

Service Innovation for Equitable Healthcare Access in South Africa: A Sustainable Development Approach Using the WSIE Framework

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Article's history:

Received 10th of June, 2025; Reviewed 9th of July, 2025; Accepted for publication 24th of July, 2025; Available online: 27th of July, 2025; Published as article in Volume II, Issue 2, 2025

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Cite this article:

Willie, M. M. (2025). Service Innovation for Equitable Healthcare Access in South Africa: A Sustainable Development Approach Using the WSIE Framework. *Journal of Global Sustainability and Development*, Volume II, Issue 2, 131 – 151. <https://doi.org/10.57017/jgsd.v2.i2.07>

Abstract

South Africa's healthcare system faces persistent challenges in accessibility and quality, marked by inequities, out-of-pocket costs, and systemic inefficiencies. As the demand for affordable and equitable healthcare grows, service innovation has become a critical strategy for fostering resilient systems and advancing long-term social sustainability.

This study applies Willie's Service Innovation Enabler (WSIE) Framework to develop a strategic approach for enhancing sustainable healthcare accessibility within South African medical schemes. The WSIE Framework was used to identify key enablers and barriers to innovation at both micro- and macro-levels. Findings reveal that strong leadership support, responsive regulatory frameworks, and adaptable organisational structures are crucial to driving sustainable innovation. Smaller medical schemes show particular potential in leveraging digital technologies such as telemedicine to improve equitable service delivery. Although the COVID-19 pandemic accelerated digital transformation, significant barriers remain, including regulatory complexity and institutional resistance to change. The study concludes that a targeted innovation strategy, grounded in leadership and digital integration, is essential for improving healthcare access and quality. These insights contribute to the broader goal of universal health coverage and align with global sustainable development objectives.

Keywords: digital transformation, innovation, medical schemes, service delivery, sustainability.

JEL Classification: D83; H51; I13; I18; L31; L86; O31; O35.

Introduction

Healthcare accessibility is increasingly recognised as a cornerstone of social sustainability and inclusive development, particularly within the context of developing economies. Rather than viewing healthcare access merely as a business or operational challenge for medical schemes, this study frames it as a fundamental socio-economic imperative that underpins human well-being, equity, and long-term societal resilience. Achieving the targets set out in the Sustainable Development Goals (SDGs), especially SDG 3 (Good Health and Well-being), necessitates a deliberate shift toward equitable healthcare provision that addresses structural disparities and systemic inefficiencies (United Nations, 2015).

In South Africa, disparities in healthcare access remain deeply entrenched, driven by out-of-pocket costs, fragmented service delivery models, and a dual healthcare system that exacerbates inequality. These challenges not only impede universal health coverage but also undermine broader national development agendas, including SDG 10 (Reduced Inequalities). The exclusion of large segments of the population from quality healthcare entrenches cycles of poverty and social marginalisation, reinforcing the need for innovative and sustainable healthcare delivery mechanisms.

Within this context, service innovation emerges as a pivotal enabler of reform. However, it must be examined beyond its superficial association with digital transformation or technological upgrades. Service innovation entails a reconfiguration of organisational structures, business models, and interactional processes that support more inclusive, responsive, and efficient healthcare delivery. The application of Willie's Service Innovation Enabler (WSIE) Framework in this study provides a structured lens through which to interrogate how medical schemes in South Africa can harness innovation not simply to improve efficiency, but to fulfil a broader mandate of equity and access (Willie, 2024).

This study interrogates the multifaceted nature of service innovation, recognising that its efficacy is determined by a constellation of technological and non-technological factors. Critical enablers such as leadership commitment, organisational culture, employee engagement, and regulatory flexibility must be aligned to realise meaningful transformation (Ryu & Lee, 2018; Deep, 2023a; Ghani et al., 2023). A key insight emerging from the literature is the centrality of stakeholder participation both internal and external as a catalyst for innovation. For instance, employee voice behaviour has been shown to significantly influence innovative performance (Cheong et al., 2024), while collaborative engagement with patients, regulators, and partners ensures that innovation remains user-centred and contextually relevant (Damanpour & Aravind, 2012; Sacavém & Dos Santos, 2025).

Furthermore, this study adopts a critical stance toward existing institutional barriers that inhibit innovation. Inflexible regulatory frameworks, institutional inertia, and capacity constraints remain formidable challenges. These factors necessitate not just technical interventions, but systemic governance reforms that promote agility, accountability, and inclusivity in healthcare policy implementation. Smaller and more agile medical schemes may be uniquely positioned to lead in this regard, leveraging digital tools such as telemedicine to expand access and close service delivery gaps.

By situating service innovation within the broader discourse on sustainable development, this study contributes to a more nuanced understanding of how innovation can serve as both a means and an end. It aligns with SDG 3, while also supporting SDG 8 (Decent Work and Economic Growth) through a healthier, more productive population, and SDG 17 (Partnerships for the Goals) by advocating for collaborative, cross-sectoral approaches. This research thus extends existing theoretical and practical insights into how innovation strategies within medical schemes can be purposefully directed toward equitable, sustainable healthcare systems.

