



Human Society in Transition: Emerging Social Trends and Their Broader Implications

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Abstract

Human society is undergoing rapid transformation driven by digitalization, economic restructuring, environmental pressures, institutional change, and evolving patterns of communication and behavior. This review examines the major social trends shaping contemporary societies and evaluates their broader implications for human relationships, inequality, institutional development, sustainability, and social participation. The reviewed literature highlights the growing influence of digital technologies, Society 5.0, automation, changing labor structures, social media, digital inequality, and social-ecological transition. Particular attention is given to the uneven distribution of opportunities and risks across different social groups, especially vulnerable and digitally disadvantaged populations. The review also considers the importance of human-centered development, institutional responsiveness, social cohesion, and just transition approaches in managing societal change. Evidence indicates that technological, economic, environmental, and social transitions are closely interconnected and should not be examined in isolation. Inclusive participation, equitable access to resources, stronger institutional support, and attention to human well-being are essential for ensuring that transformation contributes to sustainable and socially balanced development. The review concludes that future research should adopt more integrated and comparative approaches to understand how multiple transitions interact and how their effects vary across social and regional contexts.

Keywords: Social transformation; Digitalization; Social inequality; Institutional change; Sustainability

1. Introduction

Technological innovations, ecological stress, economic shifts, institutional shifts and changes in social relationships, are changing human societies to an unprecedented degree (Hölscher et al., 2018; Carmel et al., 2023). Social change has always taken place because of changes in the culture, in economic system, in collective behavior, but this is the time in which nothing can happen in isolation and the transformations occur with great speed. Modern shifts affect the ways people do their work, communicate, access their communities, get knowledge, and interact with institutions. Carmel (2023) conceptualized the evolution of human society in terms of evolutionary transitions, highlighting that significant shifts in the nature of cooperation, organization and collective functioning can occur. Thus, societal transition can be considered a multi-dimensional process of technological, cultural, economic, political and behavioral change.

Today, digitalization is one of the most powerful drivers of the contemporary social structures and everyday life (Knell, 2021; Hahn, 2021). Digital technologies have revolutionised the ways in which people communicate, work, learn, and access public services, and enabled greater networking in ways of social organisation. The transition from Industry 4.0 to Society 5.0 has reinforced the need for advanced technologies to be combined with the development of society from a humanistic perspective (Mourtzis et al., 2022). In addition, Carayannis and Morawska-Jancelewicz (2022) highlighted that the future of universities and knowledge institutions could change under the influence of Society 5.0 and Industry 5.0. The technological transition can be seen as linked to human agency and institutional responsibility, to social participation and to the organisation of future societies.

There are still unequal impacts of digital transformation across populations and regions (Lythreathis et al., 2022; Tewathia et al., 2020). Digital divides are no longer just about access and skills; they are also about opportunity and ability to benefit from digital systems, and meaningful use. Liao et al. (2022) found that the landscape of digital inequalities has shifted over time as a result of the changing technological contexts, and Zheng and Walsham (2021) highlighted the link between digital inequalities and broader social inequalities. Vulnerable groups may then benefit from the digital transformation in another way than the socially privileged, particularly when infrastructure, education, income and digital skills are not available (Espinosa Zárate et al., 2023). These inequalities highlight issues of participation and inclusion, social mobility and access to new opportunities.

The shifting communication contexts are also impacting social relations, public deliberation and collective action (Arora et al., 2022). Social media has opened up more opportunities for information sharing and for expressing an identity, for community formation and for public engagement, and has also been a factor in polarization and in fragmented interactions. The reaction of people to the big changes also demonstrate the rapidity with which both social norms and daily practices can shift. During the transition to the Coronavirus Disease 2019 (COVID-19) era, Habersaat et al. (2020) pointed out the significance of behavioral and social factors, and Baran and AlZoubi (2020) demonstrated that this shift in education quickly moved into a virtual setting using human-centered approaches. The progress of these developments shows that social transitions have a structural impact as well as having an impact on day-to-day human activity.

Another significant aspect of social change in the contemporary world is environmental and economic transitions (Allen & Malekpour, 2023; Newell, 2021). The transition to sustainable development, low-carbon economy and new energy systems present implications that go beyond just environmental management. The idea of a just transition draws attention to fairness, participation, employment, living standards and the inequities of costs and benefits of transition (Heffron, 2022; Fu & Zimm, 2024). Steg et al. (2021) stated that energy transitions also need to be addressed with regard to public behaviour, social acceptance, institutions and distributive aspects. Social-ecological transformation thus offers new opportunities to sustainable development and new questions with respect to equity, power, economic restructuring and community adaptation.

