



What Needs to Change to Make Digital Health Successful? The Perspective of the Austrian Healthcare Provider Mavienext

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Abstract: Austria's healthcare ecosystem, anchored in conventional operational paradigms, faces mounting pressure to evolve. The ingrained models, though resilient, are being challenged by the escalating healthcare demands of a diverse and ageing populace, rising costs, and emerging health adversities. In this nuanced context, we present insights from a discourse with the CEO of Mavie Next, an Austrian healthcare provider and a corporate start-up of the UNIQA Group, to explore the pivotal intersection of digital health technologies and systemic evolution. The primary objectives of this interview were to: (1) understand the current challenges faced by Austria's healthcare system; and (2) identify collaborative strategies and data sharing practices that can optimize the use of DHTs. These objectives guided our research questions, focusing on how Mavie Next, with its innovative approach and cross-border aspirations, can serve as a model for integrating DHTs in healthcare systems globally. In this nuanced context, we present insights from an interview with Erich Kruschitz, CEO of Mavie Next, an established Austrian healthcare provider, to explore the pivotal intersection of digital health technologies and systemic evolution. Our discussion underscores the importance of data sharing, regular collaborative initiatives, and overcoming data availability challenges as foundational elements to harness the full potential of DHT in addressing the multifaceted challenges posed by an aging population. This comprehensive exploration serves as a foundational resource for stakeholders, offering insights, evaluations, and prospective pathways to navigate the evolving landscape of healthcare amidst demographic and technological shifts. Mavie Next aspires to pioneer this cross-border transfer of innovation, echoing its ethos of extending beyond Austria with globally applicable solutions.


1 INTRODUCTION

Austria, like many developed countries, is experiencing demographic changes that impact its population structure and healthcare system (Kiniorska et al., 2023). This aging population, attributed to advancements in healthcare leading to increased longevity and declining birth rates, poses multifarious challenges to our society, economy, and particularly the healthcare system (Jayawardhana et al., 2023). An aging population is synonymous with a rise in chronic illnesses, complex health conditions, and a concurrent increase in healthcare demand, which inevitably exacerbates the pressure on

healthcare professionals, facilities, and public health insurance systems (Newman et al., 2019). This scenario is amplified by the contemporary challenge of ensuring quality healthcare that is both accessible and affordable. (*Bevölkerung zu Jahres-/Quartalsanfang*, n.d.)(Jayawardhana et al., 2023)

In the milieu of these challenges, Digital Health Technologies (DHT) emerge as a beacon of transformation and adaptability (Huben et al., 2023; Jacobson et al., 2023; Kowatsch and Fleisch, 2021; Mahajan et al., 2023; Parikh and Helmchen, 2022). DHT encompasses a diverse array of innovative technological solutions designed to optimize healthcare delivery, enhance patient outcomes, and

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mitigate the economic and logistical challenges precipitated by an aging populace (Lyles et al., 2023).

In the nexus of modern healthcare challenges, MavieNext (previously SanusX), an emerging corporate startup of the UNIQA Group since 2020, stands firm in its commitment to sculpting a healthier future for all (Mavie Next, n.d.). The organization's approach is characterized by a systematic evaluation of existing healthcare offerings, identification of gaps, and development of tailored solutions to address specific needs across diverse demographic groups. The company's product portfolio, including Mavie Work, lifely, Mavie Aponect, and cura domo, is a testament to its commitment to delivering comprehensive and adaptable healthcare solutions. These offerings are underpinned by rigorous research, including proactively pushing research collaborations with University of St. Gallen, and development processes. Moreover, projects are designed to cater to both individual consumers and corporate entities.

The underlying concept of our methodology is twofold: firstly, to gather in-depth insights into the current stance and future aspirations of MavieNext in the realm of digital health, and secondly, to extrapolate these findings to understand broader trends and attitudes within the Austrian healthcare sector. The interview was structured around key thematic areas, including the challenges faced by the healthcare system, the potential of digital health technologies in overcoming these challenges, and the strategic direction of MavieNext in this evolving landscape.

