MANAGING THE ADVERSE EFFECTS OF AGEING IN THE PROPERTY PROFESSION THROUGH DECISION SUPPORT SYSTEMS

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ABSTRACT

The effects of ageing in the valuation professions include labour and skills shortages and resistance to innovations. Consequently, this article explains how property valuation decision support systems can be leveraged to address the potential loss of experienced valuers due to retirement. Based on semi-structured interviews involving 12 valuers in New Zealand, we discovered that digital innovations could be developed to capture, classify and store expert knowledge of ageing valuers in structured forms to enable sharing. Ageing valuers can also mentor young professionals through digital communication platforms. Furthermore, mundane tasks such as data entry, processing, and analysis can be automated to allow professionals to focus on tasks that require more experience and expertise. Thus, the adverse effects of ageing on the profession can be mitigated by developing expert systems and knowledge management-based decision support systems. The findings can be helpful in policy analysis of the future of the property profession.

Keywords: ageing professionals, property valuation, digital innovations and technologies, decision support systems, property technology, New Zealand

INTRODUCTION

People over 60 years and above would be approximately 1.4 billion by 2023 and 2.1 billion by 2050 (World Health Organisation, 2024). These estimates highlight the extent of the ageing workforce across industries and the critical professional challenges. Professional service firms (PSFs) depend heavily on highly skilled practitioners to provide excellent services (Olsen et al., 2019). For the property profession, ageing is a natural phenomenon synonymous with property depreciation. However, this paper focuses on the functional obsolescence effects of ageing as the consequential effect of retiring property professionals on the industry's future. The implications of older workforces retiring include labour and skill shortages, while their dominance in the professional practice could derail digital transformation. Generally, retiring professionals possess extensive expertise and experience (Olsen et al., 2019) but are technophobic. This is a challenge amid digitalisation and datafication.

In Australia and New Zealand (ANZ), there are challenges with the influx of young professionals into the valuation profession (Wilkinson et al., 2017; Elliott & Warren, 2005). This is happening at a time when data sources and volumes encourage the automation of mundane activities in the valuation processes. As older valuers retire, it is crucial to attract young talents into the profession (Wilkinson et al., 2017) while leveraging digital innovations to mitigate the knowledge transfer risks posed by the rapidly rising number of older valuers in any profession. Professional bodies have long acknowledged the impacts of emerging innovations like artificial intelligence (AI), advanced valuation models (AVMs), and other technology-driven valuation approaches on the industry (Scheurwater, 2017; Wilkinson et al., 2017) highlighting the fact that the future of the property profession intersects with the digital revolution. As a result, property professionals must embrace digital skills to improve professionalism in the industry. Amid industries evolving into socio-technical systems, adopting relevant digital innovations as decision support systems (DSSs) will become necessary to enable the profession to maintain its relevance in the socio-economic development of nations. For valuers, digital technologies have become data sources, tools and channels for collecting, analysing, and sharing data and information. Hence, relying exclusively on traditional valuation tools will be challenging in the era of digitalisation (Kasim et al., 2024).

Consequently, *"there is …the need for electronic and dynamic knowledge transfer…[and] the urgency to find a workable solution to reverse the greying of the profession"* (Gilbertson, 2003, cited in Elliott & Warren, 2005). Given this challenge, we investigate professional valuers' views on adopting property valuation innovations (PVIs) as DSSs to mitigate the adverse effects of ageing in the valuation profession in New Zealand (NZ).

THEORETICAL CONTEXT

Professional services in the digital economy

The global work environment changed drastically since 2020. Emerging technologies amid the COVID-19 pandemic influenced significant transformation in industries, especially in jobs automation due to artificial intelligence (AI), virtual collaborative platforms, unmanned aerial vehicles (UAVs), and robotics (World Economic Forum, 2020). For PSFs, analytical and cognitive technologies will significantly impact the knowledge-based economy (Handfield et al., 2019; Lent, 2018). Hence, PSFs are paying attention to projections about how digital innovations may fundamentally transform the knowledge-based economy (Lent, 2018; Zavadskas et al., 2010). These innovations will impact turnover and skills in the property profession (Kasim et al., 2024; Kasim et al., 2023) as labourious repetitive tasks may be eliminated, creating opportunities for digitally proficient professionals while displacing low to middle-skilled professionals (Lent, 2018). This will affect PSFs' most valuable asset, i.e. human capital (Olsen et al., 2019). Meanwhile, it will be difficult to predict how technology will evolve and plan accordingly because of the pace at which the technological revolution is occurring. However, the threat of ageing professionals to PSFs' ability to retain a knowledgeable workforce is also a critical challenge (Lent, 2018). Hence, to avoid technology-induced job displacement, property professionals, like all other service consultants, must acquire relevant digital proficiencies to add value to themselves and improve services rendered to the public (Kasim et al., 2024). The digital transformation will continue to impact organisations' processes, products and services. So, PSFs must transform their workforce to enable them to operate in the digital environment (Kasim et al., 2024; Eden et al., 2019). This will require DSSs to reduce the impacts of age-related turnover and transferable skills challenges.