Previous studies have focused on digital transformation, inequality, sustainability, human transformation, and socio-cultural change, with the studies in each of these areas being isolated from each other. This leaves a shortage of knowledge about the interplay of technological, economic, environmental, behavioral and institutional changes, and the impact they have on society together. The evidence is also not consistent throughout regions and the experience of vulnerable populations and developing societies is not represented as consistently. This review seeks to synthesise these interrelated fields, to delineate the key social trends shaping societies in transition, to explore how these trends affect human relationships, inequality, institutions, development and sustainability, and to identify important avenues for further research.

2. Foundations and Perspectives on Societal Change

Societal change refers to changes in institutions, values, technologies, economic structures and patterns of social interaction (Hölscher et al., 2018; Carmel et al., 2023). Transition typically refers to the transition from one social situation to another, while transformation refers to the transformation of systems, practices, and relationships (Hölscher et al., 2018). In modern societies, both happen at the same time as technology advances, the environment changes, the economy is restructured, and institutions are adapted.

Other approaches to human societal development are by evolutionary, digital, political-economic and human-

centered dimensions (Carmel, 2023; Knell, 2021). The socio-cultural evolution approach underlines the evolution of cooperation and collective organization, while the digital and Society 5.0 approaches focus on the increasing embedding of technology in the social and institutional life of society (Mourtzis et al., 2022; Carayannis & Morawska-Jancelewicz, 2022). Social-ecological and just transition approaches build on this concept by incorporating aspects of society and sustainability, equity, participation, and institutional responsibility. Table 1 shows the key views of society that have been offered to explain this change and their general implications for society.

Table 1. Major Perspectives on Societal Change and Their Social Implications

Perspective	Core Focus	Main Drivers of Change	Societal Implications	Supporting References
Transition and transformation perspective	Movement between social systems and deeper restructuring of institutions and practices	Technological change, institutional reform, environmental pressures, economic restructuring	Changes in governance, social organization, behavior, and institutions	Hölscher et al. (2018); Allen & Malekpour (2023)
Evolutionary and socio-cultural perspective	Development of cooperation, collective organization, and social behavior	Cultural evolution, social learning, institutional development	Changes in social coordination, identity, collective action, and integration	Carmel (2023); Carmel et al. (2023)
Digital society perspective	Restructuring of social life through digital technologies and networks	Digitalization, automation, connectivity, information systems	Changes in communication, employment, education, and participation	Knell (2021); Hahn (2021)
Society 5.0 and human-centered perspective	Integration of technological advancement with social needs and human well-being	Artificial intelligence, automation, digital innovation	Human-centered services, institutional modernization, and changing social roles	Mourtzis et al. (2022); Carayannis & Morawska-Jancelewicz (2022)
Political-economic perspective	Changes in economic systems, labor, institutions, and power relations	Globalization, automation, policy reform, market restructuring	Shifts in employment, inequality, resources, and institutional power	Newell (2021); Novy (2022); Nagano (2018)
Social-ecological perspective	Connection between social development and environmental transformation	Climate pressures, energy transition, sustainability policies	Changes in production, consumption, mobility, and community adaptation	Steg et al. (2021); Huang & Zhai (2021)
Just transition perspective	Equitable management of structural and environmental change	Climate policy, economic restructuring, energy transition	Greater attention to inclusion, participation, employment, and social protection	Heffron (2022); Fu & Zimm (2024)
Knowledge and human capital perspective	Changes in skills, education, knowledge production, and workforce capabilities	Knowledge economy, technological innovation, changing labor demands	New skill requirements, educational priorities, and institutional responsibilities	Pylypenko et al. (2021); Carayannis & Morawska-Jancelewicz (2022)

These visions suggest that societal change is not driven by a single actor, but comes about through the interplay of technological, cultural, economic, institutional and environmental developments. Together, both their use can be a valuable starting point in scrutinizing the impact of the modern transitions on social relations, inequality, institutions, sustainability and everyday human experiences.

3. Digitalization and the Transformation of Social Life

One of the most apparent facets of today's societal transition is digitalization which affects institutions, relationships, communication, and daily life (Travkina 2022; Knell 2021). Emerging automated systems,

digital platforms, artificial intelligence and networked technologies have introduced new modes of interaction among people and institutions and altered the way that education, work, public services, and information systems work. The digital transformation also impacts on participation, access, autonomy and social life organization, and is thus an important part of the changes in society. As shown in Figure 1, the interaction between technological driving forces and changes in social institutions and everyday life is expressed.

