational centers such

as Takshashila and Nalanda where liberal arts, natural sciences, logic, and professional crafts coexisted (Yash Pal Committee, 2009) NEP 2020 repositions holistic and interdisciplinary learning at the core of higher education.

The core objective of NEP 2020 is to cultivate well-rounded, innovative graduates capable of addressing interconnected societal issues (Aithal & Aithal, 2020). By promoting interdisciplinary inquiry, the policy aligns Indian higher education with international benchmarks, such as the National Higher Education Qualifications Framework (NHEQF) and global credit transfer standards.

2. Theoretical Framework and Conceptual Distinctions

To understand NEP 2020's curriculum architecture, it is essential to delineate the relationships among multidisciplinary, interdisciplinary, and transdisciplinary approaches (Nirmal, 2024):

- **Multidisciplinarity:** Juxtaposes distinct academic disciplines side by side to examine a problem, allowing each discipline to retain its original methodology without necessarily forging a deep synthesis.
- **Interdisciplinarity:** Integrates concepts, tools, and methodologies from two or more disciplines to create a unified cognitive framework, enabling insights that no single discipline could produce independently.
- **Transdisciplinarity:** Transcends traditional academic boundaries entirely by integrating scholarly research with practical, community-based knowledge to solve complex societal problems.

NEP 2020 operates primarily at the intersection of multidisciplinary structures and interdisciplinary synthesis. It encourages students to build foundational literacy across basic sciences, social sciences, humanities, languages, and professional skills before engaging in specialized research (Government of India, 2020).

3. Key Enablers of Interdisciplinary Learning in NEP

3.1 Four-Year Undergraduate Programme (FYUP) and Flexible Pathways

The policy replaces rigid three-year undergraduate degrees with a flexible Four-Year Undergraduate Programme (FYUP) governed by the new credit curriculum (University Grants Commission, 2022). This framework incorporates Multiple Entry and Exit System (MEES) options:

- **Exit after 1 Year:** Certificate in a field or discipline, provided specific vocational or skill credits are completed.
- **Exit after 2 Years:** Diploma upon completion of intermediate coursework.
- **Exit after 3 Years:** Standard Bachelor’s Degree.
- **Completion of 4 Years:** Bachelor's Degree with Honors or Research for students undertaking an interdisciplinary capstone project (University Grants Commission, 2022).

3.2 Academic Bank of Credits (ABC)

A key technological enabler is the digital Academic Bank of Credits (ABC) established under NEP 2020 (Government of India, 2020; Gogoi, 2026). Operating as a centralized digital repository, ABC stores academic credits earned by students across diverse recognized institutions. This mechanism supports inter-institutional mobility, enabling students to take online courses via platforms like SWAYAM or complete minor courses at partner universities, accumulating verified credits toward their degree.

3.3 Choice-Based Credit System (CBCS) Restructuring

Under the reimagined CBCS, academic credit allocations are categorized into Major Courses, Minor Courses, Open Electives (Interdisciplinary), Skill Enhancement Courses (SEC), and Ability Enhancement Courses (AEC) (University Grants Commission, 2022). This framework allows a student majoring in Life Sciences, for example, to formally select a minor in Environmental Law or Computer Science without administrative barriers.

3.4 Integration of Indian Knowledge Systems (IKS)

NEP 2020 mandates the integration of traditional Indian Knowledge Systems across contemporary disciplines (Government of India, 2020). By bridging historical achievements in mathematics, metallurgy, architecture, eco-conservation, and medicine with modern analytical science, institutions foster holistic, context-aware perspectives.

4. Domain-Specific Interdisciplinary Case Studies

To evaluate the operational relevance of interdisciplinary education under NEP 2020, consider its application across three key domains:

4.1 Bio-Computing and Health Analytics

Modern biological research relies heavily on computational modeling, genomic analytics, and big-data engineering. Traditional curricula separated Life Sciences (Zoology, Botany, Microbiology) from Computer Science and Mathematics. Under NEP 2020's flexible model, life sciences programs can integrate Python programming, machine learning, structural bioinformatics, and bioethics, preparing graduates for high-demand sectors like precision medicine and computational biology (Nirmal, 2024).

4.2 Environmental Studies and Sustainable Development

Resolving environmental crises requires combining ecological science, environmental economics, public health policy, and sociological research. Interdisciplinary project courses enable students to evaluate environmental degradation through both empirical scientific data and community socioeconomic impacts, fostering actionable sustainability solutions.

4.3 Digital Humanities and AI Ethics

As Generative AI technologies advance, technical fields require ethical frameworks, linguistic insight, and philosophical perspective. Conversely, traditional humanities benefit from

computational text-mining, spatial mapping, and digital archiving. Interdisciplinary tracks combining Computer Science with Philosophy, Sociology, or Applied Linguistics directly fulfill NEP 2020's vision of balanced technical and ethical capability.

5. Systemic Implementation Challenges

Implementing interdisciplinary education under NEP 2020 faces four critical systemic bottlenecks:

- **Institutional Silos:** Rigid departmental boundaries hinder cross-departmental collaboration and credit sharing (Ram, 2024).
- **Pedagogical Gaps:** Faculty trained in traditional single-discipline models struggle to design and assess integrated curricula.
- **Infrastructure Disparities:** A significant divide persists between urban institutions (~85% implementation rate) and resource-constrained rural colleges (~65%) (Gogoi, 2026).
- **Credit Transfer Friction:** Divergent academic calendars and grading scales across institutions cause delays in credit verification within the Academic Bank of Credits (ABC).

6. Strategic Recommendations for Actionable Outcomes

To address these implementation gaps and realize NEP 2020's goals, institutions and policy makers should focus on strategic interventions (Aithal & Aithal, 2020; Gogoi, 2026):

i. **Establish Interdisciplinary Centers of Excellence (ICE):** Universities should create centralized units that bring together researchers from science, engineering, and social sciences to collaborate on joint research and co-teach courses.

ii. **Comprehensive Faculty Development Programs (FDPs):** Institutional leadership must implement regular training in interdisciplinary pedagogy, collaborative assessment design, and blended digital teaching.

iii. **Standardize Credit Equivalence:** Regulatory bodies like the UGC and AICTE should refine credit translation guidelines within the ABC to minimize administrative delays during credit transfers.

iv. **Strengthen Industry-Academia Synergies:** Research programs should incorporate industry-sponsored interdisciplinary internships, exposing students to real-world industrial and societal problems (Gogoi, 2026).

v. **Address Urban-Rural Digital Gaps:** Targeted capital investment is needed to expand high-speed connectivity and digital learning infrastructure in rural and semi-urban colleges, ensuring equitable access.

Conclusion

The National Education Policy 2020 provides a comprehensive blueprint to transform Indian higher education into an adaptive, holistic, and interdisciplinary ecosystem (Government of India, 2020). By removing historical stream divisions, offering flexible entry/exit options, establishing credit mobility through ABC, and encouraging integrative research via the National Research Foundation (NRF), the policy creates clear pathways for 21st-century learning. While structural and infrastructural challenges persist—particularly across regional and rural institutions—coordinated efforts between academic leaders, faculty, and policy makers can realize NEP 2020's goal: developing critical, innovative, and ethically grounded citizens ready for a complex world.

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EDUCATION, PSYCHOLOGY AND TECHNOLOGY: AN INTERDISCIPLINARY APPROACH TO STUDENT LEARNING

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Abstract
Student learning is a complex process influenced by educational practices, psychological factors, and technological developments. In contemporary education, the integration of education, psychology, and technology offers new possibilities for improving teaching methods, enhancing student engagement, and supporting diverse learning needs. Educational theories provide the foundation for instructional planning, psychology explains the cognitive, emotional, and social dimensions of learning, and technology creates opportunities for interactive, flexible, and personalised learning experiences. This chapter examines the relationship among these three disciplines and explores their applications in higher education. It discusses cognitive development, motivation, individual differences, digital learning environments, artificial intelligence, and the challenges associated with technology-mediated education. It also highlights the importance of teachers, ethical technology use, and inclusive pedagogical practices. The chapter argues that meaningful integration of these disciplines can promote learner autonomy, critical thinking, creativity, and academic achievement. A balanced, student-centred approach is essential to ensure that technology strengthens educational relationships rather than replacing human interaction.

Keywords: Education, Psychology, Educational Technology, Student Learning, Artificial Intelligence, Higher Education, Digital Learning.

1. Introduction

Education has undergone significant changes due to advances in psychological research and digital technology. Traditional teaching methods generally emphasised classroom instruction, textbooks, and examinations. Although these methods continue to play an important role, contemporary education increasingly recognises the importance of active participation, individual learning needs, critical thinking, and practical application of knowledge. Student learning cannot be understood through educational methods alone. It also involves attention, memory, motivation, emotions, social relationships, and the learning environment. Psychology helps explain these processes, while technology provides tools for delivering content, facilitating communication, assessing progress, and supporting independent learning. Their integration creates an interdisciplinary framework for improving educational experiences.

The relationship among education, psychology, and technology is particularly important in higher education, where students are expected to develop subject knowledge, analytical abilities, communication skills, and professional competence. However, successful integration requires more than introducing digital devices into classrooms. It demands an understanding of how students learn, how teachers design instruction, and how technological resources can support meaningful educational objectives.

This chapter explores the contribution of these three disciplines to student learning and examines their opportunities, limitations, and future implications.

2. The Interdisciplinary Foundation of Student Learning

2.1 Education: Designing Effective Learning Experiences

Education provides the theoretical and practical framework for organising teaching and learning. It determines learning objectives, instructional strategies, assessment methods, and the overall structure of educational programmes. Effective education focuses not only on the transmission of information but also on the development of knowledge, skills, values, and independent thinking.

Constructivist approaches emphasise that learners actively construct understanding by connecting new information with previous experiences. Vygotsky (1978) highlighted the importance of social interaction and guided learning in cognitive development. These perspectives encourage teachers to create activities involving discussion, collaboration, problem-solving, and reflection.

Technology can support these approaches through virtual classrooms, collaborative documents, educational videos, and interactive learning platforms. Nevertheless, educational effectiveness depends on how these tools are integrated into instructional design.

2.2 Psychology: Understanding How Students Learn

Psychology explains the mental and emotional processes involved in learning. Cognitive psychology examines attention, perception, memory, reasoning, and problem-solving. Educational psychology applies such knowledge to classroom practices, learning difficulties, assessment, and student development. Students differ in their prior knowledge, confidence, interests, learning pace, and emotional circumstances. These differences influence their responses to instructional methods. For example, a student who experiences examination anxiety may understand the subject but struggle to demonstrate that understanding under pressure.

Motivation is another important factor. Deci and Ryan (2000) explain that autonomy, competence, and relatedness are central to self-determined motivation. Accordingly, students are more likely to engage meaningfully when they have appropriate choices, experience progress, and feel supported by teachers and peers.

Psychological knowledge enables teachers to develop supportive learning environments, provide constructive feedback, and recognise barriers that affect academic performance.

