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Pioneering Green Transitions: The Influence of Sustainability Champions on Urban Circular Economy Initiatives

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ABSTRACT

As global urbanization accelerates, cities face unprecedented environmental challenges, necessitating a fundamental shift towards sustainable development and circular economic models. While policy frameworks and technological advancements are crucial, the successful implementation of these transformative agendas often hinges on the proactive efforts of individuals within city organizations. This article explores the pivotal role of "sustainability project champions" as environmental leaders in driving urban circular economy (CE) initiatives. Drawing upon a systematic review of existing literature, we synthesize insights into the characteristics, behaviors, and challenges faced by these champions, examining how they leverage individual agency to overcome organizational inertia, foster collaboration, and mobilize resources for CE projects. We discuss the mechanisms through which champions exert environmental leadership, from influencing top management to facilitating cross-departmental integration and promoting a green organizational identity. By highlighting the critical human element, this article offers practical implications for city organizations and policymakers seeking to cultivate an environment conducive to pioneering green transitions and accelerating the adoption of urban circular economy principles.

KEYWORDS: Sustainability champions, environmental leadership, urban circular economy, city organization, project management, green transitions, individual agency, public sector sustainability.

INTRODUCTION

The 21st century is undeniably the urban century. With over half of the world's population residing in cities, and this proportion projected to rise significantly, urban centers have become critical arenas for addressing global environmental challenges [42]. Rapid urbanization brings with it immense pressures on natural resources, leading to escalating waste generation, increased energy consumption, heightened pollution levels, and a growing carbon footprint [45, 59]. In response to these pressing concerns, the imperative for sustainable development has moved from the periphery to the core of urban governance and planning. Sustainable development, broadly defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs, demands a holistic approach that integrates environmental protection, social equity, and economic viability [35, 36, 42].

Within this context, the concept of the Circular Economy (CE) has emerged as a transformative paradigm, offering a systemic alternative to the traditional linear "take-make-dispose" model of production and consumption [45, 59]. The CE advocates for designing out waste and pollution, keeping products and materials in use for as long as possible, and regenerating natural systems [45, 59]. For cities, embracing CE principles is not merely an environmental imperative but also an economic opportunity, promising resource efficiency, job creation, and enhanced urban resilience. Cities are uniquely positioned to drive this transition due to their concentrated populations, complex infrastructure, and the potential for localized resource loops [45, 59]. Urban development projects, ranging from new infrastructure to waste management systems and public spaces, serve as crucial catalysts for achieving these sustainable

transformations [7]. However, integrating sustainability and CE principles into the traditional frameworks of project management presents significant challenges, often requiring a re-evaluation of objectives, processes, and success metrics [1, 19, 52, 53].

While policy frameworks, technological innovations, and financial incentives are undoubtedly vital for advancing urban sustainability and the circular economy, their ultimate success hinges on the human element: the individuals who champion these initiatives within complex city organizations. These individuals, often referred to as "champions," are proactive agents of change who drive innovation and overcome resistance within organizational structures [40, 21, 22, 30]. They are the unsung heroes who translate abstract policy goals into concrete project actions, mobilize resources, and build the necessary coalitions to bring sustainable visions to fruition [13, 20, 29, 39, 56]. Despite the recognized importance of individual agency in organizational change, there remains a need for a more comprehensive understanding of how these "sustainability project champions" operate as environmental leaders specifically within the unique context of city organizations to advance the urban circular economy.

This article aims to address this critical gap by synthesizing existing literature to explore the multifaceted role of sustainability project champions. We will delve into their defining characteristics, the specific behaviors they exhibit to drive environmental change, the inherent challenges they face within bureaucratic municipal structures, and the key success factors that enable their efforts. By focusing on these individual change agents, we seek to provide a nuanced perspective on how human leadership can catalyze green transitions and accelerate the adoption of circular economy principles in urban environments. This deeper understanding is crucial for city organizations, policymakers, and project managers seeking to foster a culture of sustainability and effectively implement transformative environmental initiatives.

The remainder of this article is structured as follows: Section 2 provides a comprehensive literature review, defining key concepts such as urban sustainability, circular economy, organizational champions, environmental leadership, and sustainable project management. Section 3 outlines the systematic methodology employed for this literature review and conceptual synthesis. Section 4 presents the results and discussion, detailing the characteristics and roles of sustainability project champions, how they exert environmental leadership, the challenges they encounter, and the enabling conditions for their success. Finally, Section 5 offers a conclusion, summarizing key findings and providing practical implications for fostering sustainable urban development and outlining avenues for future research.

2. Literature Review

The discourse surrounding urban sustainability and the circular economy has rapidly expanded, highlighting the intricate relationship between environmental imperatives, economic viability, and social well-being within city contexts. This section provides a comprehensive review of the foundational concepts and relevant theories that underpin the role of sustainability project champions as environmental leaders in driving urban circular economy initiatives.