For evaluating the interview, we used a qualitative analysis approach. This involved assessing and categorizing the responses into thematic clusters, enabling us to draw out significant patterns and insights from Kruschitz. Through the analysis of Kruschitz's responses, our goal was to construct a broad portrayal of MavieNext's strategic approach towards DHTs. This involved not only define their current products and future plans but also capturing the intrinsic value that Kruschitz attributes to DHTs within the healthcare sector. By doing so, we sought to offer an in-depth perspective on how MavieNext is navigating the complex landscape of healthcare innovation, highlighting the unique insights and contributions of Mr. Kruschitz to this evolving field.

This position paper delineates the findings from a dialogue with Erich Kruschitz, CEO of MavieNext, to elucidate the stance of an Austrian healthcare provider on digital health innovations and interventions.

2 RESULTS

DHT refer to a range of tools designed to enhance healthcare delivery and personal wellness (Huben et al., 2023). They are instrumental for users, offering health and wellness solutions, real-time health metrics tracking, self-management tools, digital diagnostics, and therapeutic interventions.

MavieNext stands as a significant contributor in the domain of DHT in Austria, providing innovative solutions designed to address complex health challenges and promote wellness. The firm has built a suite of offerings, including Mavie Work, Lifely, Cura Domo, and Mavie Aponect, each designed to address specific aspects of health and well-being by integrating technology, innovation, and personalized care - from workplace health promotion to at-home biomarker testing and personalized care models. Beyond its role in direct service provision, MavieNext has strategically positioned itself as an investor and a venture builder. In our interview with Kruschitz, CEO of MavieNext, their products were briefly discussed as exemplars of the company's innovative approach, yet the focus remained on the broader implications of such digital interventions in healthcare. Our analysis concentrated on how these offerings collectively demonstrate MavieNext's role in advancing digital health technologies, rather than detailing each product individually. This perspective aligns with our study's objective of understanding the impact of digital health innovations on Austria's healthcare system. Here are the four products Kruschitz mentioned, briefly explained:

1. **Mavie Work** is a comprehensive platform dedicated to elevating the physical and mental health of employees and organizations. It encapsulates the full breadth of workplace health promotion, spanning prevention, support, early detection, and immediate assistance. The service merges digital and physical realms, offering mobile health services, corporate mental health programs, and the Mavie Portal—a digital health interface featuring interactive exercises, informational articles, videos, and live events. The Mavie Health Hub serves as an in-company sanctuary focusing on nutrition, exercise, diagnostics, and mental health.
2. **Lifely** introduces the convenience of at-home blood testing, offering individuals insights into their health with ease and comfort. The process, simplified to a finger prick, ensures accessibility and ease. Upon analysis,

customers receive a comprehensive health report crafted by medical professionals, offering detailed insights and personalized recommendations for health optimization.

3. **Cura Domo** is anchored in the principle of dignified aging, offering personalized care models and at-home care solutions. As the largest owner-operated agency for 24-hour care in Austria, with over 1,300 satisfied customers, Cura Domo collaborates with MaviNext to redefine standards in at-home care, assisted living, and facility management, ensuring aging individuals receive personalized, dignified care.
4. **Mavie Aponect** bridges the gap between customers and pharmacies, digitalizing and streamlining central processes like ordering and inventory management. The platform harmonizes the exigent demands of modern customers with the personalized counsel of experienced pharmacists. Mavie Aponect not only reinforces pharmacies as integral local health suppliers but also equips them to navigate and thrive amidst the evolving dynamics of the healthcare sector.

During our interview our guiding question we asked with Kruschitz was: “What needs to change to make digital health successful?”. Upon that, he answered that, he emphasizes the central role of data in advancing digital health. He highlights the urgent need for enhanced data sharing mechanisms and consistent collaborative efforts to enable a seamless exchange of insights. For Kruschitz, the issue of data availability stands as a significant barrier. Overcoming this obstacle is crucial to fully exploit the transformative potential of DHT. In his view, the establishment of a data-sharing ecosystem, where information flows freely among healthcare stakeholders, is crucial for spurring innovation and improving the efficiency of health service delivery. In the subsequent sections, we will delve deeper into three pivotal aspects identified by Kruschitz: (1) the imperative of data sharing, (2) the importance of regular collaborative initiatives, and (3) the challenges associated with data availability.