2.3 Technology: Expanding Educational Possibilities

Educational technology includes digital platforms, multimedia resources, learning management systems, simulations, mobile applications, and artificial intelligence tools. These technologies can make learning materials more accessible and create opportunities for interaction beyond the traditional classroom.

Mayer (2009) explains how appropriately designed combinations of words and visuals can support learning. Digital presentations, diagrams, animations, and demonstrations can therefore help students understand complex concepts when they are carefully designed and avoid unnecessary cognitive demands. Technology also enables flexible access to educational resources. Students can revisit recorded lessons, complete online exercises, and receive feedback on their progress. However, technological tools are most effective when their use is guided by clear educational objectives and an understanding of learners' needs.

3. Integrating the Three Disciplines in Student Learning

The integration of education, psychology, and technology creates a comprehensive approach to instructional planning. Education identifies what students should learn, psychology explains the conditions that facilitate learning, and technology offers tools to support the learning process. For instance, when teaching a difficult concept, an educator may divide the material into manageable sections, drawing on principles of cognitive psychology. Short explanatory videos and interactive exercises can then reinforce understanding. Formative assessments help identify misconceptions, while individual feedback guides further improvement. This approach also supports collaborative learning. Online discussion forums, group projects, and shared digital documents enable students to exchange ideas and learn from different perspectives. Such activities combine educational objectives with the psychological importance of social interaction. However, integration should remain purposeful. Introducing numerous applications without considering students' cognitive capacity can create distraction and confusion. The central concern must therefore be the quality of learning rather than the quantity of technology employed.

4. Technology and Contemporary Learning Practices

4.1 Personalised and Adaptive Learning

Students do not progress at identical rates. Digital learning platforms can provide exercises at different levels of difficulty, recommend learning resources, and offer immediate feedback. AI-supported systems may also help teachers identify recurring errors and areas requiring additional instruction. Personalised learning can encourage students to address their weaknesses without unnecessary pressure. Nevertheless, automated recommendations may be inaccurate or reflect biases in the data used to develop the system. Teachers must therefore evaluate such recommendations and retain responsibility for instructional decisions.

4.2 Blended and Flexible Learning

Blended learning combines face-to-face instruction with online educational activities. It allows classroom time to be devoted to discussion, clarification, collaborative work, and practical application, while students use digital resources for preparation and revision.

This model can be valuable for higher education students who require flexibility because of travel, employment, or other responsibilities. In rural and economically disadvantaged settings, however, unreliable internet access, limited devices, and electricity interruptions may restrict participation. Institutions should provide accessible materials and alternative learning arrangements wherever possible.

4.3 Artificial Intelligence and Feedback

Artificial intelligence has introduced new possibilities for tutoring, language learning, question generation, and formative assessment. Students can use AI-supported applications to practise communication, clarify difficult concepts, and obtain suggestions for improving written work. Such assistance should be used critically. AI-generated explanations may contain errors, and excessive dependence can weaken independent reasoning. Students should verify information, consult reliable academic sources, and disclose AI assistance when required by institutional policies. Technology should support intellectual development rather than substitute for genuine student effort.

5. Psychological Factors in Digital Learning

Digital learning environments influence student motivation, attention, confidence, and emotional well-being. Their effectiveness depends partly on how learners experience and use them.

- **Motivation and engagement:** Interactive exercises, meaningful assignments, and timely feedback can encourage participation. However, rewards, rankings, and competitive features may discourage students who repeatedly experience failure. Activities should emphasise progress and understanding rather than comparison alone.
- **Attention and cognitive load:** Notifications, advertisements, multiple browser tabs, and excessive multimedia can interrupt concentration. Sweller (1988) demonstrates the importance of considering cognitive load during problem-solving and instruction. Teachers should organise information clearly, limit unnecessary distractions, and provide sufficient time for processing difficult concepts.
- **Confidence and self-regulation:** Digital learning requires students to plan their work, monitor progress, and manage time. Zimmerman (2002) highlights the role of self-regulation in academic learning. Teachers can support these abilities through weekly goals, progress reviews, reflective activities, and structured deadlines.
- **Social and emotional well-being:** Online learning may reduce opportunities for personal interaction and increase feelings of isolation. Regular teacher communication, peer

collaboration, and supportive feedback can strengthen students' sense of belonging. Digital learning should therefore incorporate meaningful human relationships alongside independent study.

6. Challenges and Ethical Considerations

Despite its benefits, interdisciplinary integration faces several challenges.

First, the digital divide creates unequal access to devices, connectivity, and suitable learning environments. Students from disadvantaged backgrounds may find it difficult to participate consistently in online activities.

Second, privacy and data protection require careful attention. Educational platforms may collect information about student performance, behaviour, and participation. Institutions should select reliable platforms, limit unnecessary data collection, and communicate clearly about data use.

Third, academic integrity becomes more complex when students can generate answers using AI. Institutions should establish transparent policies and design assessments that encourage original thinking, application, reflection, and oral explanation.

Fourth, teachers need professional development to integrate technology effectively. Digital competence must include pedagogical judgement, accessibility, assessment design, and ethical awareness rather than technical operation alone.

Finally, excessive screen time and technology dependence may negatively affect concentration and well-being. A balanced combination of digital resources, classroom interaction, reading, discussion, and practical activities is therefore desirable.

7. Strategies for Effective Interdisciplinary Integration

Educational institutions can improve student learning through the following strategies:

- **Apply learner-centred pedagogy:** Design activities around clear learning outcomes, students' prior knowledge, and opportunities for active participation.
- **Use psychological principles:** Consider motivation, attention, cognitive load, individual differences, and emotional well-being when planning instruction.
- **Select appropriate technology:** Choose digital tools according to educational needs, accessibility, reliability, and student readiness.
- **Strengthen teacher development:** Provide training in digital pedagogy, AI literacy, formative assessment, and inclusive instructional practices.
- **Promote critical thinking:** Encourage students to evaluate online information, verify AI-generated content, and support arguments with credible evidence.
- **Ensure equitable access:** Provide downloadable materials, offline alternatives, institutional digital facilities, and reasonable flexibility.
- **Evaluate learning outcomes:** Use student feedback, assessments, participation records, and reflective activities to determine whether technology genuinely improves learning.

These strategies can help institutions develop learning environments that are academically rigorous, psychologically supportive, and technologically appropriate.

Conclusion

Education, psychology, and technology offer complementary perspectives on student learning. Education provides instructional direction, psychology explains the cognitive, motivational, and emotional dimensions of learning, and technology expands opportunities for access, interaction, feedback, and personalisation. Their integration can support independent learning, problem-solving, creativity, and academic achievement.

Nevertheless, technological advancement alone does not guarantee educational improvement. Effective learning depends on thoughtful instructional design, supportive teacher–student relationships, equitable access, responsible technology use, and sensitivity to individual differences. AI and digital platforms should therefore complement rather than replace teachers' professional judgement and students' intellectual efforts.

An interdisciplinary approach is particularly valuable in higher education because it connects theoretical understanding with practical teaching strategies. By integrating educational principles, psychological insights, and appropriate technologies, institutions can create inclusive and engaging learning environments that prepare students for lifelong learning and the changing demands of society.

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DIGITAL DIVIDE AND SOCIAL INEQUALITY: CHALLENGES IN AN INCREASINGLY CONNECTED WORLD

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Abstract

The digital divide has emerged as a significant barrier to social inclusion and equitable development in an increasingly connected world. Despite the rapid expansion of digital technologies, disparities in internet access, device affordability, digital literacy and opportunities for meaningful participation continue to reinforce existing social and economic inequalities. This chapter examines the major causes, sectoral effects and emerging trends associated with the digital divide, with particular attention to the Indian context. It explores how digital exclusion affects education, employment, healthcare, financial inclusion, governance and social participation. The chapter also discusses the influence of socioeconomic status, gender, geographical location, disability and language on digital opportunities. Furthermore, it considers the emerging challenges and opportunities associated with artificial intelligence and digital public services. Drawing on existing literature and policy perspectives, the chapter identifies strategies for reducing digital inequality, including affordable connectivity, accessible digital infrastructure, practical digital literacy, inclusive technology design and evidence-based policy interventions. It concludes that bridging the digital divide requires moving beyond basic connectivity towards meaningful and equitable digital participation. Coordinated efforts by governments, educational institutions, private organisations and civil society are essential to ensure that digital transformation promotes social justice, equal opportunities and sustainable societal development.

Keywords: Digital Divide, Social Inequality, Digital Inclusion, Digital Literacy, Digital Transformation.

1. Introduction

Digital technologies have become central to contemporary social, economic and educational development. Internet connectivity, smartphones, digital platforms and online services increasingly shape how people access education, healthcare, employment, financial services and government programmes. Although these technologies create opportunities for communication, information sharing and social participation, their benefits remain unevenly distributed. The digital divide has therefore emerged as an important dimension of social inequality. It reflects

differences in access to digital resources, the ability to use them effectively and the benefits individuals derive from their use (van Dijk, 2020).

The scale of this challenge remains considerable. According to the International Telecommunication Union (ITU, 2025a), approximately 2.2 billion people remained offline worldwide in 2025, despite substantial improvements in global connectivity. The Global Connectivity Report 2025 further identifies affordability, device availability, digital skills, service quality and online security as essential dimensions of meaningful connectivity (ITU, 2025b). These findings indicate that network coverage alone cannot guarantee equal digital participation. People may live within the coverage area of a mobile network yet remain excluded because they cannot afford a suitable device, lack digital skills or face language and accessibility barriers.

The digital divide is closely associated with existing social and economic inequalities. Individuals from low-income households may depend on shared smartphones or unreliable connections, while those with greater financial resources can access personal computers, high-speed internet and specialised digital tools. Similarly, women facing restrictive social norms, persons with disabilities using inaccessible platforms, older adults with limited digital confidence and rural communities with inadequate infrastructure may experience additional barriers. These disadvantages can overlap, making digital exclusion more complex for people who experience several forms of marginalisation simultaneously.

The consequences extend beyond access to technology. In education, students without reliable devices or internet connections may struggle to participate in online learning and use digital resources. In employment, limited digital skills can restrict access to job opportunities, professional training and online recruitment. In healthcare and public administration, digital-only services may create difficulties for individuals who cannot navigate online systems independently. Digitalisation can therefore reinforce existing inequalities when access to essential opportunities increasingly depends on technological resources and capabilities (Helsper, 2021; van Dijk, 2020).

In India, the expansion of digital infrastructure and online public services creates opportunities to improve access to information, financial transactions, education and government assistance. However, meaningful inclusion requires attention to rural connectivity, affordability, gender differences, digital literacy, linguistic diversity and accessibility. The growing use of artificial intelligence introduces further concerns because unequal access to AI tools and the underrepresentation of certain languages and social groups may produce additional disparities. Consequently, digital development needs to be evaluated in terms of who can participate, who benefits and who remains excluded.

Against this background, this chapter examines the relationship between the digital divide and social inequality in an increasingly connected world. It aims to explain the major dimensions and causes of digital exclusion, analyse its effects on education, employment, healthcare, financial inclusion & public services and examine relevant policy responses, particularly in India. It also proposes a framework linking digital access, digital capabilities, meaningful participation and equitable social outcomes. The chapter argues that reducing digital inequality requires coordinated efforts to provide affordable infrastructure, strengthen digital literacy, improve accessibility, develop multilingual resources and ensure inclusive digital governance.