1. Literature Review

Service innovation is increasingly recognised as a strategic imperative for long-term social and economic sustainability. In healthcare, it enables organisations to adapt to evolving demands while ensuring sustainable healthcare financing, resilient systems, and reduced resource waste. Defined as the creation or enhancement of services tailored to emerging consumer needs, service innovation encompasses both new offerings and improvements to existing processes (Chen, Tsou, & Huang, 2009). Importantly, it extends beyond technological change to include business model transformations, workflow redesign, and enriched customer engagement mechanisms (Verhoef et al., 2020). This multidimensional approach is critical for organisational sustainability and competitive differentiation in complex, resource-constrained environments (Hermundsdottir & Aspelund, 2021; Lopes et al., 2021).

The effectiveness of service innovation hinges on a dynamic interplay of internal and external enablers. Internally, strategic leadership, organisational agility, an experimental culture, and sustained R&D investment are key (Garrido-Moreno et al., 2024). Externally, adaptive regulation and interconnected stakeholder ecosystems, including digital and social media platforms, enable timely responses to macroeconomic shifts and consumer needs. In volatile markets, these factors foster innovation and resilience as dynamic capabilities essential for long-term performance (Damanpour & Aravind, 2012).

Emerging technologies such as AI, blockchain, and the IoT offer significant opportunities to enhance service quality and efficiency while adding value for consumers (Adewumi et al., 2024). However, the realisation of these benefits requires a supportive internal environment that promotes learning, collaboration, and creativity (Swartz et al., 2021; Cheong et al., 2024). Leadership plays a pivotal role in creating alignment between innovation initiatives and organisational goals, securing buy-in, and mobilising resources (Ghani et al., 2023).

Digital platforms, particularly social media, have become vital tools in fostering knowledge sharing, stakeholder engagement, and co-creation (Garrido-Moreno et al., 2024). Used strategically, they enable organisations to capture real-time feedback and drive user-centred innovation. However, the empirical relationship between innovation and financial performance remains ambiguous. Studies by Feng, Ma, & Jiang (2020) and Sethibe and Steyn (2016) suggest that outcomes are highly context-dependent, shaped by industry norms, regulatory constraints, and strategic implementation. This inconsistency underscores the need for deeper research, particularly in highly regulated sectors like healthcare.

In South Africa, medical schemes operate under stringent regulation aimed at ensuring equity and member protection (Council for Medical Schemes [CMS], 2024, 2025). These schemes are under increasing pressure from rising costs, changing expectations, and the impending structural overhaul represented by the National Health Insurance (NHI) policy (Christmalls & Aidam, 2020; Rammila, 2023; Mkhwanazi, 2024). To maintain relevance and

sustainability, medical schemes must embrace service innovation, including digital health tools, telemedicine, and personalised benefit design. Success in this endeavour depends on compliance with regulatory norms, strong stakeholder partnerships, and investment in enabling infrastructure.

Such alignment ensures that service innovations meet both policy standards and consumer needs. Strategically embedded, service innovation can enhance accessibility, improve member satisfaction, and bolster the sector's contribution to national health objectives. In doing so, South African medical schemes advance Sustainable Development Goal 3 (Good Health and Well-being) and SDG 9 (Industry, Innovation, and Infrastructure), anchoring their operations in principles of long-term sustainability, equity, and resilience.

2. Aims

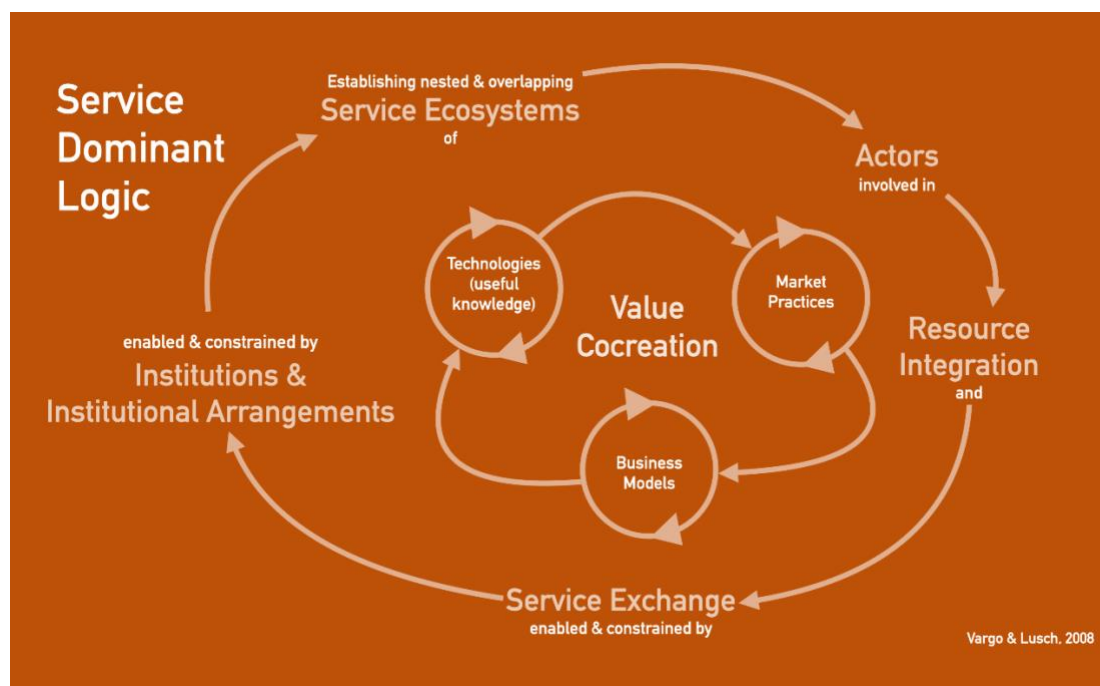
This study aimed to leverage Willie's Service Innovation Enabler (WSIE) framework as a strategic tool to foster sustainable and equitable healthcare accessibility within South African medical schemes, thereby contributing to global sustainable development agendas (Willie, 2024). Through this lens, the research sought to: Advance SDG 3 (Good Health and Well-being) and SDG 10 (Reduced Inequalities) through Service Innovation: The study examined the core elements of the WSIE framework, including technological advancements for wider reach, adaptive regulatory compliance for fair access, and multi-stakeholder collaboration for resilient systems (Willie, 2024). The goal was to identify how these enablers could support the development of more inclusive, resilient, and sustainable healthcare systems. These systems aim to progress toward universal health coverage and reduce health disparities, particularly for vulnerable populations and individuals facing financial barriers, thus promoting equitable access to quality healthcare.