2.1 Need for Sharing Data

As per Kruschitz, the integration of DHT in healthcare is profoundly influenced by the extent and efficacy of data sharing and collaboration amongst various stakeholders in the sector. A cohesive, interrelated ecosystem that encourages the free flow

of data and insights not only propels innovations but also ensures that these advancements are optimally leveraged to deliver user-centered care. According to Kruschitz, the exchange of data is foundational to the evolution and refinement of DHT, ensuring that these technologies are nuanced, responsive, and tailored to address the multifarious challenges characteristic of contemporary healthcare.

In reliance on Kruschitz, sharing data across traditional market boundaries amplifies the impact of DHT. It facilitates a synergy where insights, expertise, and innovations are not confined but are disseminated widely, enhancing the quality, reach, and impact of healthcare interventions. Kruschitz mentioned, that this culture of openness. In addition, Kruschitz emphasised that collaboration is essential to ensure that the DHT evolves in line with emerging health challenges and is constantly refined by a rich tapestry of global evidence.

Furthermore, Kruschitz also stressed that the role of data sharing in improving the accuracy and personalization of DHT cannot be overstated. Access to diverse datasets enriches the analytical prowess of these technologies, ensuring that healthcare solutions are not just innovative but are also deeply attuned to the specific needs, contexts, and challenges of diverse patient demographics.

2.2 Regular Collaborative Initiatives

In our interview, Kruschitz emphasized the importance of establishing regular collaborative initiatives within the healthcare sector, underlining their role in nurturing a culture of innovation and efficiency. According to Kruschitz, regular interactions and exchanges among industry stakeholders, healthcare providers, and technologists can facilitate a dynamic interchange of insights, data, and developments, catalyzing a more integrated and responsive healthcare ecosystem. Insights refer to the valuable knowledge and understanding gained from research, clinical experiences, patient feedback, and industry trends. These insights can drive informed decision-making and spur innovative healthcare solutions. Data, in this scenario, encompasses a broad range of information, including patient health records, treatment outcomes, operational metrics, and research findings. Kruschitz highlights the importance of sharing this data among stakeholders to enable a data-driven approach to healthcare. This can improve patient outcomes, enhance the efficacy of treatments, and streamline healthcare operations. The emphasis is on utilizing data to make healthcare delivery more precise, personalized, and efficient.

Lastly, by sharing information about these developments, stakeholders can stay abreast of the latest trends and technologies, which is crucial for maintaining a cutting-edge and responsive healthcare system. Furthermore, these consistent collaborations promote a culture of learning and adaptation, where insights and data are not just disseminated but are also analyzed and integrated into practice, ensuring that the healthcare sector is always advancing, informed by a multiplicity of perspectives and expertise (Landers et al., 2023). Particularly in the context of DHT, regular collaborations can ensure that the development and application of these technologies are nuanced, drawing from a diverse pool of data and insights to enhance their precision, relevance, and impact according to Kruschitz. This integrative approach ensures that DHT is not just technologically adept but is also clinically insightful, responsive to the complex and evolving landscape of healthcare needs and challenges.

For instance, the widespread use of 'symptom checkers' is an example of the opportunities that Kruschitz suggests can arise from increased sharing and collaboration in healthcare. These digital tools, offered by various health insurances and wellness entities, empower individuals to assess and understand their symptoms from the comfort of their mobile phones or tablets. However, the potential of these tools is often constrained by siloed development and operational approaches.

If a culture of data sharing and collaborative refinement were adopted, the efficacy and accuracy of these symptom checkers could be significantly augmented.

2.3 Data Availability

Kruschitz suggested that data accessibility constraints are a critical challenge hindering DHT's progressive development. The existing limited datasets curtail the exploration and innovation in healthcare, as substantial, varied, and rich data is essential for honing the accuracy and effectiveness of these digital innovations. Insufficient data not only limits analytical depth but also impedes the customization of healthcare solutions to cater to the diverse and complex needs of patients (Berros et al., 2023).