2. Conceptual Foundations of the Digital Divide and Social Inequality

2.1 Meaning and Nature of the Digital Divide

The digital divide refers to inequalities in access to, use of and benefits derived from information and communication technologies (ICTs). Earlier discussions mainly focused on differences between individuals who had access to computers and the internet and those who did not. However, the concept has expanded to include digital skills, quality of access, patterns of technology use and the ability to achieve meaningful outcomes through digital participation (van Dijk, 2020). Lythreatis *et al.* (2022) similarly explain that digital inequality is influenced by socioeconomic conditions, education, infrastructure, personal characteristics and social support. Therefore, access to technology alone cannot provide a complete understanding of digital inclusion.

2.2 Dimensions of the Digital Divide

The digital divide can be understood through three interconnected levels.

- **First-level digital divide**: Access. This refers to differences in the availability, affordability and quality of digital devices and internet connectivity. Household income, geographical location, electricity supply and network infrastructure influence access. For example, a student who relies on a shared smartphone and an unstable internet connection may face greater difficulties participating in online classes than a student with a personal laptop and reliable broadband.
- **Second-level digital divide**: Skills and usage. Access does not guarantee the ability to use technology effectively. Individuals differ in their digital literacy, information-evaluation skills, confidence and ability to navigate online services. A person may use a smartphone regularly for entertainment but struggle to complete an online job application, access educational resources or identify misleading information. Recent research continues to identify digital literacy, affordability and infrastructure as major dimensions of digital inequality (Raihan *et al.,* 2025).
- **Third-level digital divide**: Outcomes. This level concerns differences in the benefits people obtain from digital technology. Some individuals use digital resources to improve

their education, employment prospects, income and access to public services, while others receive fewer benefits despite having internet access. Research on digital inequality therefore needs to examine how technology use translates into social and economic outcomes (Scheerder *et al.,* 2017).

These three levels are interconnected. Limited access can restrict skill development, while inadequate skills can prevent people from converting connectivity into meaningful opportunities.

2.3 Meaning and Dimensions of Social Inequality

Social inequality refers to the unequal distribution of resources, opportunities, power and social advantages among individuals and groups. It may arise from differences in income, education, gender, disability, age, geographical location and social background. These differences influence people's ability to participate in social, economic, and institutional life. The digital divide can reproduce existing inequalities when disadvantaged groups have fewer resources to acquire devices, develop digital skills or benefit from online services (Helsper, 2021).

Digital inequality can also create additional disadvantages. When educational institutions, employers, banks and public agencies increasingly depend on digital systems, people with limited digital access may find it harder to obtain essential services and opportunities.

2.4 Theoretical Perspectives

Three theoretical perspectives provide a useful foundation for understanding the relationship between digital access and social inequality.

- **Social Exclusion Theory:** This perspective explains how individuals and groups may be prevented from participating fully in economic, educational and social activities. Digital exclusion can intensify these disadvantages when essential services become increasingly dependent on online access. For example, people with limited digital skills may face difficulties applying for jobs or accessing government benefits.
- **Capability Approach:** Sen (1999) argues that development should be assessed through people's substantive freedoms and opportunities to achieve valued outcomes. Applied to digital inclusion, this approach suggests that providing a smartphone or internet connection is insufficient if individuals lack the skills, resources or support needed to use it effectively. Digital inclusion should therefore expand people's real opportunities to learn, work, communicate and participate in society.
- **Digital Capital Perspective**: This perspective examines how digital resources, competencies, knowledge and social support influence the benefits individuals obtain from technology. Van Dijk (2020) explains that differences in material access, skills and patterns of use contribute to persistent digital inequalities. Individuals with stronger educational backgrounds and greater social support may be better positioned to use digital resources for professional development and economic advancement.

2.5 Relationship Between Digital and Social Inequality

Digital and social inequalities influence each other. Income, education, gender, disability and geographical location shape people's access to technology and their ability to use it effectively. In turn, digital exclusion may restrict access to education, employment, healthcare, financial services, and public information. Recent research emphasises the need to examine digital inequality through multiple dimensions, including affordability, infrastructure, digital literacy and the circumstances of disadvantaged groups (Raihan *et al.,* 2025). Therefore, reducing the digital divide requires policies that address both technological barriers and the underlying social conditions that limit participation.

3. Major Causes of the Digital Divide

The digital divide is caused by a combination of economic, social, educational, technological and institutional factors. Although the expansion of internet connectivity has created new opportunities for communication, learning, employment and public participation, these benefits remain unevenly distributed. Individuals and communities differ not only in their ability to access digital technologies but also in their skills, confidence and opportunities to use them effectively. Understanding these causes is essential for developing inclusive policies that address the roots of digital inequality rather than its visible symptoms alone (Lythreatis *et al.,* 2022; van Dijk, 2020).

3.1 Economic Inequality and Affordability

Income inequality is one of the major causes of the digital divide. Digital participation involves several recurring expenses, including purchasing smartphones or computers, paying for internet connections, buying mobile data and maintaining devices. Households with limited financial resources may depend on shared devices, low-cost smartphones or restricted data plans. Such arrangements can limit the time available for online learning, job applications, professional development and access to public services.

Economic disadvantage also influences the quality of digital access. While higher-income households may afford laptops, broadband connections and multiple devices, low-income households may rely on a single smartphone for several family members. Consequently, equal availability of internet services does not necessarily produce equal opportunities. Digital inequality may therefore reinforce existing differences in education, employment, income, and social mobility (Helsper, 2021).

3.2 Inadequate Digital Infrastructure

Unequal infrastructure is another important cause of digital exclusion. Rural, remote, mountainous and economically disadvantaged regions may experience weak network coverage, slow internet speeds, unreliable electricity and limited access to broadband services. These

problems can make online education, digital payments, telemedicine and other internet-dependent activities difficult or unreliable.

Infrastructure inequality is not limited to the presence or absence of connectivity. Connection speed, service reliability, network congestion and data limitations also determine whether users can participate effectively. For example, a student living in a poorly connected village may be unable to attend live online classes or download learning materials consistently. Thus, expanding coverage must be accompanied by improvements in service quality, affordability and reliability.

3.3 Educational Inequality and Limited Digital Literacy

Education and digital literacy strongly influence how individuals use technology. Digital literacy includes the ability to operate devices, navigate websites, evaluate information, communicate online, protect personal data and use digital platforms for productive purposes. Individuals with limited educational opportunities may find it difficult to distinguish reliable information from misleading content or complete complex online procedures.

Van Dijk (2020) emphasizes that digital inequality extends beyond physical access to differences in digital skills and patterns of use. A person may own a smartphone and regularly use social media but still lack the skills needed to complete an online employment application, access government services, or participate in online training. Digital literacy programmes must therefore focus on practical competencies rather than basic device operation alone.

3.4 Gender and Sociocultural Barriers

Gender norms and social expectations can influence access to and control over digital resources. In some communities, women and girls may have less access to personal devices, fewer opportunities to develop digital skills and limited freedom to use the internet independently. Household responsibilities, safety concerns, online harassment and restrictions on mobility can further reduce digital participation.

The systematic review by Raihan *et al.* (2025) highlights how gender intersects with income, age, disability and other characteristics to shape digital exclusion. These barriers demonstrate that providing internet connectivity alone may not ensure equal participation. Digital inclusion initiatives must also address social norms, online safety and unequal decision-making within households.

3.5 Age, Disability and Language Barriers

Older adults may experience difficulties using unfamiliar interfaces, managing online accounts or identifying digital fraud, particularly when training and support are unavailable. People with disabilities may face inaccessible websites, incompatible assistive technologies and digital content that does not accommodate visual, hearing, cognitive or mobility-related needs. Language is another barrier when digital platforms and essential information are available only in languages users do not understand confidently.

Raihan *et al.* (2025) identify language accessibility, digital skills and inclusive content as important dimensions of digital equity. Accessible design, multilingual resources and appropriate user support are therefore necessary to ensure that digital services meet diverse needs.

3.6 Institutional and Policy Limitations

The digital divide can also persist because of weaknesses in institutional planning and policy implementation. Limited investment in underserved areas, inadequate digital training, inaccessible public-service platforms and insufficient coordination between government agencies, educational institutions and communities may prevent disadvantaged populations from benefiting from digital initiatives. Lythreatis *et al.* (2022) identify infrastructure, digital training, social support and socioeconomic conditions among the major factors shaping digital inequality.

When essential services become digital by default without suitable alternatives, people lacking devices or digital skills may face additional barriers to education, healthcare, banking and government assistance. Effective policy must therefore combine digital expansion with accessible service design and continued offline support.

3.7 Intersecting Causes of Digital Exclusion

The causes of the digital divide rarely operate independently. A low-income rural woman, for example, may experience poor connectivity, limited control over a smartphone, language difficulties and inadequate opportunities for training simultaneously. Addressing only one barrier may produce limited improvement if the remaining barriers persist.

Overall, the digital divide reflects structural inequalities as much as technological differences. Effective responses must combine affordable devices and connectivity, reliable infrastructure, practical digital literacy, gender-sensitive initiatives, accessible content and inclusive institutional policies. Such an integrated approach can help ensure that digital transformation expands opportunities rather than reproducing existing social inequalities.

4. Effects of the Digital Divide on Major Sectors

The digital divide has significant consequences for social and economic development because digital technologies increasingly influence access to education, employment, healthcare, financial services and public institutions. Unequal access to digital resources can restrict individual opportunities, reduce institutional effectiveness and reinforce existing patterns of social inequality. The effects extend beyond the absence of internet connectivity to include differences in digital skills, the quality of online participation and the ability to convert technology into meaningful benefits (Helsper, 2021; Lythreatis *et al.,* 2022). This section examines the effects of digital inequality across major sectors, with particular relevance to developing countries such as India.

4.1 Education

Education is one of the sectors most directly affected by the digital divide. Digital learning platforms, online courses, virtual classrooms and electronic educational resources have expanded learning opportunities. However, students do not have equal access to these facilities. Those from economically disadvantaged households may lack personal devices, reliable internet connections, quiet study spaces or parental support for digital learning.

These inequalities can affect attendance in online classes, completion of assignments, access to educational materials and opportunities for independent learning. Students who share a smartphone with family members may find it difficult to participate in live lessons or complete digital assessments. In contrast, students with personal computers, stable broadband and supportive learning environments may benefit from a wider range of resources.

Digital inequality also affects teachers and educational institutions. Teachers with limited digital competence or inadequate institutional support may struggle to integrate technology effectively into classroom teaching. Therefore, educational digital inclusion requires not only internet access but also suitable devices, teacher training, accessible learning materials and appropriate pedagogical support. Without these measures, technology may widen existing educational disparities rather than reduce them (Lythreatis *et al.,* 2022).

4.2 Employment and Economic Opportunities

Digital technologies have transformed recruitment, professional communication, skill development, entrepreneurship and workplace activities. Job advertisements, application procedures, interviews and professional networking increasingly take place online. Individuals without reliable internet access or adequate digital skills may therefore miss employment opportunities, particularly in sectors where digital competence is an essential requirement.