Furthermore, ageing in PSFs is not existential but contingent. Age-related issues in PSFs include difficulty performing activities due to reduced cognitive ability, deftness and impaired vision (Özsungur, 2022). Typically, these physical and mental concerns lead to retirements. However, adopting DSSs may encourage some older workforces to retire very late. Nonetheless, studies show that cognitive impairment increases with ageing, thus affecting older workforces' ability to concentrate in exacting technological environments (Scriven, 2016). So, technological advances and ageing are two societal phenomena that challenge the future of PSFs in terms of workforce and skills. For professions struggling with intergenerational transition, ageing among workforces will cause a deficit in labour and expertise (Olsen et al., 2019). This will affect the competitive advantage of PSFs because the knowledge-based economy thrives on long service experience, specialist skills, and relationships that are not easily substitutable (Singh, 2021; Olsen et al., 2019). Hence, retiring from the older workforce is a knowledge risk to PSFs. In NZ, the government reported a workforce of 1.1 million people aged between 45 and 64 in 2023 (Ministry of Social Development, 2024). However, automating repetitive tasks generates skills mismatches, impacting low-skilled older workers more than highly-skilled workers (Aisa et al., 2023).

The valuation profession amid an ageing workforce and digital transformations

The valuation profession has used certification to improve the profession's reputation. However, turnover and generational transition challenges could result in the loss of seasoned professionals in property valuation firms (PVFs). The profession is knowledge-based, making highly knowledgeable professionals the preferred choice for employment by PVFs (Elliott & Warren, 2005). Meanwhile, ageing in the valuation profession is a reality, and the impacts are aggravated by fewer younger valuers entering the profession (Wilkinson et al., 2017). Besides concerns over ageing in the profession, data is a valuable resource in valuations. Property data and market evidence have revolutionised significantly (Kok et al., 2017), making technology one of the primary sources of data as well as a data management tool and a vital platform for communications and engagements

between valuers and their clients (Kasim et al., 2024). This transformation in property valuation data has led to some valuers adopting valuation algorithms to process and analyse vast data for valuations (Abidoye et al., 2021). Thus, in some jurisdictions, PVFs are implementing technological valuation approaches such as valuation management systems (VMS) and adopting AVMs to improve operational efficiencies and quality of valuations (Liman et al., 2024).

That notwithstanding, best practice in the valuation profession is primarily defined by professional membership, compliance with professional ethics and standards, and the ability to perform PVFs' activities reasonably and objectively. So, despite AVMs' emergence in the 1990s or much earlier (Glumac & Des Rosiers, 2021), there is no universal acceptance of AVMs as DSSs for property valuations (Renigier-Biłozor et al., 2022). However, as a data-centric profession, the valuation profession cannot execute its public service obligation in the digital environment without PVIs. Therefore, valuers must be able to use relevant DSSs to improve operational efficiency and quality service delivery (Kasim et al., 2024; Elliott & Warren, 2005).

Additionally, technology is perceived as a complex innovation. This usually generates apprehension among older professionals, who sometimes do not see the need to change well-established traditional valuation practices. As a result, older workforces often do not participate in technology-driven skills development programs because of the retirement plans. Moreover, older workforces lack relatability to new technologies. They may invest too much time acquiring skills they may not utilise before retirement (Singh, 2021) because emerging technologies keep evolving and require time to understand before implementation. Nonetheless, the knowledge and experience of older workers are so valuable that most organisations continue to rely on ageing professionals for their rich experience and expertise to gain a competitive advantage (Olsen et al., 2019).