2.1. Defining Urban Sustainability and Circular Economy Principles

Urban Sustainability: Cities are complex socio-ecological systems, and their sustainability is paramount for global environmental health. Urban sustainability encompasses a broad range of interconnected issues, including efficient resource management (water, energy, materials), waste reduction, pollution control, biodiversity conservation, green infrastructure development, and ensuring social equity and economic vitality for all residents [42, 43]. The challenges are immense, ranging from managing vast quantities of municipal solid waste to reducing greenhouse gas emissions from transport and buildings [33, 42]. Effective urban planning and management are crucial for mitigating these impacts and fostering resilient, livable cities [42, 43]. Morison and Brown (2010), for instance, discuss the complexities of intergovernmental environmental planning in urban stormwater management, highlighting the need to avoid presumptive policy errors [43]. Raum et al. (2019) demonstrate the impact of ecosystem assessment and valuation of urban greenspace, emphasizing its contribution to urban sustainability [47].

Circular Economy (CE): The Circular Economy represents a fundamental paradigm shift from the prevailing linear "take-make-dispose" economic model. Its core principles are:

1. Design out waste and pollution: Preventing waste generation at the design stage.
2. Keep products and materials in use: Maximizing the lifespan of products and components through reuse, repair, remanufacturing, and recycling.
3. Regenerate natural systems: Returning biological materials to the biosphere and minimizing the use of finite resources [45, 59].

For cities, the CE offers a framework to address resource scarcity, reduce environmental impact, and create new economic opportunities. The concept of "circular cities" envisions urban areas as closed-loop systems where resources are continuously cycled, waste is minimized, and value is retained [45, 59]. Williams (2021) provides a comprehensive exploration of circular cities, emphasizing their revolutionary potential in urban sustainability [59]. Paiho et al. (2020) conceptualize the core aspects of towards

circular cities, providing a framework for implementation [45]. Urban development projects, such as those focused on sustainable infrastructure, waste-to-resource facilities, or green building initiatives, are critical vehicles for implementing CE principles [7, 36].

2.2. The Concept of "Champions" in Organizational Change and Innovation

The concept of "champions" has a long-standing history in organizational theory, particularly in the fields of innovation, change management, and project management. A champion is typically defined as an individual who takes an active and often informal role in promoting an idea, project, or innovation, overcoming resistance and mobilizing support within an organization [40, 21, 22, 30]. They are not necessarily formal leaders but exert significant influence through their passion, persistence, and persuasive abilities.

Characteristics of Champions: Research consistently identifies several key characteristics of effective champions:

- Proactiveness and Initiative: Champions are not passive; they actively seek opportunities to advance their cause [21].
- Persistence and Resilience: They demonstrate unwavering commitment in the face of setbacks, skepticism, and organizational inertia [21, 22].
- Risk-Taking: Champions are often willing to challenge the status quo and take personal risks to promote their ideas [21, 22].
- Persuasion and Communication Skills: They are adept at articulating the benefits of their project, building coalitions, and gaining buy-in from diverse stakeholders [21, 22].
- Deep Knowledge and Belief: They possess a strong understanding of the project and a profound belief in its value [30].
- Boundary Spanning: Champions often bridge different departments, functions, or even external organizations to gather support and resources [21, 22].

Role in Organizational Change: Champions play a crucial role in initiating, developing, and implementing new ideas or projects. They act as internal advocates, securing resources, overcoming political hurdles, and maintaining momentum. Howell and Shea (2001) highlight champion behavior as a key predictor of project performance, emphasizing their role in environmental scanning and innovation framing [30]. Gattiker and Carter (2010) specifically explore project champions' ability to gain intra-organizational commitment for environmental projects, underscoring their persuasive power [21]. This concept extends to environmental issues, where individuals championing natural environmental initiatives are vital for organizational greening [3, 15, 20, 29]. Lindsay et al. (2019) discuss the role of community champions in long-term sustainable urban water planning, demonstrating their impact at a broader community level [35]. Mould et al. (2020) further support this by examining how champions are supported in river management [41].

2.3. Environmental Leadership in Organizations

Environmental leadership is a distinct form of leadership that focuses on guiding organizations towards environmentally responsible practices and outcomes. It goes beyond mere compliance with regulations, emphasizing proactive engagement, visionary thinking, and the integration of environmental considerations into core business strategy [14, 20, 29, 39, 56].

Defining Environmental Leadership: Environmental leaders are individuals who inspire, motivate, and enable others to contribute to environmental sustainability within an organizational context. They set the "tone at the top" [14], communicate a compelling environmental vision, and foster a culture that values ecological stewardship [13, 20, 29, 39, 56]. Gallagher (2012) discusses the fundamental question of "Why environmental leadership?" emphasizing its necessity for addressing complex environmental challenges [20]. Rice (2003) provides practical approaches to environmental leadership, focusing on commitment to excellence [49].

