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Aspects of social innovation promoting sustainability in the mobility sector

Abstract: The current economic environment is being significantly shaped by long-standing and emerging crises, which pose new challenges for the mobility sector that require a new approach and a new way of thinking. This report provides an insight into the role that social innovation can play in promoting the sustainability of mobility through the activities of an existing social initiative based organisation, Community Creates Mobility. The methodologies used in this paper are literature review and content analysis.

Keywords: social innovation, mobility, sustainability
JEL-codes: O35, J60

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Introduction

The current economic environment is significantly shaped by longstanding and emerging crises: the refugee crisis of 2015, the pandemic of 2019, the ongoing Russian-Ukrainian war, the emerging Israel-Gaza conflict and the economic crisis that is linked to and a consequence of these events, and the climate crisis that is now unfolding. These events, together with decades of neo-liberal exploitation of resources (Lakes & Carter, 2011), pose new challenges to the mobility sector by causing downward social mobility, job insecurity, and an unequal society (Dello Buono & Bell Lara, 2007), threatening social rights for vulnerable populations (Hasenfeld & Garrow, 2012), and increasing vulnerability to climate-induced changes (Fieldman, 2011). As a result, a new approach and a new way of thinking is required. Innovation plays an important role in maintaining the competitiveness of companies, improving their profitability and can also help them to evolve in the right direction. This study aims to demonstrate the potential role of social innovation, a new and less explored form of innovation, in promoting sustainable mobility by presenting the activities of an existing social initiative-based organisation, Community Creates Mobility, which is successfully operating in Austria.
In 2018, EU Commissioner for Research, Innovation and Science Carlos Moedas said: "*In the European Union, we will spend more money on social innovation, not because it's trendy - but because we believe that the future of innovation is social innovation.*" (Roberts, 2018) His words indicate an important paradigm shift: social innovation is no longer just a new, interesting concept, but part of the mainstream of innovation. One of the most striking phenomena of our society is the constant effort to create, adopt and spread innovation.

Theoretical background

When addressing challenges in the mobility sector, many key themes arise through various research efforts. The energy sector, as illustrated by Heindl et al.(Heindl et al., 2010), faces challenges concerning the reduction of carbon dioxide emissions and enhancing energy efficiency, as well as integrating new models for energy production and distribution, especially within the electric ecosystem facilitated by advancements in smart grid and battery technologies. Similarly, Robinson's analysis of the Canadian context (Robinson, 1997) emphasises the importance of transitioning the paradigm shift from mobility to access, with Transportation

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Demand Management (TDM) as a key strategy for reversing negative energy and environmental trends.

Society's transformation through digitalisation, globalisation, urbanisation, and sustainability mandates is reshaping mobility patterns, requiring a comprehensive approach to mobility research. This approach encompasses electric mobility, "Mobility on Demand," autonomous driving, and "Last Mile Logistic" solutions as highlighted by Hütter and Schug (Steffen Hütter & Dominik Schug, 2022). The automotive industry is currently moving towards a service-oriented, decarbonised model relying on digitalisation. This requires the integration of the energy, transportation, and information sectors to develop data-driven, digitalised mobility systems, an idea investigated by Tuncer et al. (Tuncer et al., 2022).

The narrative framework used by Kallenbach (Kallenbach, 2020) to analyse mobility culture shows the contrast between established car-centred urban narratives and emerging transformative discourses, implying a potential transformation in mobility culture. Moreover, Tun et al. (Tun et al., 2021) emphasize the significance of private investments in advancing sustainable mobility solutions. They identify the intricacies of impact investing in new mobility enterprises, which entail challenges such as impact dilution, regulatory obstacles, and entrenched interests.

Finally, Burkert and colleagues (Burkert et al., 2021) highlight the diverse obstacles to establishing electric mobility, such as technological progress, social approval, and infrastructural advancements. Their research centres around German involvement and the transformation in public attitudes towards electric vehicles over the years 2011 to 2020. These studies collectively demonstrate the complex interplay of technological, societal, and economic factors that need to be negotiated for sustainable mobility to be achieved. Sustainable urban mobility is multidimensional and encompasses a range of interconnected social issues, such as Sustainable Development Goals. Its adoption is influenced by a variety of acceptance models and information systems. (Rey-Moreno et al., 2022).