Therefore, as the number of professionals in the older workforce brackets grows (Wilkinson et al., 2017), it is essential to leverage the power of digital technologies to develop DSSs to facilitate professional practices while serving as a means of knowledge-sharing (Elliott & Warren, 2005). Leveraging the capabilities of DSSs can help promote knowledge transfer among professionals. For instance, expert systems (ES) are intelligent DSS (IDSS) designed to facilitate knowledge transfer from seasoned professionals to novices (Arnott & Pervan, 2005; Trippi, 1990). As explained earlier, PSFs prefer professionals with significant knowledge of the industry's culture (Olsen et al., 2019). Meanwhile, after years of professional practice, the efficiency of older workforces drops due to work-life balance needs (Singh, 2021). The older workforce generally shifts interests towards leadership and mentoring roles (Kasim et al., 2024). Consequently, the unavailability of flexible work arrangements, such as coaching, may influence high turnover and result in the loss of promising talents (Olsen et al., 2019). So, amid an ageing and shrinking workforce, there is a need to find strategies to facilitate the transfer of knowledge from talented older to young professionals. IDSSs, such as knowledge-based management DSS (KMDSS) and ES, can be developed to capture the diverse experiences of professionals. These KMDSS will serve as knowledge banks with comprehensive insights into how past workforces handled complex and simple tasks for present and future professionals to enhance their decision-making skills. Thus, DSSs will help PSFs nurture and develop talented young professionals to ensure knowledge transfer within the profession (Singh, 2021; Arnott & Pervan, 2005; Trippi, 1990).

METHOD

This study adopted a qualitative research approach to explain how DSS can be used to mitigate the adverse effects of ageing and decreasing workforce in the property valuation profession in New Zealand. DSSs significantly impact information-seeking and processing, which is the core function of valuers through the valuation process (Bellman, 2018; Kok et al., 2017). Some recent property valuation research argues that technologies such as data-oriented models or algorithms can facilitate information processing in the valuation process (Deppner et al., 2023; Kok et al., 2017). Qualitative studies are interpretative and heavily applied in social science research because of the philosophical and methodological approaches used in explaining social reality (Saunders et al., 2016). The interpretivism research philosophy argues that the social environment cannot be explained as a physical phenomenon, thus highlighting the notion that different people will not give the same report after their experiences with the same thing, which makes reality multidimensional.

Given that the valuation profession is reluctant to adopt emerging technologies (Scheurwater, 2017; Kirkwood, 2004), an interpretative qualitative approach enables inductive reasoning to conclude (Myers, 2018; Saunders

et al., 2016) from the tacit knowledge of valuers with relevant experiences on the topic. Research shows limited acceptance of technological approaches to property valuation (Renigier-Biłozor et al., 2022). Consequently, applying a qualitative research strategy enabled the researchers to explain valuers' perspectives on the topic as qualitative research objectives usually seek to explain 'why' or 'how' (Bloomberg & Volpe, 2008). These open-ended questions facilitate the discovery of participants' insights instead of directional questions that require simple approval or disapproval responses (Peterson, 2019).

Accordingly, semi-structured interviews were conducted after ethics approval was granted. The interviews focused on establishing from valuers' viewpoint how DSSs can be leveraged to deal with the challenges of the older workforce who may be retiring amid low entry of young professionals into the valuation profession. This approach to data collection reveals the issues essential to research participants in their social environment (Tracy, 2024). The interviews were conducted via Microsoft Teams, recorded and transcribed. Transcriptions were sent to corresponding participants to confirm if the content reflected their views. The participants were recruited through a purposive sample of members of the Property Institute of New Zealand (PINZ). The participants possessed other affiliations such as the New Zealand Institute of Valuers (NZIV), the Plant and Machinery Valuers Institute (PMVI), the Australia Property Institute (API), the Royal Institution of Chartered Surveyors (RICS), and the Financial Services Institute of Australia (FINSIA). A brief profile of the participants is presented in **Table 1.**

Table 1: Research Participants Profile (Authors' construct)

Registered valuer (RV)	Affiliation	Position	Years of Experience
RV1	*Member, PINZ*	Regional Director	10
RV2	*Member, PINZ & Associate, API*	Associate Director	7
RV3	*Member, PINZ*	Regional Director	23
RV4	*Fellow, PINZ & Member, RICS*	Director, Valuation & Risk Advisory	32
RV5	*Member, PINZ*	Operations Manager	10
RV6	*Fellow, RICS & Fellow, FINSIA*	Managing Director, Valuations & Advisory	31
RV8	*Member, PINZ*	Team member – Valuations	1
RV7	*Fellow, RICS, Member, PINZ, Associate, NZIV*	National Director, Valuation & Advisory Services	28
RV9	*Member, RICS & Member, PINZ*	Director, Valuation & Advisory Services	18
RV10	*Member, PINZ*	Valuation & Advisory services	9
RV11	*Member, PINZ*	Team Member - Valuations	3
RV12	*Member, PINZ & Member PMVI*	Team Leader -Valuations	12