One significant challenge in augmenting data availability stems from the willingness of users to share their personal and health-related data (Frishammar et al., 2023). Data privacy and security concerns are paramount for many individuals, leading to hesitancy in contributing their data to digital health databases. Not surprisingly, this is amplified by the

sensitive and confidential nature of health data. Kruschitz affirms that addressing this concern requires a multi-faceted approach that includes establishing robust data privacy and security protocols, offering transparent communication regarding data usage, and ensuring consent-based data collection and sharing mechanisms. The integration of stringent ethical guidelines and legal frameworks is essential to instil confidence among users, facilitating a more abundant and diverse accumulation of data that can propel the advancement of DHT (Deplazes-Zemp et al., 2020; Iqbal and Biller-Andorno, 2022; Maccaro et al., 2023).

3 DISCUSSION & CONCLUSION

The demographic evolution occurring in Austria, characterized by an aging population, presents a complex challenge that intersects healthcare, economics, and societal well-being (Kiniorska et al., 2023). MavieNext, as a conduit of innovation and adaptability, exemplifies the integration of technology and healthcare. Rooted in a philosophy of comprehensive, adaptable, and future-ready solutions, the organization is an archetype of the transformative power of DHT amidst evolving healthcare demands.

Our dialogue with Erich Kruschitz, CEO of Mavie Next, offers critical insights into this transformation. Kruschitz's perspectives shed light on the importance of data in navigating the complexities of modern healthcare in Austria. He advocates for a paradigm shift that emphasizes enhanced data sharing, regular collaborative initiatives, and overcoming the barriers to data availability. These elements are crucial for leveraging the full potential of DHTs, positioning data as the keystone of innovation, efficiency, and patient-centric care. Importantly, the insights from Kruschitz extend beyond the confines of Mavie Next, informing broader strategies within the Austrian healthcare system. His views illustrate how a data-driven approach can be instrumental in addressing the unique challenges posed by an aging population. Given that, this approach can also lead to improved healthcare services, more efficient and personalized resource allocation, and enhanced quality of life for older adults. By showcasing how Mavie Next harnesses data for healthcare innovation, the discussion provides a model that can be replicated by other healthcare organizations in Austria and motivate change. For this reason, this approach underscores the potential for DHTs to play a

significant role in transforming healthcare practices, policy development, and service delivery across the nation, aligning with national goals of enhancing healthcare quality and accessibility.

In summary, our interview with Kruschitz not only highlights Mavie Next's objectives but also serves as a valuable case study for the Austrian healthcare system at large. It underscores the need for a systemic embrace of digital innovation and data-centric strategies to meet the evolving healthcare needs of the population globally.

CONFLICTS OF INTEREST

PH and TK are affiliated with the Centre for Digital Health Interventions (CDHI), a joint initiative of the Institute for Implementation Science in Health Care, University of Zurich; the Department of Management, Technology, and Economics at Swiss Federal Institute of Technology in Zürich; and the Institute of Technology Management and School of Medicine at the University of St Gallen. CDHI is funded in part by CSS, a Swiss health insurer and MavieNext, an Austrian healthcare provider. TK is also a co-founder of Pathmate Technologies, a university spin-off company that creates and delivers digital clinical pathways. However, neither Pathmate Technologies nor CSS was involved in this research.

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- How would you improve DHTs you are offering?

APPENDIX

Topics of interest at the 17th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC, 2024) include, but are not limited to:

- How to make prevention successful?
- How to make healthy longevity successful?
- How to make healthy aging successful?
- How to make elderly care successful?
- How to cope with the economic burden of non-communicable diseases?
- Which emerging business models in digital health are promising?
- What needs to change in terms of regulations to make digital health successful?
- What is the future role of a health insurance company?
- Which digital health technologies (DHTs) are already used and reimbursed? In which fields? What are those offerings? How are these paid for? (self-paid, basic insurance, additional insurance, etc.)
- Are you offering DHTs? Did you develop these DHTs yourself or are you partnering with startups or other companies?
- Do you offer DHTs rather in the prevention or in the management of diseases?
- For which diseases do you think we need DHTs most? Why? Where do you think DHTs will work best? (what kind of disease and persona)
- What is your main goal of offering these DHTs? (new revenue streams, cost-efficiency, customer loyalty)
- What is the importance of business ecosystems for these DHTs?
- What kind of learnings did you generate so far? Are there DHTs that worked better than others? Why?
- Could you already assess the effectiveness and/or efficiency of DHTs?
- What kind of DHTs failed? What were the reasons?