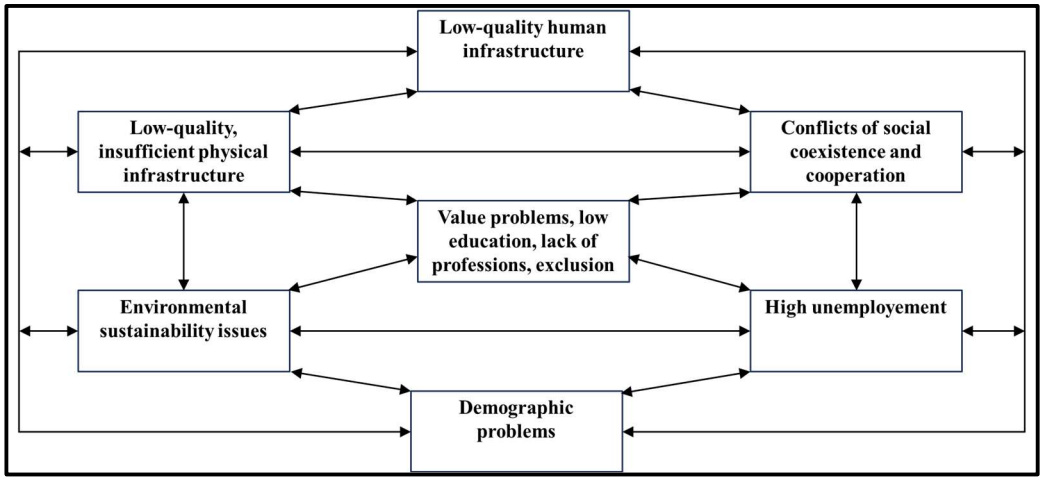
According to the definition of the United Nations Brundtland Report (World Commission on Environment and Development, 1987) "Our Common World" (our common future), the concept of sustainable development is a development process that "meets the needs of the present without compromising the ability of future generations to meet their own needs". (Gyulai, 2015) In accordance with this definition, the concept of sustainable development emphasises the responsibility towards future generations by recognising the right of future generations to have their needs met. This requires that currently available resources do not exceed the needs of the current population. Unfortunately, humanity has already exceeded the carrying capacity of the Earth and is using additional resources to the detriment of future generations. According to Rees and Wackernagel's Ecological Footprint concept (Wackernagel & Rees, 1996), humanity is currently using one and a half times the Earth's ecological capacity (Albert et al., 2021). Ecological limits can be referred to as the carrying capacity of the Earth. The above definition and the report do not precisely define the objective ecological limit of the current generation, which is the carrying capacity of the Earth. Nobel laureate Herman E. Daly, the "father" of ecological economics, tried to fill this gap with his own definition: "Sustainable development is the achievement of continued social well-being without growing beyond the ecological carrying capacity". (Daly, 1991) It is important to clarify that the concept of sustainability means development and not growth. To interpret the concept as sustainable growth is a misunderstanding, as it very often means over-consumption of resources and depletion of future stocks. "Development means an improvement in quality, while growth means an expansion in quantity." (Daly, 1996)

On the other hand, according to neoclassical economic theory, increasing income and production is the only solution for people, regardless of their financial status, to satisfy their needs. At this point it is also necessary to clarify the difference between the concepts of demand and need. According to Kevin Lane Keller and Philip Kotler (Kotler & Keller, 2008), needs are basic human needs, the satisfaction of which - depending on the hierarchical level of Maslow's

pyramid (Maslow & Frager, 1987) - is necessary for survival or even self-actualisation. When these needs are directed towards specific objects that are expected to satisfy the need, they become demands. Our demands are always shaped by the society we live in. With current technological knowledge and lifestyles, humanity is exceeding the carrying capacity of the Earth. This can be deduced from the state of the environment, the ecosystem and its feedbacks. For our planet to be sustainable and meet the needs of future generations, either fewer people and/or greater efficiency or more advanced technology must be available - but our impact must be reduced, even by reducing consumption.

