

Editorial

SUPPORTING YOUNG RESOURCE MANAGEMENT PROFESSIONALS

Introduction

Society faces numerous pressing problems, one of which is the development of a sustainable approach to waste (resource) management. Modern society involves consumption on a massive scale, and this leads to massive resource use and massive waste generation. Enabling effective resource management requires advanced higher education (Williams, 2014) alongside appropriate infrastructure, service provision and active public engagement, and this is hugely challenging (Timlett and Williams, 2011). Many political, environmental, social, technological, legal, and economic approaches have been trialed, but only slow progress has been achieved.

Everyone was young once. Everyone will remember the frustrations of having ideas, often promising ideas, that simply did not get heard, for complex (and sometimes valid) reasons. Sometimes - because no-one was listening - clever ideas were not acted upon. What a waste!

Academic members of the waste management community are often older than those in other academic fields. Waste management has been a critical area of study for a long time, driven by the need to address public health and environmental issues (Williams, 2014). This long-standing focus means that pioneers and early researchers in the field are now very senior academics. The interdisciplinary nature of waste management, which combines elements of engineering, environmental science, public health, and policy, often attracts professionals who have long careers in both academia and industry. This can lead to a higher average age within the community, with its leading experts having decades of experience. Senior academics and companies that have contributed over time to the development of now well-established and reliable technologies are generally reluctant to consider entirely new and innovative ideas. However, the field of environmental engineering is still a relatively young sector compared to others, with significant potential for further innovation. It is thus crucial that we should do more with and for our younger colleagues, as their contributions could play a pivotal role in driving innovation within this sector. We should listen actively to their viewpoints and perspectives and provide more assistance with their careers. We should learn from them and support their progressive ideas with energy and vigor.

What can the young teach the old?

Young resource management researchers/professionals (henceforth “young RMs”) have valuable insights they can offer to older waste management researchers/professionals (“older WMs”). Learning is a two-way street. Older

WMs can learn from their younger colleagues through a process known as “reverse mentoring” (Gadomska-Lila, 2020), creating a dynamic exchange of knowledge and experience. Here are some ideas:

- **Fresh Perspectives:** Young RMs can provide fresh perspectives and innovative ideas (Wagner and Compton, 2012). They can challenge established norms and encourage creative thinking. They can bring a freshness that encourages creativity and adaptability (Warnell, 2015).
- **Identifying Research Gaps:** Young RMs can identify research issues and questions that older WMs may miss or not prioritize. Their unique experiences and viewpoints allow them to spot gaps in existing knowledge.
- **Language Clarity:** Young RMs can help ensure that research tools (such as questionnaires, interview schedules, leaflets, and reports) are worded in a language that is clear and relatable to their peers. This clarity can improve communication and data collection and ensures wider reach and impact (Warnell, 2015).
- **Redressing Power Imbalances:** Involving young RMs in research and professional decision-making can help redress power imbalances between different age groups (Jolles M et al, 2022). It fosters more positive relationships and mutual learning.
- **Interdisciplinary Collaboration:** Young RMs often have interests and skills in emerging areas. Collaborating with them can lead to interdisciplinary approaches and novel solutions (Warnell, 2015).
- **Technology Savvy:** Young RMs are often adept at navigating the digital landscape; having grown up with computers and the Internet they tend to “have a natural aptitude and high skill levels when using new technologies” (Cross et al, 2010). However, Kent (2013) highlights that these young professionals, from lack of experience, often naively believe that articles promoting social media, how to employ it and its importance, contain “facts”. Nevertheless, these so-called “digital natives” can teach older colleagues (so-called “digital immigrants”) about emerging technologies, social media platforms, efficient digital tools, use of advanced tools, data analytics, and computational methods.
- **Adaptability:** In a rapidly changing world, young RMs can excel at adapting to new situations. They can share strategies for resilience and flexibility and excel at adapting to new methodologies, technologies, and research paradigms (Warnell, 2015). Their agility could help the resource (waste) sector stay responsive to changing needs.