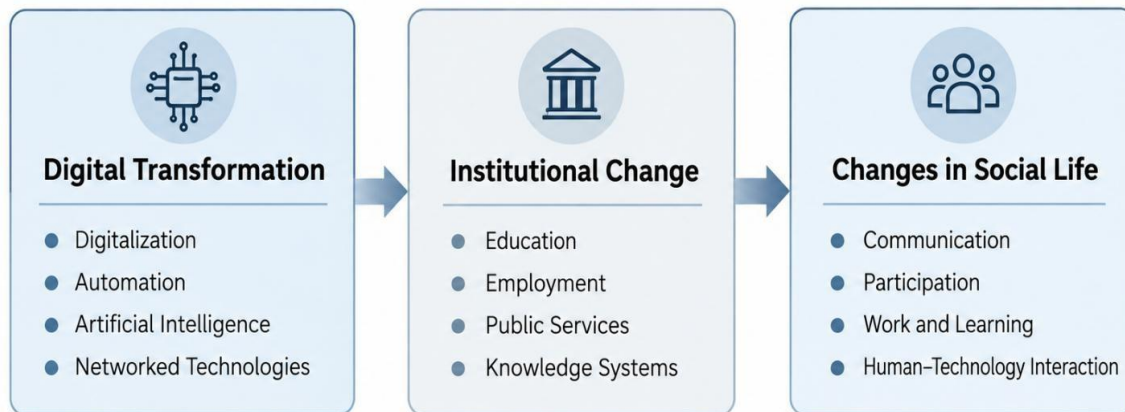


Figure 1. Pathways Through Which Digital Transformation Reshapes Social Life

The figure below shows how digital transformation is not just about technology, but also has an impact on institutional structures and social practices. Education, employment, public services, and knowledge systems are changing, which has the potential to slowly shape communication, participation, work, and human–technology interaction. The above pathways form the foundation to comprehend the movement from digital modernity to more humanistic socio-cultural models such as Society 5.0.

3.1 From Digital Modernity to Society 5.0

Digitalization has been a transformative force in today's social changes, impacting communication, work, learning, information retrieval and relationships with institutions (Travkina, 2022; Knell, 2021). This is not merely a process of technology transfer, but a shift towards a digital modernity, which also signals changes in social organisation. Davidson and Rees-Mogg (2020) connected the information age to variations in autonomy, economic organisation, and institutional power; Gladden (2019) analysed the possible transformation of human identity and social membership in the context of Society 5.0.

The transition from Industry 4.0 to Industry 5.0 and Society 5.0 highlights the importance of human-centered technological development even further (Golovianko et al., 2023; Mahiri et al., 2023). Whereas, Industry 5.0 focuses more on the cooperation between man and high technology, Society 5.0 expands that concept to the social aspects. Mahiri et al. (2023) identified the transition of humancentricity and collaborative hybrid intelligence, emphasizing the need for meaningful human involvement in increasingly automated settings.

3.2 Transformation of Institutions and Everyday Practices

The drivers of digital transformation have impacted the fields of education, employment, public services, and knowledge production (Baran & AlZoubi, 2020; Carayannis & Morawska-Jancelewicz, 2022). Digital platforms are becoming more prominent in educational institutions, and automation, remote communication and digitally-mediated collaboration are increasingly becoming a part of the world of work. During the Coronavirus Disease 2019 (COVID-19) outbreak, education institutions have shown how they can adapt and change existing practices in a short timeframe without losing the human-centred approach (Baran & AlZoubi, 2020).

There are also shifts in participation and access to social opportunities due to digital systems, but this adaptation is not uniform (Uzule & Verina, 2023). Small size of infrastructure, lack of digital skills, organization resistance and unequal resources can diminish the effects of technological change. Social digitalization relies, however, on both the technological availability and individual and institutional ability to be effective in new digital environments.

3.3 Emerging Social Consequences of Digital Transformation

With the growing prevalence of digitally mediated spaces, new relationships are emerging between people, organizations, and technological systems (Gladden, 2019; Travkina, 2022). More connectivity can help facilitate access to information, services, education, and social networks, as well as the reliance on digital platforms and automated systems. Human-centred technological models aim to achieve the balance between technological efficiency and human autonomy, participation and social well-being. This change thus has social implications depending on the extent to which digital systems are accessible, inclusive, and responsive to

various human needs.

4. Social Inequality and the Digital Divide

While the opportunities of digitalisation have increased the access to information, education, services and economic opportunities, these opportunities are not equally distributed across social groups (Lythreathis et al., 2022; Liao et al., 2022). The digital divide is no longer only in terms of access to the internet, but also in terms of digital skills, quality of internet connectivity, technology use and ability to gain meaningful social and economic value from digital participation. Tewathia et al. (2020) demonstrated that digital inequalities can exacerbate social and socioeconomic inequalities, such as those that may exist between socioeconomic status and access to technological resources. The differences create digital inequality, which is a significant aspect of social exclusion.