Based on a systematic approach to qualitative data analysis (Gioia, 2021), the interview data was analysed using NVivo software to facilitate within and across-case analysis. This enabled the generation and clustering of codes to formulate themes based on the patterns of concepts in the data (Huber et al., 2017). The themes were explored to demonstrate how the research objective was achieved, as presented in **Figure 1**. The data analysis revealed three critical factors of ageing in the property profession that cause labour and skills shortages and derail innovation. These adverse effects of ageing in the profession can addressed with the help of relevant DSSs.
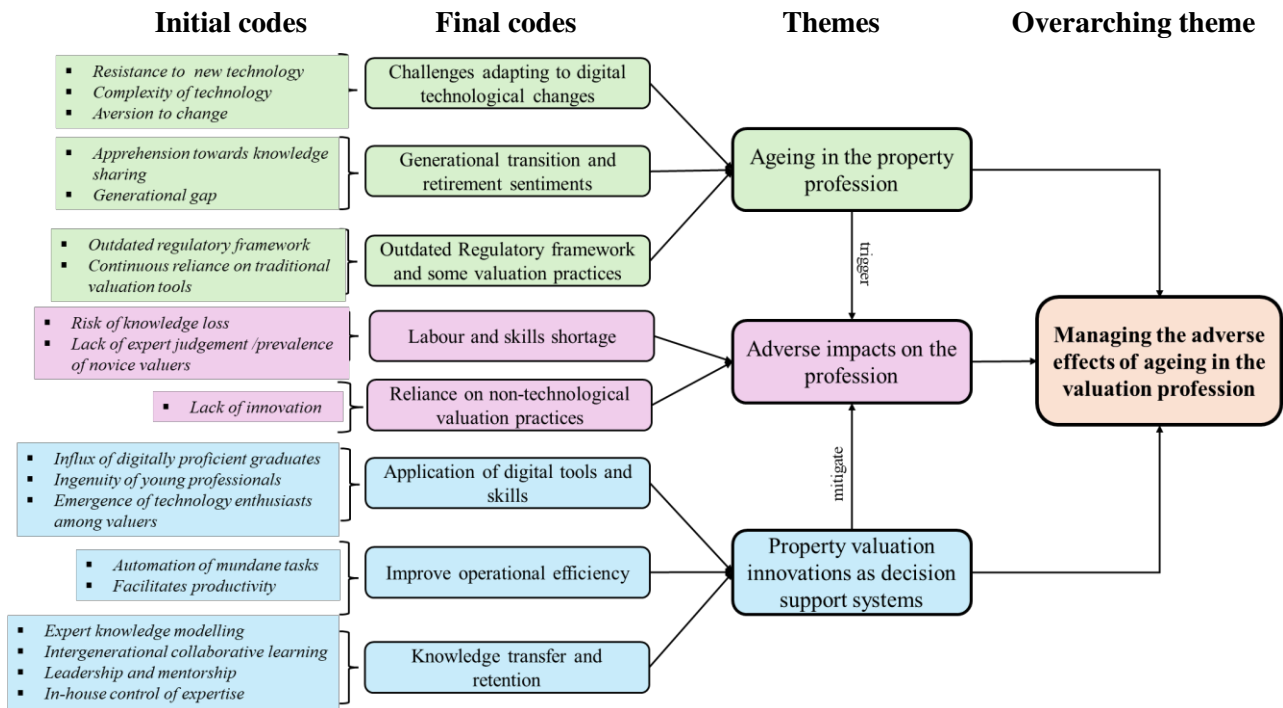
Figure 1: Data analysis model (Authors' construct)

FINDINGS AND DISCUSSION

The study findings discussed in this section are presented in **Table 2**.

Table 2: Summary of findings (Authors' construct)

Ageing in the valuation profession	Adverse effects of ageing on the valuation profession	Mitigating ageing in the valuation profession through decision support systems
• *Challenges adapting to digital technological changes* • *Generational transition and retirement sentiments* • *Outdated regulatory framework*	• *Labour and skills shortage* • *Reliance on non-technological valuation practices*	• *Application of digital tools skills* • *Knowledge transfer and retention* • *Operational efficiency*

Ageing in the property profession

From the interviews, ageing in the property valuation profession manifests in older workforce attitudes towards digital transformation, generational transition and retirement sentiments, outdated regulatory frameworks and some valuation practices. As discussed in the following paragraphs, these issues contribute to the shortage of professional valuers and expertise and the lack of innovation.