3. Theoretical Framework

This study is anchored in the theoretical underpinnings of Service Innovation and Marketing Strategy, particularly within the healthcare sector. Willie's Service Innovation Theory integrates macro and micro environmental factors and is a central framework for exploring how medical schemes can drive service innovation (Willie, 2024). Willie's theory considers the broader market structures and settings as key pillars for innovation, emphasising that effective service innovation arises from internal capabilities and understanding and responding to external environmental forces.

The theory's focus on both the macro (such as policy changes, healthcare regulations, and economic conditions) and micro (including market structure such problems as scheme type, type, operating model, organisational practices, and resources) environments ensures that service innovation is positioned within a holistic context that drives long-term sustainability and market competitiveness (Willie, 2024). Incorporating Service-Dominant Logic (SDL) by Vargo and Lusch (2003), this framework highlights the importance of value co-creation between medical schemes and beneficiaries, positioning healthcare as a dynamic and collaborative process rather than a mere transaction (Figure 1 below).

Figure 1: Service-Dominant Logic (SDL)



Source: Vargo & Lusch (2008)

Additionally, Willie's concept of innovation enablers, which include technology adoption, market segmentation, and organisational culture, will be applied to assess how medical schemes can leverage these elements to innovate effectively (Ghani et al., 2023; Cheong et al., 2024; Willie, 2024). The study explored how market structures and settings influence the development of innovative service models, aligning them with the evolving needs of healthcare consumers and the strategic objectives of NHI in South Africa. This dual lens, macro and micro, enables a comprehensive understanding of the factors that shape innovation and improve healthcare accessibility.

4. Research Methodology

This study adopts a systematic literature review approach to explore service innovation within the context of South African medical schemes. The review synthesises existing research on enablers and strategies of service innovation, with a particular focus on technological advancements, customer insights, and regulatory frameworks (Tidd & Bessant, 2009; Randhawa & Scerri, 2015). Both incremental and radical innovations within the healthcare sector are examined to understand their contributions to service delivery enhancement and market differentiation (Sunderajah et al., 2020; van den Hoed et al., 2022).

A structured search strategy was employed across multiple academic databases, including Scopus, PubMed, and Web of Science, using keywords such as "service innovation," "healthcare," "medical schemes," "digital transformation," and "regulatory frameworks." The review applied specific *inclusion criteria*: peer-reviewed journal articles published in English within the last 15 years, empirical and theoretical studies addressing innovation enablers in healthcare settings, with a focus on service delivery or health financing mechanisms relevant to medical schemes. *Exclusion criteria* encompassed studies focusing solely on pharmaceutical innovation, non-healthcare industries, or those lacking clear methodological rigor.

The selection and screening process adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009), ensuring transparency and reproducibility in identifying relevant studies. Following initial database searches, duplicates were removed, and titles and abstracts were screened against eligibility criteria. Full-text reviews were conducted to confirm relevance, resulting in a final corpus of studies included for detailed analysis.

Data extraction focused on identifying key themes related to innovation drivers, barriers, strategic frameworks, and technological impacts. A thematic analysis was conducted to synthesise findings, employing coding techniques to categorise factors influencing service innovation at organisational and systemic levels (Braun & Clarke, 2006). This analytical approach enabled the integration of diverse perspectives and the identification of gaps in the literature.

5. Enablers of Service Innovation

Promoting long-term social and economic sustainability necessitates a strategic focus on sustainable healthcare financing, resilient health systems, and the minimisation of resource inefficiencies. Organisations that effectively leverage innovation enablers and drivers are better positioned to cultivate a dynamic environment conducive to continuous service enhancement, increased competitiveness, and meaningful societal impact (Arku, Shao, & Ankrah, 2023; Garrido-Moreno et al., 2024).