The transition to the digital era can be a time of double and triple disadvantage for vulnerable populations (Espinosa Zárate et al., 2023; Zheng & Walsham, 2021). An intersectional approach reveals that inequalities connected to these factors—including income, gender, place, education, age, and social status—can interact to impact digital participation. There are other challenges that could hinder their use in rural communities, such as infrastructure and digital literacy, and socially disadvantaged groups might not have the skills or institutional mechanisms to access new technologies (Lu et al., 2025). As a result, O'Sullivan et al. (2021) highlighted the need to address the mismatch in the digital world to secure sustainable and inclusive social development from the transformation of technologies. The main dimensions, causes, and social impacts of digital inequality are summarised below in Table 2.

Table 2. Major Dimensions and Social Consequences of the Digital Divide

Dimension of Inequality	Main Contributing Factors	Groups Commonly Affected	Social Consequences	Supporting References
Access inequality	Limited infrastructure, high costs, weak connectivity, geographic isolation	Rural populations, low-income households, remote communities	Restricted access to education, services, information, and economic opportunities	Lythreathis et al. (2022); Tewathia et al. (2020)
Skills inequality	Limited digital literacy, inadequate education, lack of training	Older adults, disadvantaged groups, low-skilled populations	Reduced ability to use digital tools effectively and safely	Liao et al. (2022); Lu et al. (2025)
Usage inequality	Differences in the quality and purpose of technology use	Socioeconomically disadvantaged and less educated groups	Unequal ability to convert access into social, educational, or economic benefits	Lythreathis et al. (2022); Zheng & Walsham (2021)
Socioeconomic inequality	Income differences, employment status, education, and resource availability	Low-income households and marginalized populations	Reinforcement of existing social and economic disparities	Tewathia et al. (2020); Zheng & Walsham (2021)
Geographic inequality	Rural–urban differences, uneven infrastructure, limited institutional support	Rural and geographically isolated communities	Reduced connectivity, restricted participation, and fewer development opportunities	Lu et al. (2025); Espinosa Zárate et al. (2023)
Intersectional inequality	Combined effects of gender, class, age, location, and social position	Vulnerable and marginalized populations	Multiple forms of exclusion and unequal participation in digital society	Zheng & Walsham (2021); Espinosa Zárate et al. (2023)
Institutional inequality	Uneven public services, weak digital policies, inadequate support mechanisms	Communities with limited institutional resources	Unequal access to digital public services and participation opportunities	O'Sullivan et al. (2021); Uzule & Verina (2023)
Benefit inequality	Differences in the ability to translate digital access into meaningful outcomes	Groups with limited skills, capital, or social support	Unequal gains in employment, education, mobility, and social participation	Lythreathis et al. (2022); O'Sullivan et al. (2021)

Digital inequality is thus much more than access to technology and is closely related to broader structural, institutional and unequal opportunities. Infrastructure, affordability, education, digital literacy and policy design for technological transition must all be addressed to work towards mitigating these disparities, ensuring that no new or additional form of disadvantage is created.

5. Changing Human Relationships, Communication, and Social Behaviour

5.1 Digital Communication and Social Interaction

As a result of digital communication, the way people connect with one another, share information, develop identity and engage in public life has transformed (Arora et al., 2022; Knell, 2021). Social media and networked platforms open up new possibilities for interacting across regions and establish new relationships between people, communities and institutions. These changes have increased opportunities for participation, and they have altered what is expected in terms of immediacy, accessibility and visibility in social interaction.

While in-person communication is still part of social coordination, the balance has shifted between in-person and mediated communication due to technological change (Kendrick et al., 2023; Hahn, 2021). Mutual understanding is facilitated by verbal and non-verbal communication (gaze, gestures, timing and turn-taking); digital environments can alter or lessen some of these cues. This can affect the perception of messages, trust-building, and relationships.

5.2 Social Media, Polarisation, and Collective Behaviour

Social media can be used to foster connection and public participation, but can also help to fragment discourse and polarise (Arora et al., 2022). Online spaces can foster discussion and action on shared issues, and filtering and selection can deepen social and political polarisation. These processes can shape the overall attitude and the quality of public discussion.

Social behaviour can also change very rapidly in times of disruption, as shown in this study (Habersaat et al., 2020). The COVID-19 pandemic changed the way people communicate, travel, learn, work, and interact with each other and has demonstrated how social behavior is influenced by institutional rules, perceived risk, technologies available, and changing expectations.