The digital divide can also influence the quality of employment available to individuals. Workers with stronger digital skills may access remote work, online training, digital marketplaces and higher-value occupations. Those with limited access and training may remain concentrated in employment with fewer opportunities for advancement. Small entrepreneurs and informal workers can face similar disadvantages when they cannot effectively use e-commerce platforms, online promotion or digital business-management tools.

Digital inequality may consequently contribute to income disparities and limit economic mobility. Addressing this challenge requires affordable connectivity, practical vocational training, digital entrepreneurship support and opportunities for workers to develop skills relevant to changing labour-market demands.

4.3 Healthcare and Well-being

Digital technologies increasingly support telemedicine, online appointment systems, electronic health information and remote monitoring. These services can improve access to healthcare,

particularly for people living far from medical facilities. However, their benefits depend on the availability of devices, connectivity, digital literacy, accessible interfaces and appropriate healthcare support.

People in rural areas with unreliable internet connections may be unable to participate in video consultations. Older adults and individuals with limited digital skills may experience difficulties navigating health portals or understanding online medical information. People with disabilities may encounter inaccessible platforms, while language barriers can prevent users from understanding health guidance.

The digital divide can also expose vulnerable users to misinformation, privacy risks and misleading health claims. Digital health services should therefore complement rather than automatically replace in-person care. Inclusive healthcare systems require accessible platforms, multilingual information, assistance for users who need support and alternative service channels for those unable to participate digitally.

4.4 Financial Inclusion and Banking

Digital banking, mobile payments, online transactions, and financial technology platforms have made financial services more accessible and convenient. However, people with limited digital literacy, unreliable connectivity, inadequate access to smartphones, or low confidence in online transactions may be unable to use these services effectively. They may also face risks associated with fraud, phishing, and the misuse of personal information.

Digital financial exclusion can affect small traders, rural households and low-income individuals who depend on cash-based transactions. Difficulties using digital payment applications or online banking may limit their participation in formal financial systems and digital markets. The World Bank's Global Findex Database 2025 highlights the importance of examining differences in digital connectivity and financial-service use, particularly among women and poorer adults (World Bank, 2025). Financial inclusion initiatives should therefore combine digital payment infrastructure with consumer protection, financial literacy, accessible interfaces and assistance for users who need it.

4.5 Governance and Access to Public Services

Governments increasingly use digital platforms to provide public information, process applications, distribute benefits and deliver essential services. These systems can reduce administrative delays and improve transparency. Nevertheless, when access to public services becomes heavily dependent on digital platforms, individuals without adequate connectivity, devices, identification documents or digital skills may experience difficulties accessing their entitlements.

The OECD (2024) notes that the growing shift from offline to online services can disadvantage people who lack the resources or skills required for effective digital participation. Such exclusion

may be particularly serious when citizens must complete online procedures to access social protection, healthcare support or other essential benefits.

Governments should therefore design services around the needs of diverse users. Digital platforms should be accessible, multilingual, secure and easy to navigate. Assisted access through service centres and the continued availability of suitable offline alternatives can help ensure that digital transformation improves public service delivery without excluding disadvantaged citizens.

4.6 Social Inclusion and Civic Participation

Digital technologies facilitate communication, community engagement, cultural participation and access to public information. Social networking platforms can help people maintain relationships, share experiences and participate in community initiatives. However, those with limited digital access or skills may find it harder to maintain online connections, access timely information or participate in digital discussions.

Digital exclusion can also limit opportunities to engage with public consultations, community campaigns and online civic initiatives. The OECD (2024) observes that digital technologies have become increasingly important for social interactions and cultural participation. When such activities move online, people who cannot participate digitally risk becoming socially isolated or less visible in public discussions.

Moreover, unequal access to reliable information can increase vulnerability to misinformation and reduce opportunities for informed participation. Digital inclusion must therefore involve not only connectivity but also information literacy, online safety, accessible communication and opportunities for meaningful participation.

Addressing these effects requires a coordinated approach involving governments, educational institutions, healthcare providers, financial organisations and community groups. Policies should assess not only how many people are connected but also whether they can use digital technologies safely, independently and productively. The ultimate objective should be to ensure that digital transformation expands opportunities and strengthens social inclusion across all sections of society.

5. Digital Divide in India: Current Challenges and Emerging Trends

India has made substantial progress in expanding digital connectivity through mobile networks, digital public infrastructure, online education, digital payments and e-governance initiatives. However, access to digital technology and the ability to use it effectively remain uneven across geographical regions and social groups. The digital divide in India is therefore no longer limited to whether people have an internet connection. It also concerns affordability, digital literacy, gender, language, accessibility, service quality and the capacity to benefit from digital opportunities.

5.1 Current Status of Digital Connectivity

Official data indicate the scale of India's digital expansion. According to the Telecom Regulatory Authority of India (TRAI), the country had approximately 969.1 million internet subscribers in March 2025, including 561.42 million urban and 407.69 million rural subscribers. Internet subscribers per 100 population were reported at 110.79 in urban areas and 45.03 in rural areas. These figures demonstrate the substantial reach of digital connectivity while highlighting the continuing rural-urban gap (Press Information Bureau [PIB], 2025a).

These figures represent subscriptions rather than unique individuals, so they should not be interpreted as the percentage of people using the internet. Nevertheless, they show the scale of India's digital infrastructure and the need to examine who can access it meaningfully.

5.2 Rural-Urban and Gender Inequalities

The digital divide in India reflects differences in geography, income, gender and educational opportunities. Rural communities may face unreliable connectivity, fewer public digital facilities and limited access to structured digital training. Even where mobile networks are available, users may lack suitable devices or the skills needed to use online services independently.

Gender differences remain particularly important. India's Comprehensive Modular Survey: Telecom, 2025 reported that among people aged 15 years and above, smartphone ownership among those who owned a mobile phone was estimated at 48.4% for rural women, compared with 80.7% for rural men. In urban areas, the corresponding figures were 71.8% for women and 90.0% for men (Ministry of Statistics and Programme Implementation [MoSPI], 2025). These differences indicate that household connectivity does not necessarily mean equal personal access. Social norms, affordability, safety concerns and unequal control over devices may continue to restrict women's digital participation.

5.3 Government Initiatives and Remaining Challenges

India has introduced initiatives to expand connectivity and digital participation. BharatNet aims to extend broadband infrastructure to Gram Panchayats, while Digital India promotes digital public services and technology-enabled development. According to the Ministry of Communications, by June 2025, 214,325 Gram Panchayats had been made service-ready under BharatNet and approximately 1.30 million fibre-to-the-home connections had been provided through the project (PIB, 2025b).

Despite this progress, infrastructure availability does not automatically ensure affordable, reliable and meaningful access. Implementation challenges include maintaining networks, ensuring service quality, providing local-language content and offering digital training. Policies must therefore evaluate actual usage and outcomes, rather than relying exclusively on network coverage or infrastructure figures.

5.4 Emerging Trends and New Challenges

Three trends are shaping India's digital divide. First, the growing use of digital payments, online education, telemedicine and e-governance is increasing the importance of practical digital literacy. People who cannot navigate online platforms safely may remain excluded even when services are technically available.

Second, the expansion of artificial intelligence (AI) creates new opportunities and risks. AI-based educational tools, translation systems and digital assistants may improve access to information. However, limited digital skills, unequal access to advanced devices and insufficient support for Indian languages may prevent disadvantaged groups from benefiting equally. Algorithmic bias and data privacy concerns also require attention.

Third, the increasing dependence on smartphones creates a distinction between basic connectivity and effective digital participation. A smartphone may provide internet access but may not be sufficient for complex educational tasks, employment applications or professional training. Shared devices and limited data plans can further restrict participation.

5.5 Future Priorities for Digital Inclusion

Reducing India's digital divide requires an integrated strategy that combines affordable connectivity, reliable infrastructure, digital literacy, gender-sensitive interventions, accessible technologies and multilingual content. Schools, libraries, community centres and local service institutions can provide practical training and assisted digital access. Special attention should be given to rural populations, women, older adults, people with disabilities and economically disadvantaged households.

In conclusion, India's digital transformation has expanded connectivity and created new opportunities, but significant inequalities remain in personal access, digital competence and the benefits people receive. The next stage of digital development must focus not only on connecting people but also on ensuring that they can use technology confidently, safely and productively.

6. Strategies and Policy Interventions for Reducing the Digital Divide

Reducing the digital divide requires an integrated approach that addresses inequalities in digital access, affordability, skills, and opportunities. Although expanding internet connectivity is essential, meaningful digital inclusion also depends on whether individuals can use technology effectively, safely and independently. Therefore, governments, educational institutions, private organisations and civil society must work together to ensure equitable digital participation.

6.1 Expanding Affordable and Reliable Connectivity

Governments should prioritise reliable broadband and mobile connectivity in rural, remote, and economically disadvantaged areas. In India, initiatives such as BharatNet and Digital India provide a foundation for expanding digital infrastructure and online public services. However, infrastructure development must be accompanied by affordable data plans, reliable electricity

and regular maintenance. Community internet centres, public libraries and educational institutions can provide shared access to devices and connectivity for underserved populations.

6.2 Improving Device Affordability

The cost of smartphones, computers, and internet services remains a major barrier for low-income households. Targeted subsidies, device-lending programmes and refurbished-device schemes can support disadvantaged students, women and low-income workers. Schools and colleges should consider providing digital resources to learners who lack personal devices. Such interventions can reduce financial barriers and improve access to educational and employment opportunities.

6.3 Strengthening Digital Literacy

Digital literacy programmes should develop practical skills in operating devices, evaluating online information, accessing digital services, protecting personal data and identifying online fraud. Schools and universities should integrate digital competencies into teaching and provide teachers with appropriate training. Community-based programmes can support adults, older people and rural populations. Training should also include cybersecurity awareness; responsible artificial intelligence uses and the ability to recognise misinformation.

6.4 Promoting Inclusive Digital Access

Digital inclusion policies must address the needs of women, persons with disabilities, older adults and linguistically disadvantaged communities. Accessible platforms, multilingual content, assistive technologies and gender-sensitive training can improve participation. Online services should be simple to navigate and compatible with different devices and accessibility requirements. Essential services should also retain assisted and offline alternatives for people unable to use digital platforms independently.

6.5 Strengthening Policy and Evaluation

Effective digital inclusion requires coordination among government agencies, telecommunications providers, educational institutions and community organisations. Policies should protect users' privacy, strengthen cybersecurity and ensure fair access to digital services. Regular monitoring should assess connectivity, affordability, device ownership, digital skills and actual social outcomes. Data should be analysed by gender, income, disability, age and geographical location to identify underserved groups.

In conclusion, reducing the digital divide requires moving beyond basic internet access towards meaningful digital participation. Affordable connectivity, practical digital skills, inclusive services and evidence-based policies can help ensure that digital transformation reduces social inequality and creates equitable opportunities for all.