Service innovation, when examined, entails a complex synthesis of organisational capabilities, market intelligence, and enabling technologies. Arkum et al. (2023) underscore that value-creating innovations within service contexts are not merely operational enhancements but are foundational to service business model innovation (SBMI) a core determinant of sustainable organisational performance. Enablers such as human capital, digital infrastructure, and value-based pricing mechanisms must be strategically aligned to support long-term sustainability and inclusive growth.

Emerging technologies, including artificial intelligence and automation, offer transformative potential; however, their integration requires careful scrutiny. Beyond their utility in enhancing service delivery, their adoption raises substantive concerns regarding scalability, data security, and ethical governance (Verhoef et al., 2015). These concerns underscore the importance of a balanced, context-sensitive approach that safeguards against unintended negative externalities while promoting innovation.

Furthermore, inter-organisational collaboration and stakeholder co-creation are increasingly recognised as critical components of a resilient innovation ecosystem. Rodríguez-Espíndola et al. (2022) highlight the role of collaborative innovation in facilitating knowledge exchange and ensuring that innovation processes remain responsive to diverse stakeholder needs. A critical enabler of sustained innovation is the cultivation of an organisational culture that prioritises experimentation, reflexive learning, and adaptive leadership. Innovation does not emerge in isolation; it thrives within environments where leadership actively promotes psychological safety, inclusivity, and creative engagement (Ghani et al., 2023; Cheong et al., 2024; Swartz et al., 2021).

Equally important is the strategic utilisation of customer insights. As argued by Stremersch et al. (2024), insights derived from systematic market analysis and participatory engagement processes provide a foundation for innovation that is not only commercially viable but also socially attuned. Their study addresses significant gaps in the literature by: (1) offering a precise conceptualisation of customer insights in the context of innovation, (2) outlining a structured framework for the generation, dissemination, and application of such insights, (3) synthesising cross-disciplinary knowledge from domains including crowdsourcing, co-creation, observation, and behavioural tracking, and (4) articulating the managerial and scholarly significance of leveraging these insights for sustainable innovation.

Customer insight integration, supported by robust data analytics and contextual expertise, facilitates service innovation that responds effectively to both market demands and wider socio-economic imperatives. Integrating sustainability principles within innovation strategies empowers organisations to achieve operational excellence while simultaneously promoting the creation of equitable, responsive, and future-oriented systems. Figure 2 presents an expanded framework that elaborates on the attributes associated with the domains of customer insights for innovation as conceptualized by Stremersch et al. (2024).

Figure 2: Expanded Stremersch et al. (2024) domains of customer insights for innovation