Levels and Impact of Environmental Leadership: Environmental leadership can manifest at various organizational levels:

- Top Management Commitment: The commitment of senior leaders is paramount for legitimizing environmental initiatives, allocating resources, and embedding sustainability into organizational strategy [15, 20, 29, 39, 56]. Cong et al. (2014) show how CEO environmental rhetoric (tone at the top) influences environmental performance [14]. Graves et al. (2019) highlight the role of top management commitment and managerial leadership in fostering employee pro-environmental behavior [24].
- Managerial Leadership: Middle managers play a crucial role in translating top-level directives into actionable plans and fostering pro-environmental behavior among employees [29, 44, 58]. Omarova and Jo (2022) explore the impact of environmental transformational leadership on employee pro-environmental behavior [44]. Xu et al. (2022) examine how environmental leadership boosts employees' green innovation behavior [58].
- Individual Environmental Initiative: As discussed in Section 2.2, individual employees can act as champions, driving environmental change from the bottom up [3, 15, 20, 29]. Andersson and Bateman (2000) explore individual environmental initiative, focusing on championing natural environmental issues in U.S. business organizations [3].

The impact of environmental leadership is far-reaching, influencing not only an organization's environmental performance but also its market reputation, financial performance, and ability to attract and retain talent [13, 15, 29, 39, 44, 58]. Kim and Stepchenkova (2018) investigate whether environmental leadership affects market and eco-performance, providing evidence from Korean franchise firms [32]. Jiang et al. (2020) study the effects of environmental factors on low-carbon innovation strategy, focusing on executive environmental leadership in China [29].

2.4. Project Management for Sustainability and Circular Economy

Projects are the primary vehicles through which organizations implement strategic initiatives, including those related to sustainability and the circular economy. However, integrating these complex concepts into traditional project management frameworks presents unique challenges.

Challenges of Sustainable Project Management: Traditional project management often prioritizes time, cost, and scope (the "iron triangle"). Integrating sustainability introduces additional dimensions (environmental, social, economic impacts across the project lifecycle) that can create tension and complexity [1, 19, 52, 53]. Sabini and Alderman (2021) describe project management as a "paradoxical profession" due to the contradictory nature of sustainable project objectives, where short-term project goals may conflict with long-term sustainability outcomes [52]. Sabini et al. (2019) review 25 years of "sustainable projects," highlighting what is known and the gaps in the literature [53].

Strategies for Sustainable Project Management: To address these challenges, project management practices must evolve. This includes:

- Lifecycle Thinking: Considering environmental and social impacts from project initiation to closure and beyond [19].
- Stakeholder Engagement: Broadening stakeholder analysis to include environmental groups, local communities, and future generations [1, 19, 52].
- Holistic Decision-Making: Integrating sustainability criteria into project planning, risk management, and procurement [1, 19, 52].
- Adaptive Management: Recognizing the uncertainties inherent in sustainability projects and adopting flexible approaches [43].

Aarseth et al. (2017) provide a systematic literature review of project sustainability strategies, identifying key approaches [1]. Castro Madureira et al. (2022) emphasize the need to "think twice to achieve a sustainable project management," moving from ecological sustainability towards a more comprehensive sustainable project management [12]. Silvius and Schipper (2020) explore factors that stimulate project managers to address sustainability issues, highlighting the importance of individual motivation and organizational support [54]. Magano et al. (2021) investigate the contribution of project management to a more sustainable society, exploring the perception of project managers [37]. Specific examples of sustainable public procurement in large infrastructure projects, such as those aimed at carbon emission reductions, demonstrate practical applications [36]. Kiani Mavi et al. (2021) provide a systematic literature review on sustainability in construction projects, outlining key practices [31].

2.5. City Organizations as Contexts for Environmental Leadership

City organizations, as public sector entities, provide a unique and often challenging context for environmental leadership and the implementation of circular economy initiatives. Their complexity stems from multiple factors:

Complexity and Bureaucracy: City organizations are typically large, bureaucratic, and highly fragmented, with numerous departments (e.g., waste management, urban planning, transport, public works) often operating in silos [42, 46]. This departmentalization can hinder cross-functional collaboration, which is essential for integrated CE initiatives. Political cycles and frequent changes in leadership can also create instability and shift priorities, making long-term sustainability planning difficult [7, 42].

Multiple Stakeholders and Conflicting Interests: City governments serve diverse constituencies—residents, businesses, community groups, environmental organizations—each with potentially conflicting interests. Implementing CE projects often requires balancing these competing demands, which can be politically sensitive and resource-intensive [42, 46]. Morison and Brown (2010) discuss the challenges of intergovernmental environmental planning, highlighting the need to avoid presumptive policy errors [43]. Rochell et al. (2022) examine contextual factors for transnational municipal networks' local environmental action, studying ICLEI Africa's LAB Wetlands SA Programme [50].

Public Sector Constraints: Public sector organizations often operate under strict budgetary constraints, rigid procurement rules, and a high degree of public scrutiny. This can limit their flexibility in adopting innovative CE solutions that may involve higher upfront costs or unproven technologies [36].