7. Future Research Directions

The digital divide is an evolving social challenge shaped by technological development, economic conditions, educational opportunities and public policy. Although existing research has examined inequalities in internet access and digital skills, further investigation is required to understand how these inequalities influence long-term social and economic outcomes. Future research should move beyond measuring connectivity and examine whether individuals can use digital technologies effectively, safely and independently to improve their quality of life (Lythreatis *et al.,* 2022; van Dijk, 2020).

7.1 Examining Meaningful Digital Inclusion

Future studies should distinguish between access to devices, the quality of connectivity, digital competence, and the benefits derived from technology. Researchers should develop comprehensive indicators that measure whether individuals can use digital services for education, employment, healthcare, financial management and civic participation. Such measures would provide a more complete understanding of digital inclusion than internet subscription figures alone.

7.2 Investigating Intersectional Inequalities

Further research should examine how gender, income, disability, age, education, language and geographical location interact to influence digital participation. In India, comparative studies across rural and urban communities and different socioeconomic groups could identify barriers specific to disadvantaged populations. Research should also explore differences in personal device ownership and control, particularly among women and young people.

7.3 Assessing Artificial Intelligence and Emerging Technologies

The growing adoption of artificial intelligence, automated decision-making and digital public services creates new research opportunities. Studies should investigate whether AI-based tools reduce existing inequalities or reproduce them through biased algorithms, limited language support, inaccessible interfaces and unequal access to advanced devices. Research should also examine digital privacy, cybersecurity, misinformation and the skills required to use AI responsibly.

7.4 Evaluating Digital Inclusion Policies

More empirical research is needed to assess the effectiveness of government initiatives, digital literacy programmes, affordable connectivity schemes and community-based technology centres. Longitudinal studies could determine whether these interventions produce sustained improvements in educational achievement, employment, income and access to essential services. Comparative evaluations across regions could help identify scalable and cost-effective policy approaches.

7.5 Strengthening Research Methods and Local Evidence

Future studies should combine quantitative surveys with qualitative interviews, case studies and participatory research. Such approaches can explain not only the extent of digital exclusion but also the experiences and needs of affected communities. Researchers should develop reliable, context-sensitive measurement tools and make greater use of longitudinal and mixed-methods designs.

Overall, future research should adopt an interdisciplinary approach involving education, sociology, economics, public administration and information technology. In India, particular attention should be given to underserved communities and the relationship between digital access and social mobility. This evidence can support inclusive policies that ensure digital transformation creates equitable opportunities for all sections of society.

Conclusion

The digital divide is a multidimensional challenge that reflects and reinforces existing social and economic inequalities. As digital technologies become increasingly important in education, employment, healthcare, financial services and governance, unequal access to devices, reliable connectivity, digital skills and online opportunities can restrict individuals' participation in society. This chapter has highlighted that digital exclusion extends beyond the availability of internet services to include affordability, digital literacy, gender disparities, accessibility, language barriers and unequal social outcomes. In India, initiatives such as Digital India and BharatNet have contributed to expanding digital infrastructure and public services. However, disparities between rural and urban communities, women & men and economically advantaged and disadvantaged groups demonstrate the need for continued and inclusive efforts. Emerging technologies, particularly artificial intelligence, offer opportunities to improve access to information and services, but may also create new inequalities if their benefits are not distributed equitably. Reducing the digital divide requires a comprehensive strategy that combines affordable connectivity, accessible devices, practical digital literacy, inclusive technology design, digital safety and effective policy implementation. Governments, educational institutions, private organisations and civil society must collaborate to ensure that disadvantaged communities can participate meaningfully in the digital world. Progress should be assessed not only through connectivity statistics but also through improvements in educational opportunities, employment, access to essential services and social participation.

Ultimately, digital inclusion is essential for building an equitable and inclusive society. Ensuring that everyone can access, understand, and benefit from digital technologies can help transform digital progress into meaningful social development and reduce persistent inequalities.

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THE PUBLIC SAINT AND THE PRIVATE SINNER: THE NARCISSISTIC MASK IN GILLIAN FLYNN'S GONE GIRL AND OSCAR WILDE'S THE PICTURE OF DORIAN GRAY

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Abstract
This chapter compares the representation of narcissistic self-fashioning in Gillian Flynn's Gone Girl (2012) and Oscar Wilde's The Picture of Dorian Gray (1891). Through the contrasting figures of Amy Dunne and Dorian Gray, it examines how a polished public identity can conceal private cruelty and how social approval helps sustain that division. Dorian's portrait externalizes the moral consequences that his unchanging face conceals, while Amy uses a fabricated diary, the "Cool Girl" persona, and media attention to shape public opinion. The chapter also considers the people and institutions that help construct these masks: Lord Henry's aesthetic philosophy and Basil's idealizing gaze in Wilde's novel, and Amy's parents, consumer culture, and sensationalist media in Flynn's. Although the novels emerge from different historical contexts, both expose the danger of valuing appearance over ethical responsibility. Their endings, however, diverge: Dorian's attempt to destroy the portrait brings his concealed corruption into view, whereas Amy's control of the public narrative allows her to maintain the appearance of victim hood. The comparison suggests that the narcissistic mask is not merely an individual strategy but a social performance enabled by audiences willing to accept a compelling image in place of complicated truth.

Keywords: Narcissism, Public Image, Private Identity, Aestheticism, Domestic Noir, Media, Oscar Wilde, Gillian Flynn.

1. Introduction: The Narcissistic Mask Across Literary Periods

Literature repeatedly explores the distance between what people present to the world and what they conceal. The public self may be carefully arranged to secure admiration, status, or protection, while private conduct reveals selfishness, manipulation, or moral decline. This tension is especially visible in Oscar Wilde's The Picture of Dorian Gray and Gillian Flynn's Gone Girl. Though written more than a century apart, the novels depict protagonists who understand that appearance influences how others interpret reality. Dorian Gray preserves a youthful and attractive face while a portrait records the consequences of his actions. Amy Dunne constructs a convincing image of the ideal wife and later of the innocent victim, using that image

to direct the judgments of the public. Their methods differ, but both reveal how a polished persona can become a shield against accountability.

The phrase "Public Saint and Private Sinner" describes this split between an approved public identity and a concealed moral reality. The "saint" is not necessarily virtuous; rather, the figure has learned to perform the qualities that society rewards. The "sinner" is the private self whose actions contradict the public image. The mask succeeds when observers treat charm, beauty, respectability, or vulnerability as reliable evidence of goodness. In these novels, the problem is therefore not only that individuals deceive others. It is also that the surrounding culture helps make the deception credible.

The comparison requires attention to the different historical worlds of the texts. Wilde writes within the late-Victorian culture of respectability and aestheticism, in which social standing and outward propriety can obscure private conduct. Flynn writes in the context of contemporary celebrity culture, domestic noir, economic insecurity, and mass-media spectacle. Dorian's reputation is protected by wealth, beauty, and elite social networks. Amy's reputation is shaped by branding, gender expectations, television coverage, and the public appetite for a dramatic story. The mask shifts from the private performance of a gentleman to the highly visible performance of a media persona.

Narcissism is used here primarily as a literary and interpretive concept: a pattern of self-importance, dependence on admiration, limited regard for other people's autonomy, and an urge to control how one is perceived. The discussion does not attempt to diagnose fictional characters clinically. Instead, it examines how each novel represents self-absorption through narrative technique, imagery, relationships, objects, and endings. This distinction matters because the novels are works of fiction, and their characters' actions should be interpreted through their literary construction rather than treated as clinical case histories.

The chapter argues that the narcissistic mask is created and maintained through a relationship between the individual and an audience. Dorian's beauty is reinforced by Basil's idealization and Lord Henry's seductive philosophy; Amy's self-image is shaped by her parents' fictionalized "Amazing Amy" books and later by her ability to exploit the media's familiar scripts. Both protagonists treat other people as supporting characters in a story about themselves. Yet the novels differ in their treatment of truth. Wilde gives corruption a material form that cannot be permanently concealed, while Flynn presents a social world in which a successful narrative can overpower evidence and leave the victim trapped within the lie.

The discussion first outlines the literary and critical context, then compares the construction of the protagonists' identities, the roles of their enablers and victims, the symbolic function of houses and objects, the influence of class and media, and the different outcomes of their attempts

to preserve the mask. The conclusion brings these strands together to consider what the novels suggest about the social rewards attached to performance.

2. Critical Context: Aestheticism, Narcissism, and Domestic Noir

Decadent movement. The Romantics' love for nature was dead. Instead, cultivating your own artificial aesthetic became the ultimate goal, completely divorced from any moral responsibility. Which brings us to Oscar Wilde. As a titan of the fin de siècle (the end of the century), Wilde's life and work perfectly bridge the gap between strict Victorian morals and the chaotic identity of the modern era. Born in 1854, Wilde was a massive champion of Aestheticism, which basically argued for "art for art's sake." It was a huge middle finger to the utilitarian, factory-driven mindset of the Industrial Revolution, suggesting that beauty and experience were way more important than preaching morals. Wilde lived in a time of intense transition, where Victorian certainty was rotting away and a dangerous new hedonism was taking its place. His own life—a meteoric rise as a celebrity playwright followed by a devastating imprisonment for "gross indecency" in 1895—mirrors the exact duality of narcissism. He had this desperate need for public adoration, but it was coupled with a secret, corrosive private life.

In Wilde's era, being a "Gentleman" was basically a performance. Victorian society was built on hypocrisy. You were expected to perform this rigorous routine of propriety, while society quietly ignored all the dark stuff happening behind closed doors. The Decadent movement suggested that civilization itself was entirely artificial, so the person who could manipulate that artifice the best was the superior human. This is the exact philosophy that breathes life into The Picture of Dorian Gray (Wilde 24). Dorian isn't some weird anomaly; he is the logical endpoint of a society that only cares about the surface. When you apply the idea of art for art's sake" to a human life, you get a monster who treats his existence like a painting, caring only about how pretty the surface is while ignoring the rot underneath. But the evolution of the narcissist didn't stop in the 1890s. To understand how we get from Oscar Wilde to Gillian Flynn, we have to look at the massive literary movements of the 20th realized that the old Victorian ways of telling stories didn't work anymore because the world didn't make sense anymore. You see this shift clearly in F. Scott Fitzgerald's The Great Gatsby (Fitzgerald, ch. 1). The narcissism here mutates from Dorian Gray's supernatural aestheticism into careless, wealthy consumption. Look at Tom and Daisy Buchanan.

Fitzgerald describes them as "careless people" who smash up things and creatures and then retreat back into their money (Fitzgerald, ch. 9). They aren't trying to be beautiful pieces of art like Dorian; they are just deeply, sociopathically insulated by capitalism. They use people—like Gatsby himself—to entertain themselves, and when things get messy, they abandon them.

Then, as the century progressed into Postmodernism, reality itself became subjective, protagonist, Patrick Bateman, is essentially the crucial missing link between Dorian Gray and Amy Dunne.

Bateman is obsessed with his surface appearance—his morning skincare routine reads exactly like a modern, twisted version of Dorian admiring his portrait. But Bateman is a product of late-stage capitalism. He doesn't just want to be beautiful; he wants to fit perfectly into the corporate, brand-obsessed culture of Wall Street while secretly murdering people.