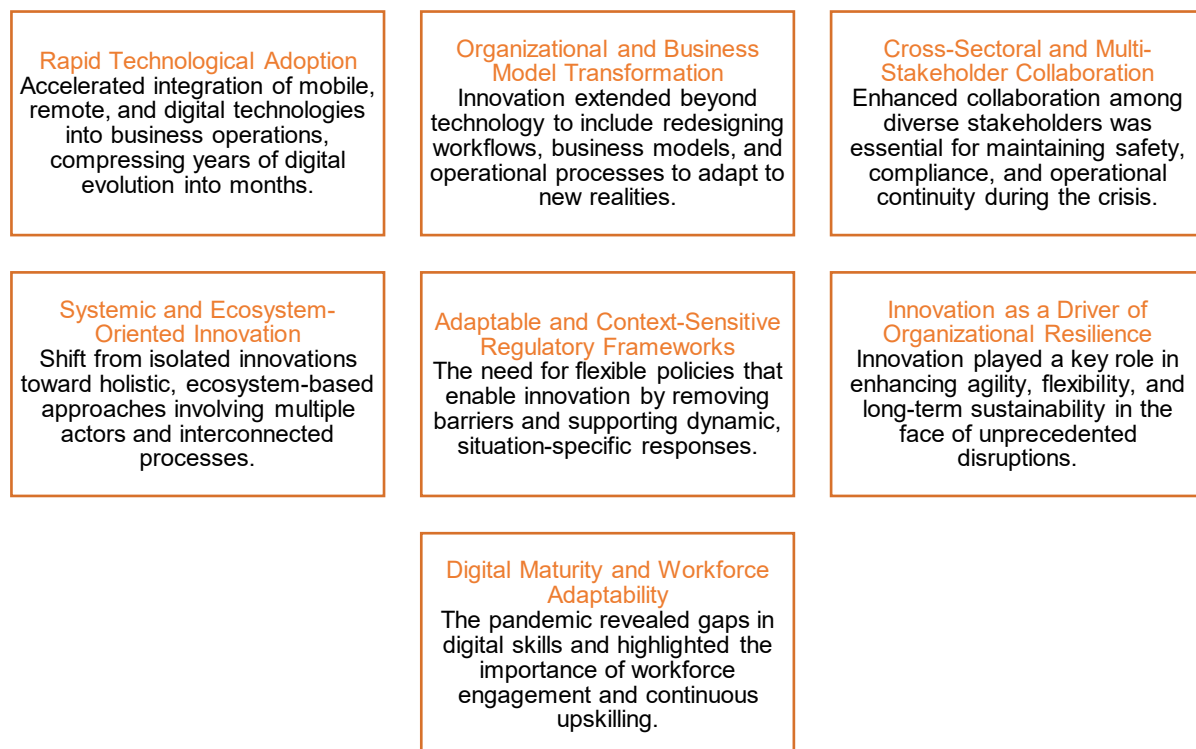
Source: Own construct

Investing in employee engagement and continuous skills development is essential for equipping organizations to drive innovation amidst rapidly evolving market conditions (Ghani et al., 2023). Maintaining an acute awareness of competitor strategies, regulatory shifts, and emerging trends enables firms to proactively identify opportunities and mitigate risks (Deep, 2023; Abubakar et al., 2024). Leyens et al. (2022) emphasize how the COVID-19 pandemic accelerated the adoption of digital technologies, catalysing a swift transition to remote services

and fostering unprecedented stakeholder collaboration to maintain operational continuity. Their analysis further underscores the importance of adaptable regulatory frameworks that support fit-for-purpose innovation strategies, enabling organizations to respond effectively to shocks such as pandemics or policy changes, thereby securing long-term sustainability.

The COVID-19 pandemic acted as a catalyst for the rapid technological adoption of mobile, remote, and digital technologies, accelerating digital transformation processes that would typically unfold over several years into a matter of months (Leyens et al., 2022; Purwanto, Wibowo & Rahayu, 2023). As illustrated in Figure 3, this swift integration enabled organizations to maintain continuity through remote work and digital service delivery, fundamentally altering operational landscapes. However, innovation extended beyond technology alone; it necessitated organizational and business model transformation, including the redesign of workflows and core processes to adapt to unprecedented market and social constraints (Latilla, Urbinati, Cavallo & Ghezzi, 2020; Leyens et al., 2022).

Figure 3: Key Learnings: COVID-19, innovation, and digital transformation



Source : Own construction

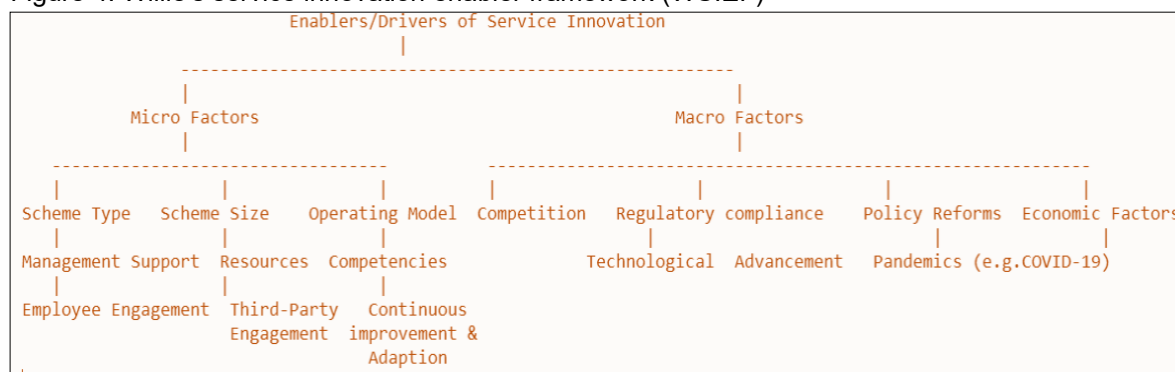
Leyens et al. (2022) emphasize the role of cross-sectoral and multi-stakeholder collaboration as vital for sustaining safety, regulatory compliance, and operational integrity during the crisis. This collaboration reflects a transition toward systemic and ecosystem-oriented innovation, where innovation is no longer confined to isolated initiatives but emerges through interconnected networks of actors and processes. Supporting these developments, the pandemic highlighted the imperative for adaptable and context-sensitive regulatory frameworks that can remove innovation barriers and enable dynamic responses tailored to evolving crises (Ringberg, Reihlen & Rydén, 2019; Moeenian, Ghazinoory & Yaghmaie, 2024).

Furthermore, innovation emerged as a key driver of organizational resilience, enhancing agility, flexibility, and long-term sustainability amid ongoing disruption (Leyens et al., 2022). Yet, the accelerated shift also exposed gaps in digital maturity and workforce adaptability, underscoring the critical need for employee engagement and continuous skills development to harness new technologies effectively (Salas et al., 2021). Collectively, these themes reflected visually in Figure 3 demonstrate how technology, collaboration, regulation, and human capital intersect to build more resilient and adaptive organizations in a rapidly changing environment.

6. Willie's Service Innovation Enabler Framework (WSIEF) for Medical Schemes

Building on the micro- and macro-level enablers, this study will develop a strategic framework integrating the WIE model to enhance service innovation within South African medical schemes (Figure 4). This framework provides actionable insights for medical schemes, administrators, and stakeholders to improve healthcare accessibility through structured innovation initiatives. Willie's study highlights key micro and macro factors that drive innovation within medical schemes, emphasising the importance of various internal and external elements that influence the success and sustainability of innovation strategies, as seen in the figure below (Willie, 2024).