5.3 Emerging Consequences for Social Relationships

Digital technologies are increasingly becoming a part of daily life, which has a positive and negative impact on relationships (Gladden, 2019; Travkina, 2022). Being more connected can enhance communication and access to larger social networks, but continued dependence on digital technologies can impact privacy, autonomy, identity and interpersonal interactions. Human-centred technological developments thus need to consider both positive and negative aspects of digital communication.

Figure 2 illustrates the primary pathways connecting communication change and individual and collective social outcomes.

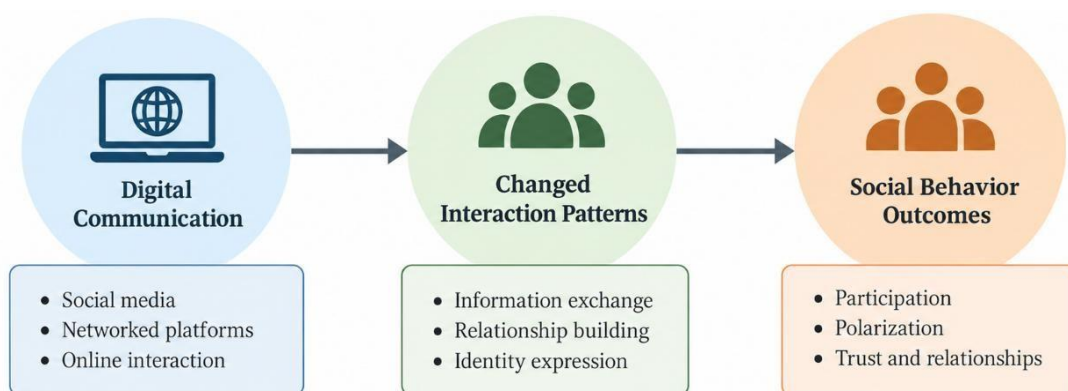


Figure 2. Communication Change and Its Influence on Social Behaviour

The above figure shows how communication systems can modify individual interaction and the social behaviour of groups. Digital communication can reinforce feelings of connection and engagement, as well as polarisation and trust, and alter relationship patterns.

6. Economic, Institutional, and Human Capital Transformation

In recent years, economic and institutional change has been closely related to technological development, automation, and the growth of knowledge-based activities (Nagano, 2018; Pylypenko et al., 2021). The digital economies have transformed the demand for work, organisations, and the nature of the skills demanded by

people in various industries. Automation has the potential to enhance productivity and create new jobs, but it also raises the threat of job loss, job restructuring and inequity in the distribution of new jobs. These changes are adding pressure to education systems, employers and governments to facilitate lifelong learning and adaptation of the workforce.

In the context of creating human capital, a flexible approach to learning and work is increasingly defined by the acquisition of new skills that require digital competency, as well as the ability to adapt to and participate in changing technological environments (Pylypenko et al., 2021; Carayannis & Morawska-Jancelewicz, 2022). The universities and other knowledge institutions are therefore evolving from the traditional role of teaching towards other roles in innovation, skills training, and social adaptation. The adoption of Industry 5.0 further validates this trend by highlighting the need to leverage collaboration between human capabilities and intelligent systems instead of relying on full technological replacement (Mahiri et al., 2023; Golovianko et al., 2023). These shifts indicate that future labour systems will require creativity, adaptability, problem-solving skills, and social cooperation, in addition to technical proficiency.

Institutional change is also a process of shift in governance, economic structure, and power sharing in society (Davidson & Rees-Mogg, 2020; Newell, 2021). Digital technologies have the potential to change relationships between individual participants, markets and institutions through faster information flow, new ways of participating in the economy and decentralised interaction. Economic transitions can also change the power dynamic between governments, corporations, workers and communities. Newell (2021) noted that political and economic interests greatly influence structural transitions, which he highlighted, as the changes to institutions are not neutral and can have competing priorities and unequal influence. The main characteristics of economic, institutional and human capital transformation are outlined in Table 3.

Table 3. Key Dimensions of Economic, Institutional, and Human Capital Transformation