Bateman is a terrifying realization that in a totally superficial world, a monster can hide in plain sight as long as he wears the right designer suit.

Which finally brings us to the 2010s and Gillian Flynn. If Wilde was reacting to Victorian etiquette, and Ellis was reacting to 1980s greed, Flynn is reacting to the modern digital age. Specifically, she's writing in the "domestic noir" genre, grounded in the post-2008 economic recession in the US. Flynn emerged as a huge voice in a time when the "American Dream" was falling apart and digital, curated identities were taking over our lives.

Flynn disrupted how female protagonists are written. She took the "likable heroine" and the "Cool Girl" trope and tore them apart with visceral brutality. She writes in this space of post-feminist critique and Midwestern Gothic, where the real horror doesn't come from ghosts or haunted houses, but from the economic and emotional bankruptcy of a modern marriage. While Wilde's world was defined by keeping the public and private totally separate,

Flynn's world is defined by that separation collapsing completely. Writing Gone Girl right after the recession, she captures a distinct moment when traditional markers of success

vanished (Flynn, part 1). Her characters don't live in Gothic castles; they live in empty, hollow McMansions. And more importantly, Flynn's characters know they are being watched—not by God or high society, but by the 24-hour news cycle and the internet.

To connect these entirely different eras, we have to look at the clinical reality of narcissism and the collateral damage it causes. Literature loves to romanticize the tortured, self-obsessed protagonist, but the physiological and psychological toll they take on the people around them is devastating. Psychological research shows that the people closest to a narcissist—their "narcissistic supply"—end up suffering from chronic anxiety, depression, and physical illnesses. It's no coincidence that the psychological term "gas lighting" actually comes from a piece of literature: Patrick Hamilton's 1938 play Gaslight, where a husband manipulates the environment to make his wife think she's going insane (Hamilton, act 1).

The narcissist doesn't just need a mirror to admire themselves; they need a trash can to offload their own shame and negativity. Their partners end up experiencing a total dismantling of reality, which forces them into a state of permanent hyper-vigilance. The body keeps the score. The stress of trying to navigate the narcissist's shifting reality literally makes the victim sick. It's so important to re-frame the narrative around these secondary characters. The spouse or the admirer isn't just a tragic bystander; they are the fuel the narcissist burns to keep going.

This completely changes how we should look at Amy Dunne in Gone Girl and the titular character of The Picture of Dorian Gray. It's really common for readers to view them as victims. People argue Dorian was just a naive kid corrupted by Lord Henry, or that Amy was just reacting to a cheating husband in a misogynistic world. But if you look at them through the lens of true narcissism, that excuse falls apart. Calling them victims strips them of their agency. They aren't passive vessels; they are the active architects of their own

Amy Dunne isn't just a scorned woman; she is a grand master manipulating reality to fit her perfect narrative. She is the ultimate evolution of Patrick Bateman's performative

2.1 The Victorian Double Life and Aesthetic Appearance

The Victorian "Double Life" and the Aesthetic Mask

The foundation of this study begins with the Victorian era's obsession with appearances. In the 1890s, the "Public Saint" was not just a choice, but a social requirement for survival.

Richard Ellmann (1988), in his extensive work on Oscar Wilde, suggests that the Victorian elite used the "Gentleman" persona as a shield. As long as a man followed the strict rules of high society, his private life remained off-limits. This research shows that the Victorian era created an environment where the "Private Sinner" could flourish as long as the "Public Adding to this, Camille Paglia (1990) argues in Sexual Personae that people like Dorian Gray were attempting to turn their own lives into static pieces of art. Paglia calls this "Aesthetic" narcissism. Her work is crucial because it helps explain why Dorian is so obsessed with his own portrait. He isn't just vain; he wants to achieve a state of permanent, cold perfection that makes him untouchable by the messy reality of aging or guilt. This group of research establishes that the historical narcissist was primarily concerned with keeping their mask perfectly still.

2.2 Narcissism, Social Approval, and the Modern Persona

The Clinical Foundation: Narcissism and Its Audience

As the study of the human mind advanced, the literature shifted from "morality" to "psychology." Christopher Lasch (1979) provided a major turning point with his work, The Culture of Narcissism. Lasch argued that modern society actually encourages narcissistic behavior by rewarding fame, wealth, and shallow success. He suggested that people have been conditioned to treat their own personalities like products to be marketed and sold. This theory is essential for understanding why a character like Amy Dunne feels the need to perform "perfection" for the public.

To understand how this pathology affects relationships, the research of Dr. Robin Stern (2007) on "Gaslighting" is vital. Stern defines the "Gaslight Effect" as a psychological manipulation where the narcissist (the Saint) forces the victim to doubt their own memory and perception. This research provides the framework for analyzing the "Private Sinner's" need for control. The

existing literature confirms that a narcissist does not just want admiration; they want to be the "Author" of the truth, even if that truth is a complete lie.

2.3 Domestic Noir and the Media Audience

The Modern "Cool Girl" and Media Supremacy

The final category of literature deals with the rise of the "Domestic Noir" genre, where the home becomes a place of psychological warfare. Critics like Michelle Arnett (2016) and Stephany Burke (2014) have analyzed how modern authors like Gillian Flynn have updated the "Femme Fatale" archetype.

The consensus in this modern scholarship is that the "Public Saint" has become a weapon of retaliation. In a world of 24-hour news and social media, playing the role of the "perfect victim" or the "saintly wife" gives a character like Amy Dunne immense social and legal power. This research suggests that while the Victorian narcissist hid in the shadows, the modern narcissist "hides" in the bright lights of public sympathy.

By looking at these three groups of experts, a clear gap in the research appears. Most scholars study Dorian Gray as a "classic" example of art and morality, and they study Amy Dunne as a "modern" example of media manipulation. However, there is very little research that compares the two side-by-side to show how the "Public Saint" mask itself has evolved from a supernatural painting into a professional brand.

3. Constructing the Ideal Self: Amy Dunne and Dorian Gray

The Public Saint and the Private Sinner: Analyzing the Narcissistic Mask in Gillian Flynn's Gone Girl and Oscar Wilde's

reaction to a toxic marriage. It is the direct result of a childhood that was systematically plagiarized by her own parents, Rand and Marybeth.

As scholars examining the post-recession novel have pointed out, Amy's entire existence is defined by the Amazing Amy book series (Burke, 2014). Her parents literally wrote a fictionalized, highly idealized version of her life and sold it to the masses. This creates a massive, profound split in Amy's psyche. On one side, you have the "Real Amy"—a normal human being who is flawed and occasionally fails. On the other side, you have "Amazing Amy," a character who is perfect, highly profitable, and universally adored.

Christopher Lasch (1979) famously argued in The Culture of Narcissism that modern people are often reduced to nothing more than a reflection of society's expectations. But for Amy, this wasn't just a metaphor; it was a literal, daily reality. She was never actually allowed to just be a person because she was functioning as intellectual property. Her parents cannibalized all her normal developmental milestones. Her first steps, her first day of school, and even her marriage were polished up and turned into lucrative fiction. They effectively stole her autonomy before she even had the vocabulary to realize what was happening.

This kind of parental plagiarism drills a deeply unsettling "performative competence" into Amy, which ultimately becomes indistinguishable from sociopathy. It teaches her from day one that love is entirely conditional; she only receives affection when she stays completely "on brand" with her fictional counterpart. So, when she finally meets Nick Dunne, she doesn't actually fall in love with him in a normal, human way. She simply sits down and We see a remarkably similar dynamic of creation and destruction when we look back at the Victorian landscape of Oscar Wilde, although the framing shifts from modern capitalism to aestheticism. Just like Amy, Dorian Gray is not a self-made man. He is a project, the joint creation of an artist, Basil Hallward, and an ideologue, Lord Henry Wotton. Basil provides the physical image, painting the literal portrait that freezes Dorian in a state of eternal, perfect youth. This portrait functions exactly like the Amazing Amy books do for Amy.

However, it is Lord Henry who provides the script. Richard Ellmann (1988) highlighted in his biography of Wilde that the intense influence of an older mentor over a younger subject was a massive societal anxiety during the Victorian era. Lord Henry takes full advantage of Dorian's blank slate, pouring his toxic philosophy directly into the boy's ear and using his soul as a laboratory to test out theories on extreme hedonism. Just as Amy's parents essentially wrote her life before she got the chance to live it, Lord Henry dictates the exact psychological trajectory Dorian will take. He actively encourages Dorian to cure his soul by entirely giving in to his senses. Because Dorian lacks any strong internal moral compass of his own, he completely absorbs this borrowed personality.

meticulously fed to a child, spoon by spoon. It is nurtured through a steady diet of conditional love, parental exploitation, and extreme environmental overexposure. Modern developmental psychology gives us the perfect framework for this. Researchers like Brummelman *et al.* (2015) point out that narcissism isn't the same thing as having high self-esteem. Instead, it is usually cultivated by "parental overvaluation". This happens when parents stop looking at their child as an independent human being and start viewing them as a superior object that inherently deserves special treatment. In this kind of environment, a child quickly learns that their worth is tied entirely to their ability to be "special," rather than their ability to just be a good person.

This is exactly why looking at the origin stories of our protagonists is so critical. They were not born as monsters. They were completely manufactured by environments that showered them with rewards for performing perfection, while simultaneously starving their authentic selves of any real, genuine connection. For the narcissist, childhood is just a period where they are forced to become adults way too quickly, learning early on that love is nothing more than a transaction that you pay for with applause. In Gone Girl, Rand and Marybeth Dunne don't just raise a daughter; they curate a massive brand. Stephany Burke (2025) notes in her critiques on the commodification of childhood that Amy’s upbringing is the ultimate textbook example of

"narcissistic extension". Her parents use her to fill the void of their own unmet needs for fame and success. Every single time the real, human Amy failed—whether she was quitting the violin or just being perfectly average—the fictional Amazing Amy succeeded flawlessly in the books. This created a devastating psychological split. The real Amy was left feeling like a massive disappointment, a weak shadow of the ideal version of herself.

Amy's narcissism, therefore, starts as a desperate defense mechanism. She consumes the Amazing Amy persona because it is the absolute only version of herself that actually gets any love. She is fed this incredibly toxic paradox: she is told she is the main character of the entire universe, but at the same time, she is taught that her only real purpose is to be consumed by the public. Growing up under this constant surveillance—endless interviews, book signings, and quizzes—trains her to look at her own life from a third-person perspective. She monitors herself like a product on a shelf, constantly checking her market value instead of relying on an internal moral compass. Her narcissism wasn't just inherited from her parents; it was actively encouraged by a media ecosystem that happily validated their exploitation.

The Picture of Dorian Gray might not have the modern machinery of the 24-hour news cycle or mass media, but the way the ego is "fed" is remarkably similar. It just happens through high-society exposure rather than commercial branding. Dorian starts as an orphan, which makes him a total blank slate and uniquely vulnerable to anyone willing to step into that parental role. Lord Henry Wotton doesn't step into that vacuum to protect or nurture Dorian; he steps in to mold him. Lord Henry feeds Dorian’s growing narcissism through what is essentially intellectual poisoning. He gifts Dorian the infamous "Yellow Book" (a nod to Huysmans’ À rebours).