Now that we know what needs to be done, the question is how to do it. Finding possible ways forward is where social innovation could play an important role. While business innovation is one of the most important determinants of human well-being, there are other innovations that have a significant impact on social performance. In universities and other educational centres, for example, there are many innovations in teaching and learning that we consider to be in the public interest. This suggests that in order to fully explain the improvement of human living conditions, a new class of innovations, which cannot be identified with business innovations, needs to be introduced: the concept of social innovations. The concept of social innovation is now an integral and indispensable part of scientific research, journal articles, political and/or economic programmes and conferences. We would think that it is a new term, but the phenomenon was already the subject of research in the middle of the last century, as Cunha and his co-authors (Cunha et al., 2015) also mention in the background information chapter of their study. *Social innovation as a means to improve the quality of life* first appeared in the work of William Fielding Ogburn in 1922 (Ogburn, 1922). Improving quality is the aspect that qualifies social innovation as a possible solution for improving sustainability, as defined by Daly (Daly, 1996) above, noting that sustainability is development rather than growth, while development means improving quality.

For a better understanding of the concept, it is worth positioning social innovations and defining their role and place in innovation theory and methodology. In his study György Kocziszky (Kocziszky, 2021) examines the evolution and development of the concept of innovation in the light of different economic models (exogenous-endogenous-evolutionary), which he also illustrates in a table. In the course of his investigation, he concludes that although innovation itself is subject to all economic methodologies, innovations that are intended to provide answers or solutions to social problems fall outside the scope of the methodologies. The author also outlines the opportunities and dilemmas of social innovation. One of these main dilemmas is the focus of economic policy and literature on linear innovation processes, which, according to Kocziszky, played a major role in preventing the implementation of the Lisbon Strategy adopted by the European Union in 2000 (European Union, 2000) in addition to the global financial crisis of 2008. This strategy aimed to make the European Union the most competitive region in the world by 2010, and set five objectives, including social inclusion and the achievement of full employment. The Europe 2020 strategy (European Commission, 2010), which was further developed in 2010, set more specific targets, such as increasing the employment rate for the population aged 20-64 to 75% and reducing the proportion of the population living below the poverty line to below 25% - all of which are unthinkable without social innovation. In addition, the diffusion and acceptance of social innovation is hampered by the fact that social endeavours often do not appear to be innovations of great importance compared to the great inventions and discoveries expected in the technocratic approach. Social problems that require social innovation are often complex and cumulative. Kocziszky illustrates the possible cumulative interaction between different social problems and the complexity - resulting from the fact that social problems are primarily value problems - with the following diagram:



1. figure: Typical social problems, source: own editing based on (Kocziszky, 2021, p.51), translated from Hungarian to English

All social problems are typical in their own way, but precisely because of this, and because of their interdependence and complexity, individual, complex, personalised solutions are needed in every case. The state plays a prominent role in promoting social innovation processes and ensuring their sustainability. Current studies suggest that social problems associated with mobility involve challenges for people with impairments (Sammer et al., 2012), negative effects of low financial assets and poor social relations (Nilsson et al., 2010), and potential impacts on mental health (Abramson & Books, 1971) and social participation. (Wald et al., 2019)