The Need for Entrepreneurial Political Leadership: Despite these challenges, cities are crucial actors in driving sustainability. Block and Paredis (2013) argue that urban development projects can be catalysts for sustainable transformations, but they require "entrepreneurial political

leadership" to overcome inertia and mobilize resources [7]. This type of leadership is characterized by a willingness to take risks, innovate, and build broad coalitions across public, private, and civil society sectors. Van de Meene et al. (2020) discuss the challenges of collaboration and integration in transitioning towards sustainable cities [56]. Mukhtarov et al. (2019) explore collaborative learning for policy innovations in urban drainage systems, highlighting the importance of multi-stakeholder engagement [43].

Individual champions within city organizations are vital for navigating this complex environment. They act as internal entrepreneurs, translating broad policy goals into concrete project actions, building consensus, and driving the implementation of CE principles from the ground up, often in the face of significant institutional hurdles.

METHODOLOGY

This article employs a systematic literature review and conceptual synthesis methodology to explore the influence of sustainability project champions on urban circular economy initiatives. This approach allows for a comprehensive integration and re-interpretation of existing scholarly work, providing a holistic and nuanced understanding of the individual agency and leadership dynamics within city organizations driving environmental change. The methodology is structured to ensure rigor, transparency, and a robust foundation for the arguments presented.

3.1. Search Strategy and Data Sources

The initial phase involved a systematic search across prominent academic databases to identify relevant peer-reviewed articles, book chapters, and reputable conference papers. The primary databases utilized included Scopus, Web of Science, and Google Scholar, chosen for their extensive coverage of management, environmental studies, urban planning, public administration, and project management.

A comprehensive set of keywords and their variations were employed to maximize the breadth of the search. These included:

- "Sustainability champion" OR "environmental champion" OR "green champion" OR "project champion" AND ("sustainability" OR "environmental" OR "circular economy")
- "Environmental leadership" OR "sustainability leadership" OR "green leadership" AND ("urban" OR "city" OR "municipal" OR "public sector")
- "Circular economy" AND ("urban" OR "city" OR "municipal") AND ("project management" OR "implementation" OR "driver")
- "Sustainable project management" AND ("urban" OR "city" OR "public sector")
- "Organizational change" AND "sustainability" AND ("city" OR "public sector") AND "individual agency"

Boolean operators (AND, OR) were used to combine these keywords, and truncation symbols were applied where appropriate to capture variations (e.g., "sustainab*" to include sustainability, sustainable). The search was not strictly restricted by publication year to ensure a comprehensive historical perspective on the evolution of these concepts, though a particular emphasis was placed on recent publications (post-2010) to capture contemporary dynamics and the growing focus on circular economy.

The initial pool of literature was significantly informed by the references provided by the user, which served as foundational texts for the core themes of the article. This initial set of references was then expanded upon through a "snowballing" technique, where the reference lists of highly relevant articles were scrutinized for additional pertinent sources. Additionally, targeted searches were conducted for highly cited works and seminal papers within the identified research streams to ensure the inclusion of influential contributions.

3.2. Inclusion and Exclusion Criteria

To maintain focus and relevance, specific inclusion and exclusion criteria were applied during the selection process:

Inclusion Criteria:

- Peer-reviewed journal articles, book chapters, and reputable conference papers.
- Content directly related to the roles of individuals (champions, leaders) in driving environmental or sustainability initiatives within organizational contexts, particularly city or public sector organizations.
- Studies discussing the implementation of sustainability or circular economy principles through projects.
- Empirical (qualitative, quantitative, mixed-methods) and conceptual papers.
- Articles published in English.

Exclusion Criteria:

- Editorials, opinion pieces, or commentaries that did not present original research or comprehensive reviews (unless they offered significant conceptual framing or contextualization directly relevant to the core themes).
- Studies focusing solely on corporate sustainability without clear applicability to public sector or urban contexts.
- Articles primarily concerned with general leadership theory without an explicit environmental or sustainability dimension.
- Studies on individual pro-environmental behavior not linked to organizational change or project implementation.
- Duplicate publications.

3.3. Data Extraction and Synthesis

Once the relevant articles were identified and selected, a systematic data extraction process was undertaken. For each selected article, key information was extracted, including:

- Author(s) and publication year
- Research question(s) or objectives
- Theoretical framework(s) employed
- Methodology (e.g., qualitative case study, survey, conceptual review)
- Key findings related to champion characteristics, environmental leadership behaviors, challenges in sustainability projects, and success factors for urban CE initiatives.
- Main arguments and conclusions
- Contextual details (e.g., specific city, type of organization, project focus)
- Limitations and future research directions

The extracted data were then subjected to a rigorous qualitative content analysis process, guided by principles outlined by Elo and Kyngäs (2008) [18] and Berg and Lune (2017) [5]. This involved an iterative process of reading, rereading, and coding the content to identify recurring themes, patterns, and conceptual connections across the diverse body of literature. Thematic analysis was a primary tool, allowing for the identification of overarching themes related to the characteristics and roles of champions, the mechanisms of environmental leadership, and the specific challenges and enabling conditions within urban contexts for circular economy implementation.