Challenges adapting to digital technological changes

Some older professionals struggle to use emerging technologies (Handfield et al., 2019). Our findings indicate that while most younger people are familiar with digital technologies through universities, older valuers are averse to adopting valuation management systems, data collection and analysis tools, and advanced valuation models. Reflecting on this, one participant indicated that *"there are different personalities in the profession when adopting new technology. While one group prefers to run with the status quo, the other likes to leverage its efficiency and improve work processes" (RV9)*. Also, technology complexity influences older workforces' resistance to digital innovation. This was reported by one participant as *"emerging innovations confuse a number of the older generation of valuers. Understanding these new technologies is a bit more difficult because they are used to the traditional way." (RV10)*. Moreover, valuers' sentiments towards retirement contribute to

their resistance to change, as one interviewee revealed: "*some older generation of valuers invest time in understanding it while others are not willing because they will retire soon" (RV10)*. The reluctance to adopt technological approaches to professional practice affects the efficiency and competitiveness of ageing professionals in the digital environment despite their profound professional experience (Scriven, 2016).

Generational transition and retirement sentiments

As older workforces retire, younger professionals should take over. However, the demographics of the valuation profession skew towards the ageing population because PVFs struggle to find certified young valuers to hire (Wilkinson et al., 2017). Moreover, the certification process is too long for many graduates who want to enter the industry immediately after university. Given this, one participant stated that *"the young people need to replace older professionals who retire, but how this happens is not driven by an industry-wide policy" (RV7)*. This causes labour shortages while affecting knowledge transfer from older to younger professionals, thereby impacting the consistency of professional culture. Meanwhile, managing the generational transition in every profession is crucial to ensure its sustainability because the younger valuers are energetic and may possess novel ideas. However, they lack expert judgment and deep insights about the profession and the industry (Aisa et al., 2023). Hence, they need the guidance of senior professionals. Therefore, one participant revealed that *"the industry needs the younger people, but half our junior jobs could be done by emerging technologies, which is a risk in terms of how many young professionals come in" (RV7)*.

Outdated regulatory frameworks and some valuation practices

While most industry stakeholders are adopting emerging digital technologies and transforming their work processes and practices, the valuation profession appears to lag (Scheurwater, 2017; Kirkwood, 2004). Though several factors may account for this, the regulatory framework of the property professional struggles to keep pace with the digital environment. For instance, one participant said, *"The Valuers' Act hasn't been updated since the 40s, hence quite an old piece of legislation that does not accommodate the changing nature of the work we do" (RV1)*. Outdated legislation can pose significant challenges to professionals who want to adopt emerging innovations. Under such circumstances, older professionals may be comfortable with the status quo since they are accustomed to the established practices (Singh, 2021). However, younger professionals may struggle to avoid ethical and compliance issues as they integrate new technology into professional practices. One interviewee underscored this as *"valuation is an old profession. The core principle remains the same over many years, decades and centuries within some markets" (RV5)*.

Adverse effects of ageing on the valuation profession

The study revealed labour and skills shortages and lack of innovations as the key challenges arising from ageing professionals in the property valuation profession. The skills deficit, labour shortages and reliance on non-technological valuation practices have significant implications for productivity and expertise retention.

Labour and skills shortages

Ageing professionals is a significant concern across industries (European Commission, 2014; BusinessNZ, 2022), especially those with low entry of young graduates. From the interviews, one participant echoed this issue in the following words: *"It's an ageing industry. About 60% of valuers are over 60...., probably about 5 to 10 years, all these knowledgeable valuers are going to retire" (RV1)*. This corroborates concerns in extant literature that the valuation profession faces a low influx of young professionals as the size of the ageing workforce increases (Wilkinson et al., 2017). This poses a critical knowledge transfer risk. Relative to the consequence of ageing in the profession, one participant stated, *"What do we do when all those people retire" (RV1)*. As a result, critical expertise and knowledge may not be transferred from experienced older valuers to younger valuers. So, while ageing professionals result in a shortage of skilled workers, the industry risks losing its seasoned professionals, specialised skills and historical knowledge through retirement or decreasing professional membership.