Figure 4: Willie's service innovation enabler framework (WSIEF)



Source: Willie (2024)

6.1. Micro-Level Enablers: Organisational-Level Determinants of Innovation in Restricted Healthcare Markets

The inherent design of restricted medical schemes, governed by stringent regulatory mandates and defined beneficiary demographics, imposes significant limitations on their innovation potential. These schemes are often confined to pre-approved service offerings and operational boundaries, which inhibit expansive or disruptive innovation initiatives. However, within these confines, schemes can strategically leverage personalised health management programs, digital tools, and value-based care models to incrementally improve service delivery and operational efficiency, thereby fostering sustainable growth (Willie & Nkomo, 2014; Willie, 2024).

The scale and resource base of medical schemes are critical enablers or constraints in adopting innovative solutions. Smaller schemes frequently face substantial challenges including limited capital investment, dependency on external administrative support, and inadequate technological infrastructure (Schumpeter, 1934; Costa et al., 2024). These limitations slow down innovation diffusion and reduce organisational agility (CompCom, 2019; McIntyre & McLeod, 2020). Nevertheless, cost-effective digital innovations such as

telemedicine and automated administrative platforms can empower smaller schemes to overcome resource constraints and compete effectively with larger entities (Willie, 2024; Pawelek et al., 2022).

Effective governance mechanisms, including the composition and engagement of boards and executive committees, significantly influence the prioritisation and resourcing of innovation initiatives. Transparent decision-making processes and accountability frameworks support the alignment of innovation goals with organisational strategy (Crossan & Apaydin, 2010). Conversely, bureaucratic inertia and fragmented authority can stifle innovation momentum, underscoring the need for agile governance models that foster experimentation and rapid iteration.

The cultural milieu within medical schemes plays a decisive role in shaping innovation trajectories. Organisations that nurture a culture of openness, learning, and psychological safety encourage employees to engage in creative problem-solving and to embrace change (Swartz et al., 2021; Ghani et al., 2023). Resistance to change, whether due to entrenched routines, fear of failure, or scepticism toward digital tools, poses significant barriers to innovation adoption (Damawan & Azizah, 2020). Cultivating adaptive leadership and promoting continuous learning are therefore essential for overcoming these cultural impediments.

Senior leadership endorsement is indispensable for driving innovation. Leaders who champion innovation, allocate resources strategically, and foster cross-functional collaboration create an enabling environment for transformative initiatives (Swartz et al., 2021). Their ability to communicate a clear vision aligned with organisational goals catalyses commitment at all levels, ensuring the sustainability of innovation efforts despite operational challenges (Tidd & Bessant, 2021).

Investment in robust digital infrastructure forms the backbone of service innovation in medical schemes. The capacity to integrate electronic health records, data analytics platforms, and patient engagement technologies determines the scheme's ability to deliver personalised, efficient, and data-driven healthcare services (Ghobakhloo et al., 2012; Pawelek et al., 2022). Inadequate infrastructure and limited technical expertise represent significant obstacles, necessitating strategic partnerships and capacity-building initiatives.

The competencies and skills of the workforce influence innovation adoption and diffusion. Continuous professional development, digital literacy training, and interdisciplinary collaboration enhance the organisation's ability to implement and sustain new technologies and service models (Ghani et al., 2023). Human capital investments also support a learning culture that embraces innovation as a core organisational value.

Engaging internal and external stakeholders including members, healthcare providers, technology partners, and regulators is vital for co-creating innovative solutions that are responsive to contextual needs. Collaborative networks facilitate knowledge exchange, resource sharing, and the joint development of service innovations, enhancing their relevance and scalability (Rodríguez-Espíndola et al., 2022).

6.2. Macro-Level: Enablers of Innovation in Defined and Closed Markets Market Competition and Industry Dynamics

External competition serves as a critical catalyst for innovation within defined and closed healthcare markets such as medical schemes. Competitive forces compel organisations to adapt continuously and innovate in order to maintain or enhance their market positioning (Porter, 1980). Porter (1979) contends that strategic competitiveness stems from a comprehensive understanding of industry structures and shifts. The pressure to outperform competitors drives medical schemes to differentiate their service offerings, improve cost efficiency, and enhance member experiences (Damanpour & Aravind, 2012).

The dynamic nature of market demands necessitates agile and responsive strategies that can accommodate evolving consumer expectations. Innovation in this context often manifests through digitalisation, personalised care models, and the integration of new technologies. As competition intensifies, medical schemes are incentivised to target underserved segments, streamline operations, and implement technology-enabled solutions. These strategies collectively improve their market share while addressing the broader healthcare needs of the population (Jerab & Mabrouk, 2023; Javanmardi et al., 2024).

Regulatory environments play a dual role in facilitating and constraining innovation. On the one hand, regulation ensures consumer protection and financial sustainability; on the other, it imposes compliance requirements that can restrict organisational agility and delay the implementation of new technologies (Pisano, 2006; Harrington, 2010; Blind, 2012). Rigid or fragmented policies, coupled with protracted approval processes, often discourage innovation and risk-taking among medical schemes (Christensen et al., 2009; Teece, 2010).