This book functions as a literal step-by-step manual for living a narcissistic life. It teaches Dorian to look at history, art, and the people around him as nothing more than disposable sources of his own personal pleasure. Lord Henry purposefully isolates Dorian from any normal moral feedback, constantly whispering in his ear that his extraordinary beauty puts him far above the rules that govern everyone else.

This triggers a textbook case of "acquired situational narcissism". It’s a condition you often see in overnight celebrities or lottery winners, where a sudden, massive change in their environment triggers a dark shift in their personality. Dorian doesn't start out cruel. He is taught how to be cruel by a mentor who packages that cruelty as a sophisticated aesthetic philosophy. He is exposed to the toxic aristocratic idea of exemption—the deeply ingrained belief that if you are part of the elite, other human beings are just background props in the disappointment by the people who supposedly love them. They become violently trapped inside their own aesthetics.

To understand how heavy this burden really is, we have to look at the massive dissociation happening in Amy’s psyche. There is the "Real Amy"—a flesh-and-blood woman who makes mistakes, feels ugly, and occasionally fails—and then there is "Amazing Amy," the flawless,

infinitely profitable literary character. Because her parents essentially monetized her existence, Amy learns a terrifying lesson: her humanity is a massive liability.

The "Real Amy" is never enough. When she realizes that the fictional, perfect version of herself is the only one that receives unconditional love and financial reward, she makes a horrifying choice to simply reject her real self entirely. She decides to become the product. Aesthetic. Eagleton argues that aesthetics—the way things look, feel, and are presented—aren't just harmless art; they can become a rigid, controlling ideology. For Amy, the aesthetic of the perfect, cool, brilliant girl becomes an inescapable prison. She realizes that to maintain her power and her "market value," she has to constantly perform. This requires an exhausting, relentless discipline. She isn't just trying to be a good wife; she is trying to out-perform a fictional character that her parents literally invented.

Dorian Gray experiences this exact same entrapment, but his prison is painted on a canvas instead of printed in a children's book. When Basil Hallward finishes the portrait, he doesn't just capture Dorian's likeness; he accidentally creates an impossible, immortal ideal. The portrait captures Dorian’s physical perfection and freezes him in a state of eternal youth.

But this gift is actually a curse. Basil does not worship Dorian as a flawed, living young man; he worships him as a piece of art, as an aesthetic ideal.

Basil admits this directly in the text, stating, "I have put too much of myself into it". Fundamentally narcissistic. Basil loves Dorian not for who Dorian is, but for the brilliant art that Dorian inspires him to create. Dorian realizes that to keep the adoration of Basil, Lord Henry, and all of high society, he has to permanently maintain the flawless beauty of that painting. His human self—which naturally ages, makes mistakes, and experiences guilt—is a liability that must be hidden away. gentleman at all times, regardless of what dark or ugly realities were happening behind closed doors. Dorian Gray is the ultimate, supernatural embodiment of this Victorian anxiety. He is a man who completely severs his beautiful outside from his rotting inside to survive the "container" where they store their corruption. For Amy, the container is external. The Amazing Amy book series remains shiny, perfect, and beloved on library shelves, while the actual, human Amy rots internally from years of built-up resentment and exhaustion. She has to swallow her own poison while the book gets all the glory. For Dorian, the dynamic is supernaturally reversed. The human Dorian remains flawlessly beautiful, physically untouched by time or sin, while the "book"—the portrait locked in the attic—rots, bleeds, and ages. Oscar Wilde uses this magical reversal to ruthlessly critique the hypocrisy of a society that judges people entirely by their appearances. Dorian is the ultimate narcissistic fantasy: he achieves consequence-free indulgence. He can walk through the filthy slums of London, destroy reputations, and drive women to suicide, but because his face never shows a single mark of his sins, high society continues to welcome him with open arms.

However, the real tragedy of this dynamic is that the "victims" in both of these stories—Nick Dunne and Basil Hallward—are actually highly complicit in enforcing the masks that eventually destroy them. They suffer terribly because they mistake the beautiful mask for reality, but they are the ones who demanded the mask in the first place.Nick is not just a helpless victim of a predatory wife; he is a willing collaborator in the narcissistic
fantasy. He falls in love with Amy's "Cool Girl" persona precisely because it flatters his own ego. It allows him to view himself as the kind of spectacular guy who can easily land a magnificent, low-maintenance, brilliant woman. In his own way, Nick is a "passive
narcissist". He feels entirely entitled to the massive benefits of their relationship—the money, the status, the effortless cool factor—without wanting to offer any real emotional labor in Nick wants a wife who functions as a blank screen, someone onto whom he can project his own desire for an easy, comfortable life. Basil wants a muse who functions as a blank canvas, someone who will stand still and look beautiful while he projects his artistic genius onto them. Both men demand perfection from their partners. But the horrifying reality of the narcissist is that when you force them to live inside a perfect cage, they will eventually figure out how to lock you inside it with them. Once a narcissist is completely trapped inside their "ideal self," they don't just sit there and suffer. They pivot. They take the very mask that is suffocating them and turn it into a weapon. The way this narcissism actually shows up in the real world, however, is heavily shaped by gender and the specific social rules of their respective eras. While the core diagnosis is exactly the same for both characters—they both have a massive sense of self-importance, zero empathy, and a desperate need for admiration—the way they use their masks is strictly gendered.

In The Picture of Dorian Gray, male narcissism is all about entitlement, freedom of movement, and treating the world like it is your birthright to consume. Dorian operates entirely within the protective bubble of the "Victorian Gentleman." That specific social role gives him an almost totally impenetrable shield of privilege. Camille Paglia (1990) points this out perfectly in Sexual Personae, where she notes that the decadent male of the late 1800s is defined by his ability to bounce back and forth between the moral high ground of the rich aristocracy and the dirty, criminal underbelly of the city. He gets away with it because Victorian society just blindly assumed that if you were beautiful and came from a good family, you were inherently a good person.

Because of this, Dorian’s narcissism is incredibly active. It’s predatory, almost in a colonial sense. He looks at people, especially vulnerable women like Sybil Vane, as territories that he can conquer, use up, and then throw away. He doesn't even really need to work that hard to manipulate reality because the reality of 1890s London is already completely rigged in his favor. His supernatural painting absorbs all of his sins, which lets him maintain the static, perfect image

of the male ideal: he gets to look stoic, gorgeous, and totally unbothered by the horrific emotional violence he inflicts on others.

On the flip side, Amy Dunne in Gone Girl shows us a very specific, terrifyingly modern strain of female narcissism. Hers isn't about openly conquering the world; it is reactive, relational, and deeply rooted in the performance of submission. Unlike Dorian, who uses his loud, wealthy presence to wield power, Amy wields her power by being incredibly malleable. She looks at the modern male fantasy—the "Cool Girl"—diagnoses exactly what it requires, and then plays the part with the terrifying precision of a method actor. And she does all of this just so she can absolutely destroy her husband when he inevitably fails to Gillian Flynn (2012) uses Amy to completely tear apart the 21st-century "Superwoman" myth. Amy isn't happy just being superior to everyone else; she has to prove she is superior while playing by the suffocating domestic rules society gives women. She has to be the perfect Daughter, the perfect Wife, and eventually, the perfect Victim. Her narcissism is literally a weaponize of the "fragile woman" trope. Amy is incredibly smart; she knows that in a patriarchal society, a "damsel in distress" holds a very specific, dangerous kind of power. A missing, pretty, frightened woman has the power to mobilize the police, dominate the media, and capture the entire public's sympathy.

While Dorian hides his sins to protect his good reputation, Amy actively broadcasts a completely fake victimization to destroy her husband’s reputation. Michelle Arnett (2016) makes a brilliant point about this in her analysis of domestic noir. She argues that the "female sociopath" is so scary exactly because she takes all the traditional signs of female vulnerability—things like pregnancy, the fear of rape, and physical weakness—and turns them into tactical nukes.

If you look at the sheer amount of work Amy does, it's exhausting. She writes fake diaries, perfectly stages crime scenes, and physically alters her own body weight. This proves that for the female narcissist, keeping the "mask" in place requires a relentless, exhausting amount of discipline. Dorian is lazy; as a male narcissist with a magic painting, he never has to try that hard. Amy has to work around the clock. This huge difference between how much effort they have to put in highlights the different things society is afraid of when it comes to men and women. In Wilde’s novel, the horror comes from the fear of the "hidden male self." It’s the terrifying idea that the wealthy, upstanding pillar of your community might secretly be a monster behind closed doors. It exposes the private life of the Victorian man as a place of total rot.

But in Flynn’s novel, the horror comes from the fear of the "unknowable female mind." Nick Dunne’s ultimate terror isn't just that his wife is trying to frame him for murder. It's the sudden, chilling realization that his wife isn't actually a real person. She is just a compilation of cultural scripts that she can rewrite whenever she wants. Amy’s famous "Cool Girl" monologue is basically a master's thesis on performative gender. She points out that women have been brainwashed into mutilating their true personalities just to please men, and her narcissism is the

logical—if absolutely monstrous—end result of that brainwashing. She literally "deleted" her real self so she could become the perfect object. Her blinding rage comes from the fact that turning herself into an object didn't earn her the eternal, obsessive worship she felt she was promised.

Dorian Gray's narcissism is a tragedy of indulgence. He was a man who was handed absolutely everything in the world, and he destroyed it all just for sport. Amy Dunne's narcissism is a tragedy of resentment. She was a woman who did everything "right" according to the social script she was handed, and when the audience finally stopped clapping, she decided to burn the entire theater down.

Even the way they seek out their narcissistic "supply" is completely gendered. Dorian is looking for sensation (Wilde, 1891). He wants new experiences, new sins, and new beautiful things to look at, and he uses people as disposable cups to drink that pleasure from. His narcissism is hungry and pointed out at the world. Amy, however, is looking for control.

Her narcissism is highly domestic and incredibly claustrophobic. She doesn't really care about conquering the world; she just wants to conquer Nick.

She creates a psychological prison inside her own marriage where she gets to play both the warden and the prisoner. She monitors Nick's every single move to make sure he is sticking to the exact character she wrote for him. In a way, this reflects the historical limits placed on women. Even a genius-level sociopath like Amy Dunne is confined to the canvas of the home. She can't go roaming through underground opium dens like Dorian; she has to stage her massive, violent rebellion in the kitchen and the bedroom.

Yet, Flynn suggests that being compressed into that domestic space actually makes the violence so much more potent. By successfully trapping Nick in the marriage at the end of the novel, Amy achieves a victory that Dorian never could: she forces the entire world to accept her lie as the absolute truth. Dorian dies because his private reality finally crashes into his public mask. Amy survives—and honestly thrives—because she manages to flawlessly merge the two together. She proves that in the modern era, the ability to manipulate the narrative is the ultimate survival trait.