Dimension	Main Drivers	Major Changes	Social Implications	Supporting References
Labour market transformation	Automation, digitalisation, changing production systems	Changing job roles, new occupations, displacement of some routine tasks	Greater need for reskilling, adaptation, and employment protection	Nagano (2018); Mahiri et al. (2023)
Human capital development	Knowledge economy, technological change, lifelong learning	Increased demand for digital, analytical, and adaptive skills	Greater importance of education, training, and continuous skill development	Pylypenko et al. (2021); Carayannis & Morawska-Jancelewicz (2022)
Institutional modernization	Digital systems, policy reform, innovation	More flexible, data-driven, and interconnected institutions	Changes in service delivery, participation, and institutional responsibility	Carayannis & Morawska-Jancelewicz (2022); Davidson & Rees-Mogg (2020)
Human–technology collaboration	Industry 5.0, artificial intelligence, automation	Increased cooperation between workers and intelligent systems	New workplace roles, changing responsibilities, and greater emphasis on human-centred design	Golovianko et al. (2023); Mahiri et al. (2023)
Economic restructuring	Globalisation, technological change, market transformation	Shifts in production, investment, employment, and competitiveness	Unequal distribution of benefits and risks across groups and regions	Newell (2021); Nagano (2018)
Knowledge institutions	Research, innovation, digital education, social demand	Expansion of universities' roles beyond teaching	Stronger links between education, innovation, society, and economic development	Carayannis & Morawska-Jancelewicz (2022); Pylypenko et al. (2021)
Institutional power and governance	Economic transition, policy change, technological concentration	Reorganisation of authority and decision-making	Potential changes in accountability, influence, and social participation	Newell (2021); Davidson & Rees-Mogg (2020)

Economic and institutional change thus go beyond changes in production and in employment. It also changes education, governmental authority, organisational responsibility, and the relationship between people and institutions. The social impacts are shaped by the ability of societies to increase access to skills, to support vulnerable and displaced workers, as well as to keep institutions flexible and responsive to evolving human needs.

7. Social-Ecological Transition, Sustainability, and Justice

7.1 Sustainability and Social Transformation

As energy systems, production, transportation, and resource utilisation change, communities, institutions, and everyday life patterns are also impacted (Allen & Malekpour, 2023; Huang & Zhai, 2021). Technological improvement is not enough to create sustainable development, and behavioural, governance, economic and public participation changes have to be achieved. Bogdanov et al. (2019) demonstrated that the process of energy transformation can be achieved in a gradual and evolutionary manner, and Wang et al. (2025) found that energy transition is interconnected with environmental sustainability, trade openness and natural resource conditions on a global scale. These results suggest that social-ecological change is influenced not only by environmental objectives but also by the overarching economic systems in which environmental objectives are being achieved.

Human and behavioural aspects are also important in connection with the energy transition (Steg et al. 2021; Ghofrani et al. 2021). The success of environmental policies can depend on public acceptance, lifestyle choices, institutional trust and the ability of households and communities to adapt. Ghofrani et al. (2021) stressed the significance of human-building interactions and social conditions in societies undergoing energy transition, and Lu et al. (2025) showed that digital literacy has a significant impact on energy change in the rural household sector. This kind of evidence emphasises that sustainability is a human endeavour as well as a technical tweak at the end of the day and that people, institutions and social capabilities must be involved in the process.

7.2 Justice and Equity in Transition

Just transition has social equity as its point of departure for environmental and economic transformation (Heffron, 2022; Fu & Zimm, 2024). Disadvantaged groups can suffer disproportionately when employment reductions, increasing costs, infrastructure changes or decreased access to new services are the result of transition policies. Participation, social protection, decent living conditions and fair distribution of benefits and burdens are all key aspects of a just transition. In transport, Fu and Zimm (2024) showed how mobility is closely linked to having access to basic living conditions and being fairly involved in low-carbon transitions.

Other transition routes also bring up issues regarding growth, consumption and social priorities (Vandeventer et al., 2019; Aiking & de Boer, 2020). The perspectives of degrowth question the possibility of perpetual economic growth being at the same time ecologically sustainable, and the food system transition provides an example of how shifts in food systems can influence health, environment, and social practices. Next, Buijtenlijk et al. (2018) demonstrated that collaborative co-production of organisations and stakeholders could be a precondition for sustainability transitions. These approaches move beyond environmental goals to the social organisation of production, consumption and collective responsibility. Figure 3 shows how the ecological pressures and policy responses are linked to social participation and justice.