Hence, the valuation profession may lack expert judgment in the future as experienced professionals retire and inexperienced professionals take over. However, professional practices are driven by expert judgments, which require deep experience and a nuanced understanding of the operation of a particular industry (Olsen et al., 2019). One research participant explained this concern: *"Experience is something that you can't teach. I see my managers reviewing my valuation and saying you're too low on this." (RV11)*. So, ageing in the valuation profession may lead to the loss of experienced professionals, causing a deficit in expert judgment. Thus, the dominance of inexperienced professionals may result in poor valuation decision-making, operational inefficiencies, and inaccuracies in professional practices, affecting service delivery and client satisfaction. This can damage the profession's reputation. This was alluded to by one participant who said, *"The young people use the technology, but you need the more experienced people to, say, hold on, that's not right" (RV7)*.

Reliance on non-technological valuation practices

The valuation profession neither prescribes nor prohibits innovation. As a result, some valuers focus on traditional valuation practices and overlook the need to embrace emerging innovations to gain a significant advantage. Generally, senior valuers are unwilling to innovate because of innovation risks and inertia to change practices they have perfected over the period. One interview participant said, *"the majority of the industry [workforce] is older, they think you don't fix what's not broken" (RV1),* while another disclosed that *"The young people use the technology, but you need the more experienced people to, say, hold on, that's not right" (RV7)*. As industries rapidly change, new market demands and technological transformation require shifting from traditional approaches to integrating technological approaches in valuations. However, the profession's current valuation regulations and hierarchical structures appear to stifle digital transformation. Thus, there is the notion that *"valuation is an old profession. The core principle remains the same over many years, decades and centuries within some markets" (RV5)*. Likewise, senior valuers favour conventional approaches and promote the status quo against the desire for creativity and innovation among digital enthusiasts and younger valuers. As a result, one interviewee disclosed, *"when adopting new technology, there is one group [that] prefers the status quo while the other group likes to leverage its efficiency" (RV9)*

Property valuation innovations as decision support systems

In the era of digitalisation, professionals must consider technologies that can improve operational efficiencies and model expert knowledge to facilitate knowledge retention and sharing. The study revealed that digital technologies can be applied in valuations to improve operational efficiency while creating knowledge transfer and retention opportunities. The creativity of younger valuers who nurture interests in applying digital innovation in the professions presents the PVFs with the opportunity to leverage valuation technologies as DSSs to mitigate the adverse effects of ageing.

Application of digital skills and tools

Some aspects of the valuation process, such as data collection, analysis, and clienteling, are being computerised (Wilkinson et al., 2017; Zavadskas et al., 2010). While information technologists are at the forefront of digitalisation in the valuation profession, some of these innovations are introduced by digitally proficient property graduates entering the profession. Although a few graduates are entering the valuation profession, most possess digital skills. One participant acknowledged this development in the statement, *"With more young people coming into the industry are open to technology" (RV1)*. The young professionals have developed digital proficiencies from the universities and can use emerging technologies and digital platforms to streamline processes while staying competitive in the digital work environment. Hence, another participant asserted, "*There's a lot of things that we know from university or through friends" (RV8)*. Nonetheless, technological innovations can be capital-intensive, thus creating a barrier to most firms, except that some *"big companies have the funding to develop the technology" (RV10)*.

Also, the ingenuity of younger professionals can stimulate the development of DSSs for the valuation profession. Generally, young professionals can be very creative. They can bring their innovativeness into professional practice to deal with mundane tasks (Scriven, 2016). One participant explained that *"the younger valuers are more into the modelling and assist a lot more in making our models more efficient and reports*

better" (RV9). Thus, young professionals usually seek to leverage technology to solve problems efficiently. This can lead to the creation of novel approaches to solving old problems or transforming professional practices to increase operation efficiencies and improve service quality.

Moreover, technology enthusiasts are emerging in professions. Thus, with the profound capabilities of emerging technologies and clients' preference for technology-driven professional services (Wilkinson et al., 2017; Scheurwater, 2017), there is an increasing interest in applying digital technologies among some professionals. Hence, one interview participant said, *"I'm nearly 45 and upskilling to work for a technology-led valuation firm" (RV3)*. These technology enthusiasts are usually early adopters of emerging technologies and drive digital transformation in their firms and the industry. They promote continuous professional development, aim to keep their firms ahead of digital innovation and foster a culture of digital professionalism in the industry. Nonetheless, there are concerns such as *"though [we are] one of the bigger firms ..., the industry can only walk as far as our slowest member." (RV3)*.