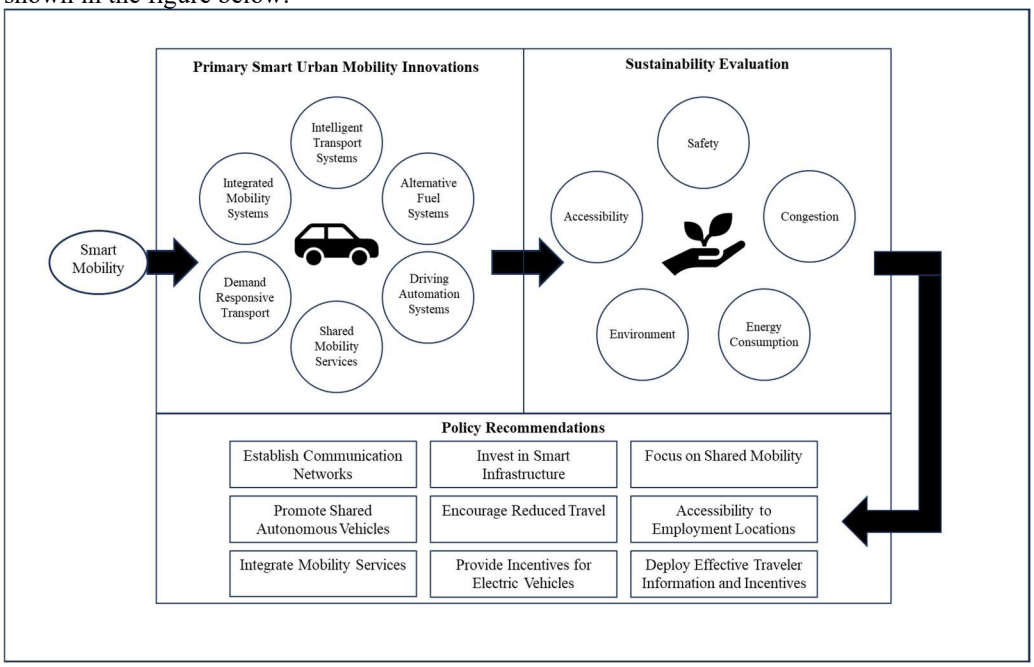
Problems, conflicts

According to the Ecological Footprint, humankind consumes the resources of one and a half planets, which indicates that we are depleting the environment's resources at a much faster rate than they are being replenished. Consequently, only economic growth that is concomitant with a reduction in environmental impact can be deemed appropriate. Sustainable development is unfeasible within the present macroeconomic model, which relies on material consumption growth, exhausts natural resources, generates problems that require solutions, and necessitates both constant population expansion and the stimulation of consumer desires. Discovering the accurate measure is the moral prerequisite, and comprehending how to gain access to our resources sustainably is the technical requirement. The Commission proposed incorporating sustainability's three pillars (economic, environmental, and social) as follows: "Uneven development, poverty and population growth are causing serious problems of survival, putting unprecedented pressure on the planet's arable land, forests, water and other natural resources. A new era of economic growth is needed today. For growth that is both strong and socially and environmentally sustainable." (World Commission on Environment and Development, 1988) The logic of the idea is that if the economy grows, there will be money to eradicate poverty, more people will find work. If the economy grows, there will be money to solve environmental problems. If the poor get an income, they will be good consumers and the economy will grow even more. In order to try to eliminate the environmental burdens of growing economies and consumption, they felt it was necessary to change the quality of growth. "Sustainable development is more than just growth. The content of growth must be changed, it must become less material and energy intensive so that its impact is more equitable," the report said. Consequently, the Commission relies on a type of economic growth that doesn't result in environmental degradation and is just socially. Based on current technical knowledge, our planet cannot sustain seven billion people over the long run." It is understood that the planet's

resilience has been surpassed due to the excessive stress-induced structural alterations. Consequently, these alterations have caused the extinction of numerous species, disrupting the Earth's biosphere and reducing the regeneration capability of soil, water, and other biological resources. Additionally, the biogeochemical cycle has also been affected, resulting in perturbations in the carbon, nitrogen, and phosphorus cycles. This change in the structure of the Earth's biosphere also means the extinction of thousands of species. The relation between carrying capacity and sustainability is evident - surpassing the said capacity leads to structural and operational changes, thereby diminishing the system's carrying capacity. If we are to ensure conservation for future generations, our impact must be reduced. This can only be achieved through a reduction in population numbers and/or overall consumption, and/or a significant increase in technical efficiency. That is where innovation, particularly in the realm of social innovation, can be of great importance and act as a game changer.

Social innovation impact on sustainability in the mobility sector

In their study (Butler et al., 2020), the authors identified and categorised six main smart mobility innovations that are most frequently discussed in the literature: (a) intelligent transport systems; (b) alternative fuel systems; (c) driving automation systems; (d) shared mobility services; (e) demand-responsive transport; and (f) integrated mobility systems. In the context of smart urban mobility, these innovations are intended as a comprehensive response to the disadvantages of private car use. They aren't solely technologically advanced, but are holistic in their approach, aiming to improve transport system performance and reduce negative impacts such as congestion and environmental degradation. The importance of a sustainability-focused assessment of these technological advancements cannot be overstated, given their potential impact on transport safety, energy usage and accessibility. Moreover, a comprehensive analysis was conducted regarding their sustainability, specifically with regards to their proposed impacts on transport safety, road congestion, energy consumption, the environment and accessibility, as shown in the figure below.