When a narcissist feels their control slipping, they don't just get angry; they engage in a chillingly calculated revision of history. This isn't just about lying; it's about "narrative colonization"—completely taking over someone else's story and rewriting it so that the narcissist is the hero or the victim, and everyone else is the villain.

In Gone Girl, we see this reach a terrifying peak with Amy's destruction of the men in her life. Long before she frames Nick, she fabricated a rape charge against her ex-boyfriend, Tommy O'Hara. This wasn't just a random act of cruelty; it was a clinical case study in what psycho-analysts call "malignant narcissism," where a person's aggression is fused with their idealized sense of self. Amy understands that in the court of public opinion, the "perfect victim" holds absolute power. By faking a sexual assault, she didn't just punish Tommy; she rewrote his entire

identity. She turned him into a registered sex offender, effectively "killing" his social existence while keeping him alive as a warning to anyone else who might cross her. This is "retaliatory aggression" at its most extreme—it's not about an apology; it's about total annihilation.

This pattern eventually leads to the murder of Desi Collings. Here, Gillian Flynn takes the old Gothic trope of the "madwoman in the attic" and turns it into the "madwoman in the lake house". Amy's seduction and slaughter of Desi is a masterclass in weaponizing male desire. She transforms herself into the fragile, battered "damsel" because she knows Desi's own narcissism requires a "bird with a broken wing" to save. As many film and literary critics have noted, killing Desi wasn't an act of self-defense; it was an act of "narrative correction". She needed a villain to explain where she had been for weeks, and Desi was cast in that role. The murder is graphic and symbolic—a final assertion of dominance over the "male gaze" Dorian Gray's version of this is less calculated but just as final. When he kills Basil Hallward, it's a moment of terrified, passionate rage. Basil is the one person who truly knows who Dorian was "before" Lord Henry got a hold of him, and he represents Dorian's last tie to a moral conscience. By killing Basil, Dorian is symbolically killing his creator and rejecting the gaze that trapped him in a portrait in the first place. In a world dedicated to pure beauty and pleasure, a moral conscience is an intolerable intrusion, so Dorian obliterates it.

But the narcissist doesn't just kill their enemies; they systematically dismantle the people they supposedly love. This is where the concept of "The Gaslight Effect" comes in. Both Amy and Dorian utilize systemic gaslighting to rewrite the reality of their partners. Nick Dunne describes his life with Amy as "walking on eggshells," which is a common way of describing the constant cortisol flooding and physiological stress that comes with living with a predator. Amy's control is so absolute that she dictates Nick's biological rhythms—when he sleeps, what he eats, and how he looks for the news cameras. He becomes a "hollow man," physically there but completely emptied of his own vitality, corruption beneath Dorian's mask, he physically diminishes. He is described as "pallid" and "withered". This is the physical evidence of the "double bind"—the psychological trap where a victim loves their abuser but is simultaneously terrified of them. The narcissist doesn't just break a heart; they colonize the victim's nervous system.

The only person in these stories who refuses to be gaslightt is Margo Dunne, Nick's sister. In the world of narcissistic family systems, Margo is the "differentiated sibling"—the one who escaped the toxic web that trapped Nick. While Nick is susceptible to Amy's manipulation because he wants to be "cool" and liked, Margo values authenticity over appearance. She is the "Truth Teller" who acts like the chorus in a Greek tragedy, constantly warning Nick that Amy is a killer.

However, the tragedy of the modern narcissistic narrative is that the Truth Teller loses. Margo isn't killed, but she is neutralized by the sheer weight of the lie Amy has constructed. In a postmodern world, "truth" isn't an objective fact anymore; it's just whatever the majority

believes. Since the entire country believes Amy is a hero, Margo's private truth is rendered obsolete. This highlights the evolution of the narcissist's power: the Victorian monster had to kill the witness to keep the secret, but the modern monster just out-spins the witness until the secret doesn't even matter anymore.

The ultimate tragedy of the narcissist is that they eventually become trapped by their own success. They spend their entire lives constructing a narrative of perfection, only to find that they have built a prison with no exit. In the final stages of both The Picture of Dorian Gray and Gone Girl, we see the "Reality Principle" finally reassert itself, though the results are very different depending on the era.

In the Victorian world of Dorian Gray, the narrative structure demanded a restoration of moral order. A sinner as great as Dorian simply could not be allowed to survive. His death is a violent collision between his public mask and his private truth. For years, he successfully managed to keep his youth and his sins in two different "containers," but that separation was always chemically unstable. When Dorian finally reaches his breaking point and tries to destroy the evidence of his soul by stabbing the portrait, he inadvertently kills himself.

The ending serves as a brutal warning: the mask will eventually eat the face. In a terrifying supernatural reversal, Dorian's body assumes the withered, loathsome form of his true, sinful self, while the portrait reverts to its original, innocent beauty. As Camille Paglia (1990) suggests, the decadent male is ultimately consumed by the very artifice he used to protect himself. Dorian dies because he cannot live as a whole human being; he can only exist as a fragmented image, and once those fragments are forced back together, the result is fatal.

However, Gone Girl offers no such moral comfort. In the postmodern landscape of 21st-century America, the mask doesn't just survive—it wins. Amy Dunne does not face a supernatural reckoning or a divine punishment. Instead, she returns to Nick covered in Desi Collings' blood, utilizing the ultimate "physical manifestation" of her narrative triumph to force Nick into a new, monstrous version of "normal."

As scholars have noted, Amy's victory signifies a terrifying shift in our culture: we have moved from a society that fears the "hidden sin" to a culture that rewards the "perfect performance." There is no justice for Nick, and there is no peace for the victims. There is only a book deal, a pregnancy, and the chilling reality that the best liar holds the most power ultimate subversion of a happy ending. It is a state of "mutual parasitism," where the victim finally stops fighting and accepts his role as a host for the predator. Nick realizes he has become addicted to the high-stakes drama Amy provides, proving that the narcissist's charisma is powerful enough to override even the most basic survival instincts because they act out the dark fantasies, we are usually forced to repress. We envy their freedom from guilt, even as we are disgusted by their cruelty. These novels serve as dark mirrors, reflecting the specific anxieties of their times—whether it's

the fear of the rotten soul behind a Victorian cravat or the fear of the empty void behind a suburban wife's smile.

By tracing the lineage of the literary narcissist from the 19th-century attic to the 21st century newsfeed, we see that the fundamental goal hasn't changed: to be seen, to be adored, and to live forever, no matter who has to be destroyed in the process. The tragedy is not just that people like Dorian and Amy exist, but that we are building a society where their pathology is no longer viewed as a disorder, but as a legitimate strategy for success.

Conclusion: From the Hidden Portrait to the Public Narrative

The comparison between The Picture of Dorian Gray and Gone Girl demonstrates that the conflict between public image and private conduct is central to both novels. Dorian Gray and Amy Dunne maintain carefully constructed identities that allow them to receive admiration while concealing the harm they cause. Their masks are not simply disguises worn by isolated individuals; they are sustained by social environments that prize beauty, status, charm, or a persuasive account of victim-hood over sustained moral scrutiny.

In Wilde's novel, the mask depends on the separation between Dorian's unchanging appearance and the portrait that records his moral deterioration. His beauty allows him to remain welcome in society despite rumours and destructive behaviour. The portrait, however, preserves the evidence that his face conceals. By hiding it in a locked room, Dorian attempts to separate his public life from the consequences of his private actions. The ending overturns that division: the destruction of the portrait brings the truth back to the surface and exposes the impossibility of escaping responsibility indefinitely.

Flynn's novel relocates this conflict from the Gothic portrait to the media landscape. Amy's public identity is built through stories: the fictional "Amazing Amy" created by her parents, the adaptable "Cool Girl" persona, and the fabricated diary that frames Nick as an abusive husband. She understands that audiences often rely on familiar narratives to interpret complex events. By presenting herself as the ideal victim, she makes the public's assumptions part of her strategy.

Unlike Dorian, Amy does not need to hide every trace of wrongdoing in a private room. She works to control the interpretation of the evidence and to ensure that the public story remains favourable to her.

The protagonists' origins reveal another important parallel. Dorian is shaped by Basil's idealizing art and Lord Henry's celebration of sensation and self-interest. Amy grows up under the pressure of the "Amazing Amy" books, in which her fictional counterpart repeatedly outperforms her real self. In both cases, other people help establish an ideal that becomes more important than ordinary human feeling. These influences do not remove the protagonists' responsibility for their actions, but they show how narcissistic performance can be encouraged by relationships and institutions that reward appearance and exceptionalism.

The novels also emphasize the cost paid by people who become supporting figures in the protagonists' stories. Sybil Vane is rejected when she no longer fulfils Dorian's idealized expectations; Basil is killed when he confronts the truth behind the portrait. In Gone Girl, Nick is framed, publicly condemned, and finally trapped in a marriage whose public image he cannot safely contradict. Their experiences differ, but both novels expose the cruelty of treating another person as an accessory to one's own identity. The victims' suffering becomes evidence of the human cost hidden beneath the polished mask.

The role of the audience is crucial. Victorian society protects Dorian because his beauty, wealth, and social position make it convenient to ignore disturbing rumours. In Flynn's novel, the public and the media consume Amy's disappearance as a dramatic story with recognizable roles: the innocent missing woman and the suspicious husband. The two audiences behave differently—one prefers discretion, the other spectacle—but both help preserve a false image. The novels therefore direct criticism beyond individual deceit toward the cultural habits that make deception profitable or socially comfortable.

The main difference lies in the endings. Dorian's attempt to destroy the portrait ends in his own death and the restoration of visible evidence. His story retains a Gothic and moral structure in which concealed corruption eventually becomes undeniable. Amy, by contrast, survives because the narrative she has created remains more powerful than the truth available to challenge it. Her victory is disturbing precisely because it offers no reassuring restoration of justice. Nick's continued entrapment shows that control of public perception can become a form of power over another person's life.

Taken together, the novels suggest that the narcissistic mask has changed with its cultural setting, but its basic function remains stable. Dorian uses beauty, privilege, and concealment; Amy uses branding, gendered expectations, and narrative control. The portrait in Wilde's novel is a hidden record of wrongdoing, whereas in Flynn's novel the public narrative becomes a contested space in which evidence can be reinterpreted or displaced. The movement from the locked attic to the news cycle marks a shift from hiding the truth to managing what the public will accept as truth.

The comparison does not imply that every public persona is false or that every desire for admiration constitutes narcissism. Rather, it shows the danger that arises when appearance becomes a substitute for ethical conduct and other people are valued only for their usefulness to the self. Both novels invite readers to question their own readiness to admire a beautiful image or accept a compelling story without examining its consequences. The "Public Saint" survives when audiences stop asking what the mask conceals. By exposing that complicity, Wilde and Flynn make the reader not merely a spectator of deception but a participant responsible for questioning the stories that society rewards.

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Transforming Society, Business and Management: New Ideas and Insights
(ISBN: 978-81-69967-23-5)

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Bhumi Publishing

Bhumi Publishing,
Kolhapur, Maharashtra, India
bhumipublishing@gmail.com
www.bhumipublishing.com

ISBN 978-81-69967-23-5
9 788169 967235