Knowledge transfer and retention

A generational shift in the property valuation profession is visible as tech-savvy younger professionals take over from the older workforce. However, generational knowledge exchange and adaptation challenges persist because older and younger professionals have different perspectives on work values. This can impact teamwork and collaboration and obstruct efficient knowledge sharing (Olsen et al., 2019). So, to promote knowledge transfer for young professionals to gain from the insights of ageing professionals to avert knowledge loss, the number of new professionals entering the valuation profession must increase (Wilkinson et al., 2017). Meanwhile, one participant reiterated that: *"It's an ageing industry. About 60% of valuers are over 60...., probably about 5 to 10 years, all these knowledgeable valuers are going to retire" (RV1)*.

Therefore, this study contends that the generational transition in the valuation profession should be managed to ensure that as older professionals retire, potential gaps in expertise can be bridged through successful knowledge transfer from older to younger valuers. One participant emphasised this: *"The industry needs the younger people" (RV7)*. Amid the demographic challenges, the industry must automate some tasks to minimise the risk of losing transferable skills as one interview participant explained: *"A younger valuer with digital skills works more efficiently than a valuer who's still using very manual steps" (RV5)*. Automation facilitates sustainable knowledge sharing, but the attitudinal differences in technology adoption among older and younger valuers can impede the realisation of intergenerational knowledge sharing. Ageing professionals are generally less inclined to embrace emerging innovations (Singh, 2021). Under some circumstances, however, older professionals may be motivated to embrace DSSs once they understand their benefits. One participant disclosed, *"Automation frees valuers from mundane tasks to focus on risks and hazards that impact value" (RV5)*. Also, another participant stated: *"My management role is performance and team culture. Adopting technology is helping us improve our performance" (RV7)*. This shows that some professionals will adopt property valuation innovations once their relative advantages are observable.

Hence, there is a need for urgent measures to ensure the transfer of knowledge between older and younger valuers to prevent the loss of valuable industry knowledge due to retirement. Strategies such as intergenerational collaborative learning (ICL), expert knowledge modelling (EKM) and leadership/mentorship can be explored to address the labour and skills shortages in the valuation profession. The adverse effects of demographics in the valuation profession can be managed by fostering learning and collaboration between ageing professionals and their younger counterparts (Elliott & Warren, 2005). Such collaborations will help professionals leverage the benefits of diversity in skills and perspectives. One participant suggested that *"one way of dealing with this is to have a diverse team that comprises younger and older professionals to complement each other" (RV4)*. Therefore, ICL can stimulate seamless knowledge transfer for mutual professional growth since older professionals can provide deep industry knowledge and experience while younger professionals share their digital skills and creativity. Relative to this, one participant revealed: *"The younger generation and older people embrace collaboration to learn from different experiences" (RV12)*. ICL can help bridge the knowledge gaps between generations to ensure the transition of valuable insights and well-established best practices to younger professionals even as they embrace emerging innovations. One participant explained this as *"a reverse support system [that] occurs as the younger valuers tend to coach the seniors through technology" (RV7)*.

Furthermore, concerns about potential expert knowledge loss due to ageing and retirement in the valuation profession can be addressed through EKM. This is already anticipated in the profession, as one participant averred that *"... digitalisation of valuation knowledge is possible." (RV11)*. In the digital environment, EKM is one of the best ways to deal with the risk of essential skills loss due to the inevitability of ageing and retirement. EKM requires the capture and formalisation of knowledge and expertise of experienced practitioners into models, frameworks or systems for others to use (Arnott & Pervan, 2005). However, rather than using DSSs, some older workforces rely on junior staff to perform repetitive tasks. Highlighting this, one participant said, *"[Some employers] use young people like support staff, but can [the older] people record their experiences?" (RV11)*.

Moreover, EKM can be adopted to digitalise experienced valuers' decision-making processes to ensure that their complex skills and insights are captured and digitised in a comprehensive way that can be understood and applied by less experienced professionals. One participant echoed this concern: *"[We] have an ageing population of valuers with much knowledge. How do you capture that knowledge?" (RV11)*. Thus, the valuation profession urgently needs to leverage DSSs to capture and preserve renowned experts' critical knowledge.

In the corporate business environment, competence and competition are sacred because the skills of professionals are the strength of businesses in any competitive industry (Olsen et al., 2019). As a result, PSFs must have some control over their expertise to mitigate the risk of relying heavily on competitors (Eriksen & Mikkelsen, 2013; Agha et al., 2012). As a result, one participant indicated that *"over-reliance on IT companies for [valuation technology] expertise can be risky. In-house would be one way to mitigate the risk." (RV8)*. Similarly, critical knowledge for competitive advantage can be modelled to ensure that such expertise is developed, preserved and available to future professionals within PVFs, as recommended by one participant: *"With the technology taking over and AI coming in, how would valuers minimise [technology-related] risk? We have to create the model ourselves." (RV8)*.