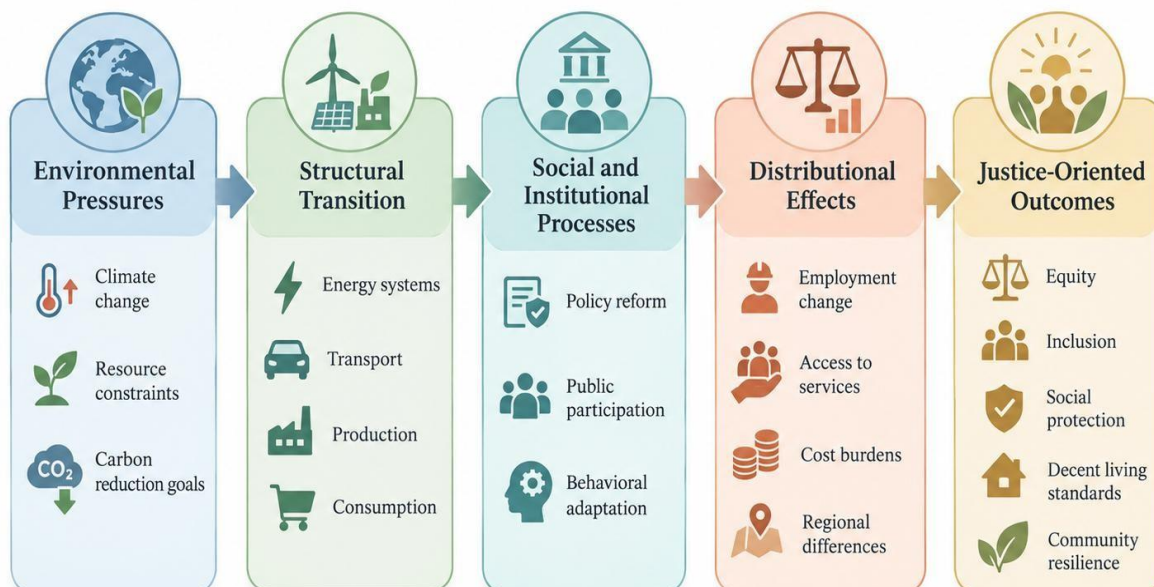


Figure 3. Social Pathways of Sustainability and Just Transition

The figure above indicates that sustainability transitions require environmental and structural transformation, as well as social engagement, institutional response and distributional impacts. Equity, inclusion, social protection and community resilience are essential to see justice-oriented outcomes as part of the transition process.

7.3 Broader Social Significance

Social-ecological transitions can influence economic priorities, institutional responsibilities, and the economic relationship to human well-being (Newell, 2021; Novy, 2022). The political economy of transition affects the distribution of access to resources, decision-making authority, and new opportunities, as well as higher transition costs for others. Sustainable transformation thus needs a focus on power as well as environmental performance. Social justice can be integrated with ecological goals to help ensure that transition strategies are not only environmentally less risky, but also inclusive and strengthen long-term societal resilience through better social inclusion and participation.

8. Broader Implications for Human Society

Modern transformations in society are yielding a complex set of impacts on social structure, personal choices, institutional power and community health and wellbeing (Carmel, 2023; Travkina, 2022). Digitalisation, environmental transformation, economic restructuring and changing communication systems are increasingly shaping the daily lives of participants in society and the reaction of institutions to new needs. These developments offer prospects for greater access to knowledge, greater flexibility in services, and new forms of participation, and raise issues of exclusion, dependence on technology, unequal adaptation, and new power relations.

Technological systems are increasingly playing a major part in daily decision-making and institutional processes, making autonomy and social participation increasingly relevant in the perspectives of human beings (Gladden, 2019; Wang et al., 2024). Adopting automated environments can enhance efficiency and safety, but it may also lead to a balance between reliance on technology and a loss of human control. Wang et al. (2024) showed, for instance, that automation of driving is a measurable human-machine trade-off, while also having potential safety benefits. These changes suggest a future social system that will require a meaningful human presence but increasingly sophisticated technological systems.

However, the ability of governments, organisations, and communities to fairly and transparently manage rapid change can also impact institutional trust and social cohesion (Alexander, 2022; Habersaat et al., 2020). Social disruption can undermine existing relationships and trigger uncertainty, with inclusive institutional responses triggering cooperation and adaptation. Alexander (2022) demonstrated the broader role that civil repair and cultural processes have played in the reconstruction of social relations after conflict, and the importance of the role of institutions in maintaining social cohesion during transitional periods.

Economic and scientific growth also pose questions on how societies allocate their resources and what constitutes public value (Vuong, 2018; Newell, 2021). Vuong (2018) emphasised the need to take the costs of scientific activity in transition economies into account, while the political-economic approach revealed that the transition process brings with it an uneven distribution of opportunities and burdens. These concerns highlight the importance of considering societal transition beyond the concepts of innovation and growth, but also in relation to issues of equity and accountability, participation and human development. The following is a summary of the main implications of today's societal transition (Table 4).