However, adaptive and innovation-oriented regulatory frameworks—such as the use of regulatory sandboxes, pilot initiatives, and co-created policy models—can create enabling conditions for innovation. These mechanisms allow for iterative testing, stakeholder engagement, and the gradual scaling of solutions while maintaining compliance standards (Attrey, Leshner & Lomax, 2020; Andreini et al., 2022). Such collaborative approaches can support efficiency gains, increase service accessibility, and foster systemic adaptability in a complex healthcare landscape.

Macroeconomic stability and resource availability are pivotal determinants of innovation potential within medical schemes. Economic downturns and fiscal uncertainty often constrain the capacity of schemes to invest in digital transformation or novel service delivery models (Nelson & Winter, 1982; Hall & Lerner, 2010). Limited access to capital, fluctuating costs, and low financial risk tolerance are persistent barriers that stifle long-term innovation planning and implementation.

Nevertheless, opportunities exist to mitigate these constraints through strategic partnerships, donor funding, and innovative financing mechanisms. By exploring alternative revenue models or engaging in collaborative investment ventures, medical schemes can access the financial bandwidth needed to implement transformative technologies. This, in turn, promotes resilience, improves healthcare equity, and supports sustainable service delivery in resource-limited environments (Teece, 2010).

Technological progress is a primary enabler of innovation, enabling medical schemes to enhance administrative efficiency, clinical service delivery, and member engagement (Dong & McIntyre, 2014). The integration of digital platforms, electronic health records, telemedicine, and data analytics contributes to better outcomes and streamlined operations.

Despite the benefits, significant challenges persist. These include high upfront costs, limited in-house technical capacity, and internal resistance to change (Porter & Heppelmann, 2014). Medical schemes may struggle to justify the financial and organisational risks associated with digital transformation, especially in highly regulated environments. However, the adoption of modular, scalable solutions and investment in staff training can alleviate these barriers and lay the groundwork for sustainable innovation.

The COVID-19 pandemic acted as an accelerant for innovation in the healthcare sector, particularly among medical schemes. The urgent need for continuity in service delivery drove the rapid adoption of remote care solutions, digital communication platforms, and online administrative tools (Bailey & Breslin, 2021).

Nonetheless, the crisis also exposed structural limitations, including insufficient digital infrastructure, disparities in digital literacy, and constrained budgets (Sagan et al., 2021; Topp, 2023). These barriers inhibited full-scale deployment of digital innovations. Despite these challenges, the pandemic underscored the critical importance of building agile, tech-enabled systems capable of withstanding future disruptions. It highlighted the necessity for regulatory agility, stakeholder coordination, and long-term investment in digital transformation as pillars of a resilient healthcare ecosystem.

7. Study Limitations

While this study provides valuable insights into the enablers of service innovation within South African medical schemes, several limitations warrant acknowledgement.

First, the research primarily focuses on internal organisational and macro-environmental factors, without systematically assessing the direct impact of digital innovations on patient-centred outcomes such as satisfaction, health status, or cost efficiency.

Second, the study does not fully explore the cultural and organisational resistance to change at individual and team levels, which are critical sociocultural barriers to innovation adoption.

Third, the research adopts a cross-sectional design and thus does not capture the longitudinal effects of implemented innovations or the evolving influence of emerging healthcare models and new market entrants. Additionally, while grounded in the South African context, the findings' transferability to other settings requires further empirical validation.

Future studies should address these gaps by incorporating longitudinal, multi-stakeholder perspectives and examining innovation outcomes more holistically across diverse healthcare systems.

8. Discussion

This study aimed to explore and develop a strategic framework for enhancing service innovation within South African medical schemes, building upon the WSIE framework. The findings provide a nuanced understanding of both micro- and macro-level enablers that influence innovation capacity within medical schemes. By identifying internal organisational factors and broader system-level dynamics that drive or hinder innovation, the research fills a critical gap in the literature concerning the integration of service innovation in South Africa's healthcare financing sector.

At the micro level, the study confirms that the nature of the medical scheme including its classification and business model significantly shapes innovation potential. Despite regulatory constraints, restricted schemes have demonstrated the ability to innovate through personalised care approaches and digital health solutions. Resource availability and scheme size further influence innovation, with smaller schemes often facing adoption barriers due to financial and infrastructural limitations. Nevertheless, these schemes can still leverage cost-effective digital tools to improve service delivery. Leadership commitment and managerial support also emerged as crucial drivers, reinforcing the importance of fostering a culture conducive to innovation.

From a macro-level perspective, external dynamics such as competitive market pressures, regulatory structures, and evolving technological landscapes substantially affect the innovation trajectory of medical schemes. The findings suggest that market competition can act as a catalyst for service differentiation and operational efficiency. Regulatory flexibility, or the lack thereof, either promotes or impedes innovation, while digital transformation accelerated notably by the COVID-19 pandemic has catalysed the shift toward remote healthcare solutions and digital member engagement.

These insights are not only relevant to South Africa but hold potential applicability across other developing nations facing comparable challenges related to healthcare accessibility, regulatory rigidity, resource scarcity, and technological transformation. The WSIE framework, grounded in empirical evidence, offers a scalable and adaptable model for guiding innovation strategies in resource-constrained health financing environments. Many low- and middle-income countries (LMICs) encounter similar systemic barriers, making the framework a valuable reference for medical insurers and policymakers beyond the South African context.