- **Collaboration and Inclusion:** Young RMs typically understand the importance of diversity, inclusion, and collaboration (Warnell, 2015). They can foster a more inclusive work environment by bridging generational gaps and embracing collaboration across disciplines. Young RMs can teach older colleagues to break down silos and work together better for strong holistic solutions.
- **Work-Life Balance:** Balancing work and personal life is crucial and young professionals regard work-life balance as especially important (Mihelič & Aleksić, 2017; Smith, 2010). Young RMs can share insights on maintaining a healthy work-life balance.
- **Enthusiasm and Change:** Young people can infuse workplaces with energy and a desire to create positive change (Warnell, 2015). Their enthusiasm can catalyze innovation and disruption. They can be willing to challenge old systems and seek fresh solutions.
- **Entrepreneurial Thinking:** It was widely anticipated that millennials would be more entrepreneurial than previous generations (Liu et al, 2019). Whilst this is true of high-profile entrepreneurs such as Mark Zuckerberg, founder of Facebook, in fact, millennials have been less entrepreneurial than previous generations (Wilmoth, 2016). Nevertheless, young RMs can be innovative in their thinking (Twenge et al, 2010), can generate fresh ideas and can be willing to disregard traditional models to meet customer needs.
- **Flexibility, Speed and Technology:** Young RMs regard themselves as flexible and feel they excel at multi-tasking, leveraging innovative technology for efficiency (Folarin, 2021). This suggests they can quickly tackle tasks using high-tech shortcuts and resources, with this speed complementing older WMs' patience and experience.
- **Diverse Perspectives:** Young RMs can bring diversity in thought and experience (Folarin, 2021). Their backgrounds and viewpoints can enrich problem-solving and decision-making processes.
- **Storytelling:** Young people understand the power of narratives. They can teach older people to communicate complex ideas effectively and engage stakeholders.
- **Innovation and Creativity:** As digital natives, younger people can be innovative and creative in use of IT. They can build upon newer ideas and interdisciplinary studies, injecting fresh perspectives into research.
- **Communication Skills:** Young RMs understand the importance of IT-based communication. They can teach older WMs new and more effective ways to convey complex ideas to diverse audiences.
- **Lack of Funding:** Insufficient financial support poses a major obstacle for young RMs. Securing grants and funding for research projects can be highly competitive and discouraging. Experienced WMs often have established skills in planning, organizing, writing, and winning research- and private sector funding.
- **Gender Bias:** Gender disparities persist in the WM community. UNEP (2022) reports that "gender inequalities and norms are embedded in almost every aspect of waste management." Young female RMs often face bias, unequal opportunities, and barriers to advancement. Addressing gender inequities is crucial for fostering diversity and inclusion.
- **Mentorship Gap:** Access to effective mentorship is essential for professional growth since mentoring is one of the most effective ways of helping individuals to develop (Stoeger et al, 2021). Some young RMs struggle to find experienced mentors who can guide them through professional challenges and career decisions.
- **Although young researchers often bring brilliant and innovative ideas, these ideas frequently require the insight and expertise of senior researchers to identify potential challenges and refine them, ensuring they are well-adjusted and capable of achieving a promising future.**
- **Research and Writing Skills:** Developing strong research and writing skills is critical. Young RMs may require assistance to overcome difficulties in effectively communicating their findings, navigating the intricacies of professional and scholarly writing, and getting published.
- **Interest from Policymakers:** Policymakers' engagement with the resource (waste) management community, especially with research outcomes, is vital for driving positive change. However, young RMs often face challenges in capturing policymakers' interest and translating research into actionable policies.
- **Heavy Workload:** Balancing research, coursework, and other responsibilities can be overwhelming. The demanding workload leaves little time for e.g., professional development; networking; focused research efforts. Older WMs can provide tips on managing time, responding to the inevitability of change, balancing activities, the value of learning from mistakes, and being persistent.
- **Dual Narrative:** Young RMs may struggle with reconciling their cultural backgrounds and experiences with dominant sectoral narratives. Bridging this gap is essential for meaningful contributions from young RMs and older role models can help in this regard. Kricorian et al (2020) have highlighted the importance of being mentored by those of the same gender and ethnicity, either in person or through media.
- **Mobility:** Opportunities for international collaboration and mobility are crucial for scientific and professional growth. However, barriers related to visas, travel, and cross-border research can hinder young RMs' mobility.

Learning is a continuous process. All generations of resource (waste) managers will benefit from mutual exchange of knowledge and experience.

How can the old help the young?

Young RMs will encounter challenges as they embark on their scientific journeys. These barriers can significantly impact their research, professional development, and career progression. Young RMs can be supported and encouraged by older colleagues. Here are challenges that older WMs can help younger RMs to overcome:

Support for young professionals

Addressing the challenges faced by young RMs is fundamental for fostering a vibrant and inclusive community. There are many strategies we can employ to support and empower them; here are a few ideas:

- **Increased Funding Opportunities:** Advocate for increased funding from institutions, governments, and private organizations specifically for young RMs. Financial support enables young RMs to pursue research and professional development without unnecessary constraints.
- **Promote Equity:** Combat gender and other bias by creating awareness and implementing policies that ensure equal opportunities for all WMs, regardless of gender, age, or ethnicity. Encourage mentorship and networking for young RMs, especially by those of their same gender and ethnicity.
- **Effective Mentorship Programs:** Establish robust mentorship programs that connect older, experienced WMs with young RMs. Mentorship provides guidance, career advice, and emotional support during critical stages of a young RM's professional journey.
- **Global Collaboration and Mobility:** Facilitate international collaboration by promoting cross-border research. Exposure to diverse environments enhances young RMs' skills and perspectives.
- **Skill Development Workshops:** Organize workshops on research and professional methodologies, scientific writing, and communication skills. These enhance young RMs' abilities to present their work effectively.
- **Promote Interdisciplinary Research:** Encourage collaboration across WM-related disciplines. Interdisciplinary projects foster creativity, innovation, and holistic problem-solving.
- **Recognize Non-Traditional Career Paths:** Acknowledge that WM careers can take various forms. Highlight opportunities in industry, policy, academia, communication, and entrepreneurship.
- **Emphasize Mental Health and Well-Being:** A demanding workload and competitive environment can take a toll on young RMs. Encourage work-life balance and self-care.
- **Advocate for Inclusive Research Environments:** Create spaces where diverse voices are heard. Inclusion fosters creativity, resilience, and innovation.

The resource sector has a leading role in enabling the transition to a sustainable economy. Our industry needs young professionals who are innovative; creative; superb communicators; scientifically, mathematically and IT literate; and who engage with problems in a systematic, "can-do" fashion. Supporting young RMs is crucial for fostering a vibrant community. Investing in young RMs today will ensure a brighter future tomorrow.

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