2. Figure: Policy recommendations relevant to the implementation of smart urban mobility innovations. source: (Butler et al., 2020)

To complement technological innovation, there is a growing recognition of the importance of understanding individual travel behaviour and attitudes. As technical progress and efficiency improvements may not be enough in the face of increasing traffic volumes, behavioural changes towards a more sustainable travel future are gaining in importance. A British study (Prillwitz & Barr, 2011) funded by the Economic and Social Research Council (ESRC) focuses on the development of 'mobility styles' as a context for the application of targeted social marketing policies. The concept intends to promote sustainable mobility by segmenting populations according to their travel behaviours and attitudes. Employing segmentation approaches, the research identifies gaps between different areas of individual travel behaviour and the varying role of attitudes in travel decisions, highlighting the need for complex and comprehensive frameworks that can drive behaviour change towards sustainable mobility.
The authors introduce the concept of eco-innovation to identify and characterise the evolution of sustainable mobility solutions in their study of business models and the diffusion of eco-innovations in the eco-mobility sector. (Nicolai & Faucheux, 2015) As a result, eco-mobility appears to be a disruptive innovation that requires a significant shift in business models and the global value chain, particularly in the automotive sector. The objective is to not only reduce negative externalities, but also to create new markets and employment opportunities within the mobility ecosystem. The social and institutional dimensions of innovation uptake play a key role in the acceptance and characterisation of eco-mobility. This involves a significant change in the perception of eco-innovation, where the business model for e-mobility needs to be reinvented and the impact on the global value chain of the mobility sector needs to be thoroughly analysed.
According to Whittle and colleagues (Whittle et al., 2019), attention to user needs, preferences, experiences and identities is crucial for an effective transition to innovative mobility solutions such as electric and autonomous vehicles and shared mobility. Their research advocates that although technological advancement can complement the existing transportation system, a more comprehensive effort is needed to address sustainability concerns that account for social and psychological aspects of mobility. Mobility substitution, such as teleworking to reduce travel, presents a significant opportunity for environmental sustainability, despite challenging both established policies and social norms.
Social initiatives also impact the financial dimensions of innovations since all solutions require funding. Vital in aligning global financial interests with local needs are financial innovations such as TimeBanking (*What Is TimeBanking?*, n.d.) and community currencies. Merritt and Stubbs' analysis (Merritt & Stubbs, 2012) suggests that these innovations facilitate community-driven sustainability financing, promoting environmental and social benefits to the local community and fostering partnerships between public administrations, markets and society. Grassroots financing mechanisms enhance social dimensions of resource mobilisation in a green economy, enabling local governments and civil society to participate in the decision-making process related to sustainability financing.

Social innovation in practice by introducing Community Creates Mobility

One possible solution for promoting sustainability of mobility is the Austrian initiative "Community creates Mobility". The various current health and climate crises - which pose new challenges to society - are cited as the root cause of realising this initiative. It aims to meet the ever-increasing demand for smart mobility services and solutions by building consensus on the issue, inspiring joint projects and creating a shared vision of future mobility - illustrated by its own vision: "Mobility as a public good - A holistic vision of the desirable future of mobility common understanding." (communitycreatesmobility, 2019, p.5) Since 2019, Austria's pioneers in the field of mobility have come together in this common movement with the aim of repositioning the impulses of the mobility concept. The central element is the so-called Mobility Manifesto (communitycreatesmobility, 2019), which was developed and continuously adapted

by the community in a collaborative approach. The objectives defined in the Manifesto are as follows:

"We want to develop the mobility of our future in a holistic and socially responsible way. (...) We want to create a common understanding of the future of mobility in Austria (and beyond). We want to create the basis for organisations, start-ups, existing companies as well as civil society groups and citizens to work together to make mobility as a public good as accessible as possible for everyone. This means that mobility is understood holistically and includes different forms of mobility, such as walking or data mobility. Our aim is to create a social movement with enough momentum to stimulate public debate and shed light on open issues. From a climate protection perspective, it is particularly important to us that the costs are borne by the emitter (in terms of mobility) - so that they cannot be passed on to the population (the polluter pays principle). Another key issue for us is to rethink mobility as a purely competitive scenario in the direction of a mobility ideology, in the sense of a "mobility community". We see this as a mobility ecosystem (community creates mobility) moderated by public organisations." (communitycreatesmobility, 2019. p.4)

Starting from the basic principle that mobility is a public good, the organisation defined the following 5 main areas to work on:

1. Physical space and infrastructure: with the aim of starting a constructive discussion about "where" mobility should take place, what kind of (public) space should be provided for different forms of mobility. In addition, it will be necessary to investigate what infrastructure is available, to evaluate it and to define the needs (hardware, software), e.g. optical networks, charging stations, roads, railways. The availability of resources and the reliability of functionality must be treated with the utmost importance.
2. Focus on needs: The needs of the population must be at the centre of the further development of mobility concepts. Any innovation should primarily focus on social/human needs, as mobility is part of life (interacting with infrastructure and public transport). Therefore, mobility should be pleasant, safe, fast, affordable, environmentally friendly, etc. and not primarily focused on efficiency and (short-term) cost savings.
3. Cost and necessity of mobility: Taking into account local and economic (not just business) costs is essential to ensure greater cost credibility in line with the polluter pays principle. Mobility investments must be based on social values (e.g. fairness and environmental sustainability). Mobility systems also cause indirect costs, especially in the health system, but also through emissions, changing property values, staining facades, etc.
4. Sustainability and protecting the future: They see sustainability as more than just protecting the environment, and they want new mobility concepts to have a positive impact on their future and that of future generations. That's why sustainability is seen as essential. It is important not only to think in terms of technical solutions, but also to think holistically, i.e. to support natural forms of mobility as often as possible (walking) and to support the attractive factors of active mobility (infrastructure). Transparency and the associated "polluter pays" principle are also key elements.
5. Mobility ecosystem:
    a. A vibrant mobility ecosystem as the foundation - This requires large (government) organisations that enable and support, but act in a less dominant way and challenge dominant assumptions. Such public organisations can put social needs before economic interests and promote mobility for all. Public transport is at the heart of a sustainable mobility system. It is a public good, like libraries or museums, that should contribute to the well-being of society as a whole and counteract overuse.

b. Shared mobility platform(s) - it needs to be clarified what these look like (virtual?), who has what role and how international platform economies should be managed. Emphasis should be placed on full accessibility and participation, democratisation of data, public spaces and equity, and social inclusion (diversity, gender neutrality, etc.).

The organisation develops the topics and goals defined above together with the participants on a completely voluntary basis at various events, online and in person. I also had the opportunity to attend an event where companies such as Austrian Post presented their current project to develop sustainable reusable packaging. For this project, they are working on a solution through international collaboration, not only with higher education institutions, but also with foreign manufacturing companies, studying foreign experiences that are already working well. By sharing their ideas, methods and dilemmas at the platform's event, they make their ideas, methods and dilemmas accessible and, in addition to networking, they give themselves the chance to involve actors - in a traditionally internal company project - who can make a positive contribution to the success of their project.

Conclusion

As a result this comprehensive study of social innovation in the field of sustainable mobility presents several key findings. Primary among these is the acknowledgement of the equal importance and interdependence between social, economic, and scientific innovations. It dispels the notion of hierarchical dominance, instead illuminating a synergistic interplay where economic and scientific advancements may unintentionally create social challenges. Social innovation serves as a responsive force to rectify these challenges. Central to this discourse is the understanding that societal existence is based on economic and social rejuvenation, both fuelled by innovative endeavours. This involves developing new products and services, improving skills, and creating both tangible and intangible assets. Social innovation goes beyond its conventional boundaries in this context, emerging as a critical means of addressing the complex social dilemmas arising from economic and scientific progress.

The study emphasises the need for an inclusive approach to social innovation that seamlessly integrates it with broader societal progress. This approach facilitates a more comprehensive and sustainable trajectory for innovation, ensuring that as we progress economically and scientifically, the social fabric that underpins our collective existence is not only preserved, but strengthened. Additionally, the research emphasises the need to make social innovation available to everyone. It calls for a transition in public value systems towards a greater appreciation and support of social innovation and related social enterprises. The state and institutional systems play a crucial role in creating a favourable climate for social innovation, particularly through adequate economic and educational policies and the reallocation of resources to encourage community-driven funding.

The example of 'Community Creates Mobility' in Austria highlights the capability of individual and communal actions to promote sustainable futures. It shows the role of social movements and community-driven initiatives in advocating and realising sustainable living, thus ensuring the well-being of future generations.

In conclusion, the overarching challenge and imperative lie in cultivating a universal understanding and appreciation of sustainability as a shared interest and necessity. This necessitates a synergistic effort involving private individuals, economic entities, and political actors.