Promoting long-term social and economic sustainability necessitates a strategic focus on sustainable healthcare financing, resilient health systems, and the minimisation of resource inefficiencies. Organisations that effectively leverage innovation enablers and drivers are better positioned to cultivate a dynamic environment conducive to continuous service enhancement, increased competitiveness, and meaningful societal impact (Arku, Shao, & Ankrah, 2023; Garrido-Moreno et al., 2024). Service innovation, when examined, entails a complex synthesis of organisational capabilities, market intelligence, and enabling technologies. Arkum et al. (2023) underscore that value-creating innovations within service contexts are not merely operational enhancements but are foundational to service business model innovation (SBMI), a core determinant of sustainable organisational performance. Enablers such as human capital, digital infrastructure, and value-based pricing mechanisms must be strategically aligned to support long-term sustainability and inclusive growth.

Emerging technologies, including artificial intelligence and automation, offer transformative potential; however, their integration requires careful scrutiny. Beyond their utility in enhancing service delivery, their adoption raises substantive concerns regarding scalability, data security, and ethical governance (Verhoef et al., 2015). These concerns underscore the importance of a balanced, context-sensitive approach that safeguards against unintended negative externalities while promoting innovation.

Furthermore, inter-organisational collaboration and stakeholder co-creation are increasingly recognised as critical components of a resilient innovation ecosystem. Rodríguez-Espíndola et al. (2022) highlight the role of collaborative innovation in facilitating knowledge exchange and ensuring that innovation processes remain responsive to diverse stakeholder

needs. A critical enabler of sustained innovation is the cultivation of an organisational culture that prioritises experimentation, reflexive learning, and adaptive leadership. Innovation does not emerge in isolation; it thrives within environments where leadership actively promotes psychological safety, inclusivity, and creative engagement (Ghani et al., 2023; Cheong et al., 2024; Swartz et al., 2021).

Equally important is the strategic utilisation of customer insights. As argued by Stremersch et al. (2024), insights derived from systematic market analysis and participatory engagement processes provide a foundation for innovation that is not only commercially viable but also socially attuned. Their study addresses significant gaps in the literature by offering a precise conceptualisation of customer insights in the context of innovation, outlining a structured framework for the generation, dissemination, and application of such insights, and synthesising cross-disciplinary knowledge from domains including crowdsourcing, co-creation, observation, and behavioural tracking. They further articulate the managerial and scholarly significance of leveraging these insights for sustainable innovation.

Customer insight integration, supported by robust data analytics and contextual expertise, facilitates service innovation that responds effectively to both market demands and wider socio-economic imperatives. Embedding sustainability principles into innovation strategies enables organisations to attain operational excellence while also fostering the development of equitable, responsive, and future-ready systems.

Nevertheless, several areas merit further investigation. The impact of digital innovation on patient-centred outcomes including satisfaction, health status, and cost efficiency has yet to be systematically assessed. In addition, cultural and organisational resistance to change at the individual and team levels remains underexplored. Addressing these sociocultural dimensions could provide a more holistic view of the barriers to innovation. This study also did not analyse the longitudinal effects of implemented innovations or assess the role of emerging healthcare models and new market entrants in shaping the innovation landscape.

While the findings are grounded in the South African healthcare context, their broader relevance lies in the shared structural challenges faced by developing nations. Future research should examine the applicability of the WSIE framework across diverse health systems to validate its utility as a strategic tool for enabling equitable, sustainable service innovation globally.

Conclusion

This study underscores healthcare accessibility as a cornerstone of social sustainability and inclusive development, positioning service innovation not merely as a business imperative but as a vital mechanism for enabling equitable, resilient health systems. The findings identify critical enablers of service innovation within South African medical schemes, including leadership support, organisational capacity, regulatory agility, and strategic use of digital technologies. Despite resource limitations, especially in smaller schemes, the adoption of cost-effective digital tools such as telemedicine and mobile health applications demonstrates substantial potential to improve access to care, reduce resource inefficiencies, and enhance service equity.

Importantly, the study situates these findings within a broader discourse on sustainable healthcare financing and system resilience. The WSIE framework offers a context-sensitive, adaptable model that can be generalised to other developing nations grappling with similar

challenges around healthcare accessibility, regulatory constraints, and resource scarcity. The COVID-19 pandemic served as a powerful accelerant of digital transformation, highlighting both opportunities and structural vulnerabilities within the healthcare system. Addressing persistent gaps, such as the limited understanding of digital innovation's impact on patient outcomes and the role of organisational resistance, remains a priority for future research. Ultimately, fostering innovation through inclusive leadership, regulatory responsiveness, and cultural transformation is essential for achieving long-term sustainability and equitable healthcare delivery across diverse contexts.

Credit Authorship Contribution Statement

The author was solely responsible for all aspects of the research, including conceptualisation, methodology, analysis, and writing.

Acknowledgments

The author wishes to thank Dr Abigail Chivandi for her academic guidance and support throughout the development of this study. Sincere appreciation is also extended to Mancosa and the Council for Medical Support for providing institutional support and access to relevant resources. The study did not receive any external funding, and there are no financial or other conflicts of interest to declare.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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