Finally, strong leadership and mentorship are essential to effectively deal with ageing and its effects on the valuation profession. Mentorship would allow older valuers to identify junior valuers they want to nurture. Likewise, the junior valuers can freely choose senior valuers to learn from. Effective mentorship occurs when a willing knowledge sharer and a willing learner establish a collaborative learning environment (Kasim et al., 2024; Curtin, 2016). This approach works well when more experienced professionals voluntarily provide guidance and support to less experienced colleagues. As a result, one participant asserted: *"[those with] 30 years of experience and can provide information or expertise better than younger valuers."* and questioned: *"Can they be writing papers, organising seminars or case studies that can be recorded and easily accessed? (RV11)*.

Therefore, as ageing threatens the valuation profession, leaders and mentors can play a vital role in promoting knowledge sharing to help the younger valuers hone their professional skills. One participant advised that "*the younger generation and older people embrace collaboration to learn from different experiences" (RV12)*. Indeed, given the nature of professional practice, mentorship can foster a harmonious culture of learning and development since mentors will continuously impart critical knowledge to nurture mentees as the next generation of professionals. These measures can help the profession to utilise digital technologies' capabilities to mitigate the adverse effects of ageing among professional valuers. Sharing their experience with DSSs, one participant said: *"[our colleagues] have fully modelled databases enabling 10 to 12 valuers to value 600,000 properties every year"* and indicated that valuation models have *"enhance quality data analysis for valuation decision-making" (RV1)*. Another participant reported: *"Information output quality has improved due to quality data capture and valuation modelling." (RV9)*.

IMPLICATIONS FOR THEORY AND PRACTICE

Digital transformation requires workforce transformation in PSFs (Eden et al., 2019). The study's findings underscore the need to leverage the capabilities of DSSs to tap into the knowledge of older workforces for the younger generation of professionals while safeguarding the competitive advantage and survival of PVFs. Thus, property valuation innovations can be developed as DSSs to improve operational efficiencies while serving as a means to facilitate knowledge retention, learning and professional development. This will help reduce the adverse impacts of ageing and retiring professionals on PSFs and the profession's future (Wilkinson et al., 2017) through professional membership policy analysis. As a result, PVFs must embrace digital innovations

to transform valuation practices while enabling the retention of valuable knowledge of experienced professionals for intergenerational knowledge transfer (Olsen et al., 2019).

Theoretically, the study contributes to the literature on emerging technology acceptance in PSFs. It also explains the nuances of adopting emerging innovations in property valuation. Studies have examined the potentials of DSSs, such as integrating advanced algorithms and models in the valuation process. However, few have explored the factors influencing the diffusion of DSSs in the property profession (Abidoye et al., 2021). This study, thus, provides insights into how digital technologies can be embraced to address critical demographic concerns in the valuation profession (Wilkinson et al., 2017). It further highlights the consequences of gatekeeping in professions for intergenerational knowledge transfer (Olsen et al., 2019).

CONCLUSION

This paper explored how digital innovations can help address the property valuation profession's demographic challenge. Despite the benefits of post-retirement work arrangements as measures to tap the expertise of older workforces, it is challenging to re-engage or retain the older workforce because some may be willing to work but difficult to manage.

Managing older workforces who may be technophobic in a tech-savvy and tech-native environment requires careful role assignment to leverage the full capabilities of age-diverse professionals. Nonetheless, nothing can be done to get the best out of the older professionals than implementing measures to ensure the transfer of expertise to the junior professionals. For the older workforce, firms can employ DSSs to capture and store their rich professional experiences for future generations. This presents an opportunity for knowledge retention for posterity.

Therefore, this study explains that the PVFs and professional bodies can manage the adverse effects of ageing in the valuation profession and low entry of young professionals by adopting digital innovations as decision support systems. DSSs, such as intelligent valuation decision support systems, can be developed to help preserve a talent pool of expertise for intergenerational use. Also, PVFs can improve efficiency and productivity by automating work processes to reduce the labour required to perform such tasks (Wilkinson et al., 2017; Elliott & Warren, 2005). In sum, through ICL and EKM, PVFs and professional bodies can leverage DSSs to mitigate the adverse effects of ageing professionals on the industry.

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