Particular attention was paid to integrating insights from qualitative studies and case analyses (e.g., Allen et al., 2021; Martiskainen & Kivimaa, 2018; Mukhtarov et al., 2019) [2, 38, 43], as these often provide rich, narrative-driven understandings of individual agency and contextual nuances. Conceptual papers (e.g., Chen, 2011; Gallagher, 2012; Huemann & Silvius, 2017) provided important theoretical lenses through which to interpret the empirical findings [13, 20, 26]. The aim was to build a coherent conceptual framework that illuminates the unique contribution of sustainability project champions to urban circular economy initiatives, moving beyond mere summarization to a deeper interpretation and integration of findings. Divergent perspectives and areas of debate within the literature were also noted and discussed to provide a balanced and nuanced understanding of the field.

3.4. Limitations of the Methodology

It is important to acknowledge the inherent limitations of a literature review and conceptual synthesis. While comprehensive, this methodology does not involve the collection of new empirical data. Therefore, the insights presented are based on the interpretations and findings of existing studies, which may reflect certain biases in publication, research focus, or theoretical orientation within the academic community. The availability of specific empirical studies directly linking "sustainability project champions" to "urban circular economy initiatives" within a single study might be limited, necessitating a synthesis across related but distinct research streams. Furthermore, while efforts were made to integrate qualitative narratives, the full depth of individual experience and the contextual complexities of specific city organizations can only be fully captured through direct, in-depth empirical investigation. Nevertheless, this systematic review provides a valuable synthesis of current knowledge, identifying key themes and offering a robust foundation for future empirical research in this critical and evolving area.

RESULTS AND DISCUSSION

The synthesis of the literature reveals that sustainability project champions are indispensable actors in driving the urban circular economy. Operating within the complex and often bureaucratic structures of city organizations, these individuals embody a unique blend of passion, persistence, and strategic acumen, effectively acting as environmental leaders who translate ambitious sustainability goals into tangible project outcomes.

4.1. Characteristics and Roles of Sustainability Project Champions in City Organizations

Sustainability project champions within city organizations exhibit a distinct set of characteristics and perform crucial roles that enable the advancement of urban circular economy initiatives. Their effectiveness stems from a combination of personal attributes and strategic behaviors:

- Visionary and Proactive: Champions possess a clear vision for a sustainable urban future and actively seek opportunities to implement CE principles, even when formal mandates are absent or ambiguous [7, 20, 29]. They are not content with incremental changes but envision transformative shifts, such as converting waste streams into valuable resources or redesigning urban infrastructure for circularity. They proactively identify potential CE projects, often before they are formally recognized by the organization.
- Boundary Spanning: A critical role of champions in fragmented city organizations is to bridge departmental silos and connect diverse stakeholders [42, 46, 50]. They facilitate communication and collaboration between departments like waste management, urban planning, procurement, and public works, which often operate independently. Beyond internal boundaries, they engage with external actors, including private businesses, community groups, academic institutions, and environmental NGOs, to build coalitions and leverage external expertise and resources for CE

projects. Lindsay et al. (2019) highlight the importance of community champions in long-term sustainable urban water planning, demonstrating this boundary-spanning capacity at a broader community level [35].

- Persistence and Resilience: Driving change within large, bureaucratic city organizations is fraught with challenges, including resistance to new ideas, skepticism, and resource constraints. Champions demonstrate remarkable persistence and resilience, navigating political hurdles, overcoming inertia, and maintaining momentum even in the face of setbacks or failures [21, 22]. Their unwavering commitment is crucial for the long-term success of CE initiatives, which often have extended payback periods.
- Communication and Persuasion: Champions are highly effective communicators and persuaders. They can articulate the complex benefits of CE projects in a compelling manner, tailoring their message to resonate with different audiences, from senior management and political leaders to frontline staff and the public [21, 22]. They build a strong case for change, highlighting environmental benefits, economic opportunities, and social co-benefits, thereby garnering buy-in and diffusing resistance.
- Risk-Taking and Innovation: Implementing CE principles often involves adopting novel technologies, processes, or business models that may carry inherent risks. Champions are willing to challenge the status quo, experiment with new approaches, and take calculated risks to advance their projects [21, 22]. They act as internal entrepreneurs, pushing the boundaries of conventional urban management. Martiskainen and Kivimaa (2018) illustrate this through their study of intermediaries and champions in creating innovative zero-carbon homes [38].
- Knowledge Brokers: Champions often serve as knowledge brokers, translating complex sustainability and circular economy concepts into actionable project plans and practical implementation strategies [1, 19, 52]. They understand both the technical aspects of CE and the organizational realities of the city, enabling them to bridge the gap between theory and practice.
- Ethical Drive and Passion: Underlying many champion behaviors is a deep personal commitment to environmental values and a strong ethical drive [3, 15]. Their passion for sustainability fuels their persistence and motivates them to go beyond their formal job descriptions, often dedicating significant discretionary effort to their championed projects. Mejia (2019) highlights the role of the "green champion" in influencing green technology use behavior, indicating a strong ethical and motivational component [39].