Table 4. Broader Implications of Contemporary Societal Transition

Area of Society	Emerging Changes	Potential Opportunities	Major Social Concerns	Supporting References
Social relationships	Greater digital interaction and changing communication norms	Wider connectivity, community formation, faster information exchange	Polarisation, fragmented interaction, weakening of direct social cues	Arora et al. (2022); Kendrick et al. (2023)
Human autonomy	Growing use of automated and intelligent systems	Improved efficiency, convenience, and safety	Dependence on technology and reduced human control	Gladden (2019); Wang et al. (2024)
Social inclusion	Expansion of digital services and participation	Improved access to education, information, and opportunities	Persistent exclusion of digitally disadvantaged groups	O'Sullivan et al. (2021); Espinosa Zárate et al. (2023)
Institutions	Greater reliance on digital governance and adaptive structures	Faster service delivery and institutional flexibility	Trust, transparency, accountability, and unequal institutional capacity	Habersaat et al. (2020); Carayannis & Morawska-Jancelewicz (2022)

Social cohesion	Changing identities, networks, and collective relationships	New forms of cooperation and community building	Social fragmentation and weakened solidarity	Alexander (2022); Carmel et al. (2023)
Economic life	Automation and restructuring of labor and production	New occupations, increased productivity, and knowledge-based growth	Job displacement, unequal gains, and skill gaps	Nagano (2018); Pylypenko et al. (2021)
Sustainability	Shift toward lower-carbon and resource-conscious systems	Improved environmental performance and long-term resilience	Unequal transition costs and regional disparities	Allen & Malekpour (2023); Wang et al. (2025)
Public participation	Greater access to digital communication and information	Expanded civic engagement and collective action	Misinformation, polarization, and unequal participation	Arora et al. (2022); Knell (2021)
Knowledge and science	Increasing importance of research and technological innovation	Greater capacity for social and economic development	Unequal research resources and questions of public value	Vuong (2018); Carayannis & Morawska-Jancelewicz (2022)
Future social organization	Increasing integration of human and technological systems	More responsive and human-centered social systems	Ethical concerns, technological dependence, and changing social roles	Gladden (2019); Mourtzis et al. (2022)

These more general implications of social transition thus go beyond the concerns of a single sector and impact society as a whole. The trajectory for future change will depend on the success of societies in achieving a balance between technological development and human autonomy, economic development and social equity, and institutional innovation and participation and trust. These connections need to be taken into account if we are to ensure that social change is not reinforcing inequalities, but is instead promoting inclusion, resilience and wellbeing for people.

9. Limitations and Future Directions

The review covers a wide range of technological, economic, environmental, institutional, and social transitions, but the evidence is not always directly comparable across studies. Regional variation in context, methodology, approach, and terminology in disciplines, as well as different research design, can impact the interpretation and measurement of societal change (Lythreath et al., 2022; Espinosa Zárate et al., 2023). A number of studies are also specific to certain sectors or populations, and it is possible that the results of such studies cannot be extrapolated to other social settings. Another constraint is the ongoing and quick evolution of digital systems, labor organization, communication flows and sustainability policies. Certain results might thus be related to specific transitional periods, rather than long-term social patterns. Differential attention is also given to developing regions, vulnerable groups and communities, particularly those with fewer institutional or technological resources, leaving spaces of unequal representation for a variety of social experiences.

Future studies should be conducted following more holistic frameworks that focus on the interdependence of technological, economic, environmental, institutional and cultural change instead of looking at them as different 'fields of transition'. Longitudinal and cross-national studies would be especially helpful to determine how the changes in society over time are experienced and what the impact is on various institutional environments, socioeconomic and generational groups. More uniformity of concepts and indicators would also enhance the comparison of studies and interpretation of social trends. Future research should also focus more on the concepts of autonomy, social inclusion, community resilience and opportunities and risks related to transition. There is a need for further evidence to understand the impacts of emerging social transformations, on different groups, including under-represented areas and vulnerable populations, to see if they are inclusive or if they are further entrenching inequalities. Overall, further studies on digital participation, institutional trust, human–technology relations, social cohesion and pathways of just transition can contribute to creating more equitable and socially responsive models of change.

10. Conclusion

Human society is undergoing a transformation that is linked and intertwined with the digitalisation, economic reorganisation, environmental challenges, institutional adaptation and altered social practices. These changes impact people's communication, employment, community involvement and interactions with institutions. The review shows that the transition of today's society is not only technological, but also social, economic and environmental, and that these different transitions are interacting with each other, not separately. Despite the opportunities for communication, education, employment and participation arising from digital and economic

transitions, there are concerns about inequalities, exclusion, technological dependency and a lack of equal access to new opportunities. In the field of environmental and sustainability transitions, it is increasingly evident that balancing ecological and just objectives, social protection and public involvement is crucial. These changes do not affect everyone equally and vulnerable and disadvantaged populations could be at higher risk of having fewer opportunities to adapt. Human-centered and inclusive development strategies are needed for the future of society that enhance social cohesion, institutional responsiveness and resilience and equitable access to opportunities. The interconnections of technology, institutions, inequality, sustainability and human action can provide a better understanding of social change. Centering on human wellbeing, participation and fairness in the transformation process will be critical for building more inclusive and sustainable societies.

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