References

Abramson, P. R., & Books, J. W. (1971). Social Mobility and Political Attitudes: A Study of Intergenerational Mobility among Young British Men. Comparative Politics, 3(3), pp. 403-428. https://doi.org/10.2307/421474

Albert, J. S., Destouni, G., Duke-Sylvester, S. M., Magurran, A. E., Oberdorff, T., Reis, R. E., Winemiller, K. O., & Ripple, W. J. (2021). Scientists' warning to humanity on the freshwater biodiversity crisis. Ambio, 50(1), pp. 85–94. https://doi.org/10.1007/s13280-020-01318-8

Burkert, A., Fechtner, H., & Schmuelling, B. (2021). Interdisciplinary Analysis of Social Acceptance Regarding Electric Vehicles with a Focus on Charging Infrastructure and Driving Range in Germany. World Electric Vehicle Journal, 12(1), p. 25. https://doi.org/10.3390/wevj12010025

Butler, L., Yigitcanlar, T., & Paz, A. (2020). Smart Urban Mobility Innovations: A Comprehensive Review and Evaluation. IEEE Access, 8, 196034–196049. https://doi.org/10.1109/ACCESS.2020.3034596

communitycreatesmobility. (2019). #Mobility Manifest (Stand Juli 2020).docx. Google Docs. https://drive.google.com/file/d/1u6lZ8LRWF1sNCVdREYa1As4K6mVZ_5Sp/view?usp=embed_facebook

Cunha, J., Benneworth, P. S., & Oliveira, P. (2015). Social entrepreneurship and social innovation. In L. M. Carmo Farinha, J. J. M. Ferreira, H. L. Smith, & S. Bagchi-Sen (Eds.), Handbook of Research on Global Competitive Advantage through Innovation and Entrepreneurship: pp. 616–639. IGI Global. https://doi.org/10.4018/978-1-4666-8348-8

Daly, H. E. (1991). Steady-state economics (2nd ed., with new essays). Island Press, Washington DC.

Daly, H. E. (1996). Beyond growth: The economics of sustainable development. Beacon Press, Boston.

Dello Buono, R. A., & Bell Lara, J. (2007). Imperialism, neoliberalism and social struggles in Latin America. Brill, Leiden.

European Commission. (2010). Európa 2020: Az intelligens, fenntartható és inkluzív növekedés stratégiája. Brüsszel.

European Union. (2000, March 23). Lisbon European Council 23-24.03.2000: Conclusions of the Presidency. https://www.europarl.europa.eu/summits/lis1_en.htm

Fieldman, G. (2011). Neoliberalism, the production of vulnerability and the hobbled state: Systemic barriers to climate adaptation. Climate and Development, 3(2), pp. 159–174. https://doi.org/10.1080/17565529.2011.582278

Gyulai, I. (2015). Közbeszerzések a fenntartható és innovatív fejlődés szolgálatában (G.-S. Andrea, Ed.). Pázmány Press, Budapest.

Hasenfeld, Y., & Garrow, E. E. (2012). Nonprofit Human-Service Organizations, Social Rights, and Advocacy in a Neoliberal Welfare State. Social Service Review, 86(2), pp. 295–322. https://doi.org/10.1086/666391

Heindl, M., Suttner, H., Weber, J., Withalm, J., & Wölfel, W. (2010). Towards new business models in the energy sector based on Software-as-a-Service-Utilities and value-added services. eChallenges E-2010 Conference, pp. 1–9. https://ieeexplore.ieee.org/abstract/document/5756594

Kallenbach, T. (2020). Narratives of urban mobility in Germany: On the threshold of a departure from the car-centered city? Sustainability: Science, Practice and Policy, 16(1), pp. 197–207. https://doi.org/10.1080/15487733.2020.1799625

Kocziszky, G. (2021). A társadalmi innovációk helye és szerepe az innovációelméleti és módszertani kutatásokban. In T. Sikos T. (Ed.), Társadalmi innováció—Társadalmi jólét pp. 43–55. Ludovika Egyetemi Kiadó, Budapest.

Kotler, P., & Keller, K. L. (2008). Marketingmenedzsment (12. kiadás). Akadémiai Kiadó, Budapest.

Lakes, R. D., & Carter, P. A. (2011). Neoliberalism and Education: An Introduction. Educational Studies, 47(2), pp. 107–110. https://doi.org/10.1080/00131946.2011.556387

Maslow, A. H., & Frager, R. (1987). Motivation and personality (3rd ed). Harper and Row, New York.