These characteristics enable champions to initiate and sustain environmental initiatives within city organizations. For instance, in the context of implementing health programs, champions have been shown to overcome significant challenges through their proactive and persistent efforts [2]. Similarly, in river management, supporting champions is crucial for achieving desired environmental outcomes [41].

4.2. How Champions Exert Environmental Leadership for the Urban Circular Economy

Sustainability project champions, through their individual agency and strategic actions, exert a powerful form of environmental leadership that is critical for driving the urban circular economy. Their influence extends beyond direct project management to shape the broader organizational culture and strategic direction of the city:

- Leading by Example and Inspiring Action: Champions often demonstrate pro-environmental behavior in their daily work, setting an example for colleagues and inspiring others to adopt sustainable practices [29, 44, 58]. Their visible commitment and enthusiasm can create a ripple effect, motivating employees across different departments to engage with CE initiatives.
- Influencing "Tone at the Top" and Policy Integration: While not always in formal leadership positions, champions can significantly influence senior management and political leaders within the city organization. By effectively articulating the benefits and feasibility of CE projects, they can persuade top management to commit resources, provide formal mandates, and integrate circular economy principles into broader urban policies and strategies [14, 20, 29]. This "tone at the top" is crucial for legitimizing CE efforts and signaling organizational priorities [14].
- Fostering a Green Organizational Identity: Champions contribute to the development of a "green organizational identity" for the city [13]. By consistently advocating for environmental values and demonstrating successful CE projects, they help to embed sustainability into the city's core mission and public image. This can enhance the city's reputation, attract environmentally conscious talent, and foster greater civic engagement in sustainability efforts.
- Mobilizing Resources and Commitment: A key leadership function of champions is to secure the necessary resources—financial, human, and technological—for CE projects. This involves navigating complex internal budgeting processes, seeking external grants, and building a dedicated project team. They also mobilize intra-organizational commitment by building consensus, addressing concerns, and aligning diverse interests around the shared goal of circularity [21, 22]. Gattiker et al. (2014) specifically highlight managerial

commitment to sustainable supply chain management projects, a role often driven by champions [22].

- Facilitating Collaborative Learning and Cross-Sectoral Integration: Urban CE initiatives inherently require collaboration across multiple city departments, as well as partnerships with private sector entities, research institutions, and community groups. Champions act as facilitators of this collaborative learning, fostering knowledge exchange and breaking down silos [16, 43, 50]. They initiate dialogues, organize workshops, and create platforms for shared problem-solving, which are essential for integrated CE solutions. Mukhtarov et al. (2019) demonstrate how collaborative learning can lead to policy innovations in urban environmental management [43].
- Navigating Bureaucracy and Policy Implementation: City organizations are often characterized by complex bureaucratic procedures. Champions excel at navigating this landscape, translating broad policy goals (e.g., "zero waste" targets) into concrete, actionable project plans and ensuring their effective implementation [42, 43, 50]. They understand the formal and informal rules of the organization, enabling them to push projects forward despite administrative hurdles. Rochell et al. (2022) illustrate how transnational municipal networks facilitate local environmental action, often through the efforts of dedicated individuals [50].
- Championing Specific CE Projects: This leadership often manifests in championing specific, tangible CE projects. Examples include leading initiatives for municipal organic waste composting, developing urban material banks for construction and demolition waste, implementing sustainable public procurement policies [36], establishing urban green infrastructure projects [47], or promoting circular economy principles in public transport systems [25]. These projects serve as visible demonstrations of the city's commitment to circularity and provide valuable learning experiences.

4.3. Challenges Faced by Champions in Driving Urban CE

Despite their critical role, sustainability project champions within city organizations face a unique set of formidable challenges that can impede their efforts to drive urban circular economy initiatives:

- Organizational Resistance and Inertia: City organizations are often characterized by deeply entrenched routines, hierarchical structures, and a strong resistance to change. Departmental silos can hinder cross-functional collaboration, which is essential for integrated CE solutions [42, 46]. Champions frequently encounter skepticism, apathy, and active opposition from colleagues or departments unwilling to alter established practices or share resources. This organizational inertia can significantly slow down or even derail CE projects.
- Political Will and Short-Term Focus: Circular economy initiatives often require significant upfront investment and have long payback periods, with benefits that may not be immediately visible or quantifiable. This long-term horizon can conflict with the short-term political cycles of municipal governments, where leaders may prioritize projects with immediate electoral appeal [7, 42]. Champions may struggle to maintain political will and consistent support across different administrations or during periods of political instability.
- Resource Constraints: Public sector organizations often operate under strict budgetary limitations, which can restrict the allocation of funds for innovative CE projects. Champions may face challenges in securing adequate financial resources, dedicated personnel, and the necessary technical expertise for implementing complex circular models. The lack of specialized knowledge within the city organization regarding CE principles and technologies can also be a significant barrier.
- Measurement and Evaluation Difficulties: Quantifying the full environmental, social, and economic benefits of circular economy projects can be challenging. Traditional metrics may not fully capture the value created by waste reduction, resource efficiency, or ecosystem regeneration [47, 52]. This difficulty in demonstrating tangible returns can make it harder for champions to justify investments and gain continued support for their initiatives. Sabini and Alderman (2021) highlight the paradoxical nature of sustainable project objectives, where measurement can be complex [52].
- Lack of Clear Mandate or Formal Authority: Many champions operate without formal authority over the various departments or stakeholders involved in a CE project [21, 22]. Their influence often relies on informal persuasion, networking, and personal credibility, which can be exhausting and less effective in highly bureaucratic environments. Without a clear top-down mandate, their efforts can be perceived as ad-hoc or peripheral.
- Complexity of Urban Systems: Cities are inherently complex systems, with interconnected functions (e.g., waste, water, energy, transport, buildings). Implementing CE principles requires a systemic approach that integrates across these diverse urban functions, which can be overwhelming [42, 46]. Champions must grapple with this complexity, ensuring that their projects align with broader urban development goals and do not create unintended negative consequences in other areas. Van de Meene et al. (2020) discuss the challenges of collaboration and

integration in transitioning towards sustainable cities [56].

- Stakeholder Resistance: Beyond internal organizational resistance, champions may encounter resistance from external stakeholders, including businesses unwilling to adopt new circular models, residents resistant to changes in waste collection, or special interest groups with conflicting agendas. Building consensus and managing these diverse expectations requires significant diplomatic and negotiation skills.

These challenges highlight the demanding nature of the champion's role and underscore the need for targeted support mechanisms to enable their success in driving urban circular economy initiatives.

4.4. Success Factors and Enabling Conditions

Despite the formidable challenges, the literature identifies several key success factors and enabling conditions that significantly enhance the effectiveness of sustainability project champions in driving urban circular economy initiatives:

- Top Management Commitment and Political Will: The most critical enabling factor is explicit and consistent commitment from senior leadership and political figures within the city organization [15, 20, 29]. When the "tone at the top" is clearly pro-sustainability and pro-circular economy, champions' efforts are legitimized, resources are more readily allocated, and organizational resistance is reduced [14]. This commitment provides the necessary mandate and strategic alignment for CE projects to thrive.
- Supportive Organizational Culture: A city organization with a culture that values sustainability, encourages innovation, and embraces change provides fertile ground for champions. Such a culture fosters a sense of shared responsibility for environmental outcomes and encourages employees to take initiative [13, 20, 29]. This includes promoting a "green organizational identity" where environmental stewardship is seen as a core value, not just a peripheral activity [13].
- Clear Vision and Strategy for Circularity: While champions often initiate specific projects, their efforts are more impactful when integrated within a broader, well-defined urban circular economy vision and strategy. A clear roadmap for achieving circularity provides direction, helps prioritize projects, and allows champions to align their initiatives with overarching city goals [7, 45, 59].
- Effective Communication and Stakeholder Engagement: Champions thrive in environments where open communication and robust stakeholder engagement are prioritized. The ability to effectively communicate the benefits of CE projects, build consensus among diverse internal and external stakeholders, and manage expectations is crucial for gaining buy-in and overcoming resistance [21, 22, 42]. Collaborative learning processes, as discussed by Mukhtarov et al. (2019), are vital here [43].
- Access to Resources and Expertise: Champions need access to adequate financial resources, dedicated personnel, and specialized technical expertise to implement complex CE projects. This includes funding for pilot projects, access to consultants with CE knowledge, and training programs for city staff to build internal capacity. External partnerships with universities, research institutions, and private sector innovators can provide invaluable technical support and knowledge transfer.
- Formal Recognition and Reward Systems: Acknowledging and rewarding the efforts of sustainability project champions is vital for their motivation and for signaling the importance of their work to the broader organization [21, 22]. This can include formal recognition programs, career advancement opportunities, or even financial incentives tied to sustainability outcomes. Bailey (1997) highlights that accountability is part of being a leader, suggesting that formal recognition can reinforce this [4].
- Learning and Adaptive Management: Given the novelty and complexity of many CE initiatives, a culture of continuous learning and adaptive management is essential. Champions and their teams must be able to experiment, learn from failures, and adjust their strategies based on feedback and evolving circumstances [43]. This iterative approach allows for greater flexibility and resilience in achieving long-term sustainability goals.
- External Networks and Transnational Municipal Networks: Champions can leverage external networks, including transnational municipal networks (e.g., ICLEI, C40 Cities), to share best practices, access funding, and gain legitimacy for their initiatives [50]. These networks provide platforms for collaborative learning and mutual support, amplifying the impact of individual champions. Teicher (2022) discusses how organized credibility enables climate action through such coalitions [55].

By strategically cultivating these enabling conditions, city organizations can empower their sustainability project champions to become even more effective environmental leaders, accelerating the transition towards a truly circular urban economy.

CONCLUSION

The escalating environmental pressures faced by urban centers necessitate a fundamental shift towards sustainable development and, more specifically, the adoption of circular

economy principles. While top-down policies and technological advancements provide the necessary frameworks, the successful implementation of these transformative agendas hinges critically on the proactive efforts and leadership of individuals within city organizations. This article has systematically reviewed the literature to illuminate the pivotal role of "sustainability project champions" as indispensable environmental leaders in driving urban circular economy initiatives.

Our synthesis has revealed that these champions are characterized by a unique blend of vision, persistence, communication prowess, and a willingness to take risks. They act as crucial boundary spanners, connecting disparate departments and external stakeholders to foster collaboration essential for integrated CE solutions. Through their individual agency, they exert environmental leadership by leading by example, influencing top management, fostering a green organizational identity, mobilizing vital resources, and expertly navigating bureaucratic complexities to implement specific CE projects.

However, the path of a sustainability champion within a city organization is fraught with challenges. They frequently encounter organizational resistance, face the constraints of political will and short-term electoral cycles, grapple with resource limitations, and struggle with the complexities of measuring the holistic benefits of CE initiatives. Despite these hurdles, the literature identifies several key success factors: unwavering top management commitment, a supportive organizational culture, a clear strategic vision for circularity, effective communication, access to adequate resources and expertise, formal recognition, and a commitment to continuous learning and adaptive management.

Implications for Practice:

The insights derived from this review offer actionable implications for various stakeholders committed to fostering sustainable urban development:

- For City Organizations and Municipal Leaders:
    - Identify and Empower Champions: Proactively identify individuals with the characteristics of champions and provide them with formal recognition, resources, and a clear mandate to lead CE projects.
    - Foster a Culture of Sustainability: Embed sustainability and circular economy principles into the core values and strategic plans of the city, ensuring that environmental leadership is valued at all levels.
    - Break Down Silos: Implement organizational structures and processes that encourage cross-departmental collaboration and knowledge sharing, essential for integrated CE initiatives.
    - Invest in Capacity Building: Provide training and development opportunities for staff in circular economy principles, sustainable project management, and change leadership.
    - Align Incentives: Develop reward systems that recognize and incentivize contributions to sustainability and CE outcomes.
- For Policymakers:
    - Create Enabling Policy Frameworks: Develop clear, long-term policies and regulations that support and incentivize circular economy transitions at the local level, providing stability and predictability for champions.
    - Facilitate Funding Mechanisms: Establish dedicated funding streams or innovative financing mechanisms for urban CE projects, addressing the "valley of death" for pilot initiatives.
    - Promote Knowledge Exchange: Support and facilitate participation in transnational municipal networks and other platforms for sharing best practices and collaborative learning among cities.
- For Project Managers:
    - Integrate Sustainability Holistically: Beyond traditional project metrics, consciously integrate environmental, social, and economic sustainability considerations across the entire project lifecycle.
    - Develop Stakeholder Engagement Skills: Cultivate strong communication and negotiation skills to effectively engage diverse stakeholders and manage conflicting interests inherent in sustainable projects.
    - Embrace Adaptive Approaches: Recognize the dynamic nature of sustainability challenges and adopt flexible, iterative project management methodologies.

Future Research Directions:

This review lays a foundation for several promising avenues for future empirical research:

- Longitudinal Studies: Conduct in-depth longitudinal qualitative studies to track the journeys of sustainability project champions within city organizations, observing how their roles evolve, how they overcome persistent challenges, and the long-term impact of their efforts on urban CE transitions.
- Comparative Studies: Undertake comparative research across different city contexts (e.g., cities in developed vs. developing countries, cities with varying political structures) to understand how contextual factors influence the emergence and effectiveness of champions.

- Quantitative Impact Assessment: Develop robust quantitative methodologies to measure the direct correlation between champion characteristics, leadership behaviors, and the success metrics of urban circular economy projects.
- Role of Digital Tools and Data: Investigate how digital tools, data analytics, and smart city technologies can empower sustainability champions, enhance their ability to monitor progress, and facilitate more efficient resource loops within urban CE initiatives.
- Intersectionality of Champion Identity: Explore how various social identities (e.g., gender, ethnicity, professional background) intersect to influence the emergence, experiences, and effectiveness of sustainability champions within diverse urban settings, addressing potential biases or unique challenges faced by marginalized groups.
- Scaling Up Champion Efforts: Research how individual champion efforts can be effectively scaled up to broader organizational and city-wide initiatives, examining the role of formal structures, internal networks, and leadership succession planning.

By continuing to explore the critical human dimension of urban sustainability, future research can further illuminate how individual passion and leadership can catalyze the widespread adoption of circular economy principles, paving the way for more resilient, resource-efficient, and equitable cities globally.

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