Merritt, A., & Stubbs, T. (2012). Complementing the local and global: promoting sustainability action through linked local-level and formal sustainability funding mechanisms. Public Administration and Development, 32(3), pp. 278–291. https://doi.org/10.1002/pad.1630

Nicolai, I., & Faucheux, S. (2015). Business models and the diffusion of eco-innovations in the eco-mobility sector. Society and Business Review, 10(3), pp. 203–222. https://doi.org/10.1108/SBR-07-2015-0024

Nilsson, C. J., Avlund, K., & Lund, R. (2010). Social Inequality in Onset of Mobility Disability Among Older Danes: The Mediation Effect of Social Relations. Journal of Aging and Health, 22(4), pp. 522–541. https://doi.org/10.1177/0898264309359684

Ogburn, W. F. (1922). Social Change with Respect for Nature and original Cult. Viking, New York.

Rey-Moreno, M., Periáñez-Cristóbal, R., & Calvo-Mora, A. (2022). Reflections on Sustainable Urban Mobility, Mobility as a Service (MaaS) and Adoption Models. International Journal of Environmental Research and Public Health, 20(1), p. 274. https://doi.org/10.3390/ijerph20010274

Roberts, J. (2018). Carlos Moedas: The EU will fund more social innovation because it's the future of innovation | Research and Innovation. Horizon The EU Research & Innovation Magazine. https://ec.europa.eu/research-and-innovation/en/horizon-magazine/carlos-moedas-eu-will-fund-more-social-innovation-because-its-future-innovation

Robinson, R. (1997). Transportation demand management in Canada: An overview. Energy Policy, 25(14–15), pp. 1189–1191. https://doi.org/10.1016/S0301-4215(97)00120-1

Sammer, G., Uhlmann, T., Unbehaun, W., Millonig, A., Mandl, B., Dangschat, J., & Mayr, R. (2012). Identification of Mobility-Impaired Persons and Analysis of Their Travel Behavior and Needs. Transportation Research Record: Journal of the Transportation Research Board, 2320(1), pp. 46–54. https://doi.org/10.3141/2320-06

Steffen Hütter, S. H., & Dominik Schug, D. S. (2022). Current Approaches and Prospects of Urban and Suburban Mobility in Europe. Economics, 105(03), pp. 400–418. https://doi.org/10.36962/ECS105/3/2022-400

Tun, T. H., Fried, T., Kanuri, C., Oursler, A., Davidson, A., & Welle, B. (2021). Impact-Driven Investing in New Mobility Enterprises: Perspectives from Kampala, Uganda, and Hyderabad, India. World Resources Institute. https://doi.org/10.46830/wriwp.20.00036

Tuncer, D., Babacan, O., Guiazon, R., Ali, H. A., Conway, J., Kern, S., Moreno, A. T., Peel, M., Pereira, A., Assad, N., Franceschini, G., Gjerull, M., Hardisty, A., Marwa, I., Lopez, B. A., Shalev, A., Tambua, C. D. C., Damayanti, H., Frapart, P., … Novak, P. (2022). Engineering data-driven solutions for future mobility: Perspectives and challenges. https://doi.org/10.48550/ARXIV.2203.07789

Wackernagel, M., & Rees, W. E. (1996). Our ecological footprint: Reducing human impact on the earth. New Society Publishers, Gabriola Island.

Wald, H. L., Ramaswamy, R., Perskin, M. H., Roberts, L., Bogaisky, M., Suen, W., Mikhailovich, A., & for the Quality and Performance Measurement Committee of the American Geriatrics Society. (2019). The Case for Mobility Assessment in Hospitalized Older Adults: American Geriatrics Society White Paper Executive Summary. Journal of the American Geriatrics Society, 67(1), pp. 11–16. https://doi.org/10.1111/jgs.15595

What is TimeBanking? - TimeBanks.Org. (n.d.). Retrieved 19 November 2023, from https://timebanks.org/what-is-timebanking

Whittle, C., Whitmarsh, L., Haggar, P., Morgan, P., & Parkhurst, G. (2019). User decision-making in transitions to electrified, autonomous, shared or reduced mobility. Transportation Research Part D: Transport and Environment, 71, pp. 302–319. https://doi.org/10.1016/j.trd.2018.12.014

World Commission on Environment and Development (Ed.). (1987). Our common future. Oxford University Press, Oxford.

World Commission on Environment and Development. (1988). Közös jövőnk: A környezet és fejlesztés világbizottság jelentése (A. Balla, Ed.). Mezőgazdasági Kiadó, Budapest.