Green finance from the perspective of Islamic social finance: A case study of microfinance practices in Istanbul

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Abstract

Purpose – This study aims to explore and analyze the integration of green finance principles with Islamic microfinance practices in Istanbul, Turkey. Specifically, it examines how Islamic microfinance institutions incorporate environmental and social sustainability values into their operational activities and investigates the role of Islamic social finance instruments, such as zakat, infak, sedekah, waqf, and qard al-hasan, in supporting the achievement of the Sustainable Development Goals (SDGs).

Methodology – Employing a qualitative research design with a case study approach, data were collected through in-depth interviews, participatory observations, and document analysis involving key stakeholders of Islamic microfinance institutions in Istanbul. The data were analyzed using thematic analysis to uncover recurring patterns and themes related to the adoption of green finance principles. The key variables examined included environmental sustainability, social sustainability, Sharia compliance, and the effectiveness of Islamic social finance tools.

Findings – Findings indicate a positive but partial integration of green finance principles into Islamic microfinance practices, with notable contributions from zakat and waqf in promoting social welfare and environmental responsibility. However, challenges such as regulatory constraints, limited awareness, and difficulties in measuring impact have also been identified.

Implications – These implications underscore the need for enhanced regulatory support, capacity building, and awareness programs to foster a more robust and sustainable Islamic microfinance sector.

Originality – This study contributes both conceptually and practically to the literature on sustainable Islamic finance and provides strategic recommendations for policymakers, practitioners, and researchers. This study is expected to support the advancement of inclusive, ethical, and environmentally responsible microfinance models aligned with Sharia principles and global sustainability agendas.

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Introduction

Sustainable economic development has increasingly drawn global attention amid worsening environmental crises and deepening social inequality. Governments, businesses, and international institutions now recognize that economic growth cannot be pursued in isolation from environmental protection and social welfare. In this context, *green finance* has emerged as a strategic mechanism to align financial systems with sustainability goals, enabling investments that foster

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development while safeguarding the ecological balance (Ozdemir et al., 2023). According to UNEP (2023), more than USD 4 trillion per year is needed to achieve the Sustainable Development Goals (SDGs); however, the world still faces a significant financing gap.

However, financing remains a critical challenge. The United Nations Environment Programme estimates that achieving Sustainable Development Goals (SDGs) requires more than USD 4 trillion annually, yet the world continues to face a substantial funding gap. Traditional financing mechanisms often neglect environmental externalities, limiting their effectiveness in driving the transition toward a green economy (Shamshıyev & Azrak, 2024). In contrast, green finance directly supports projects such as renewable energy, energy efficiency, sustainable agriculture, and waste management, making it a crucial instrument for bridging this gap.

Along with these global developments, Islamic finance offers a distinctive value proposition. Rooted in the principles of justice, balance, and social responsibility, the Sharia-based financial system aligns naturally with the vision of sustainability. Islamic finance provides an ethical foundation for sustainable development by prohibiting exploitative practices, promoting profit and risk sharing, and ensuring equitable wealth distribution (Ledhem & Mekidiche, 2022). Recent trends also show increasing innovation in Islamic financial products, including the issuance of green sukuk across several Muslim-majority countries, as highlighted in the Islamic Finance Development Report. However, the integration of green finance and Islamic social finance in practical contexts, particularly in microfinance, has scarcely been studied. Islamic social finance instruments such as zakat, infak, sadaqah, waqf, and qard al-hasan hold significant potential to support vulnerable communities in accessing financing while encouraging ethical and environmentally friendly economic practices (Ozdemir et al., 2023). For instance, the global zakat potential alone is estimated at over USD 300 billion annually, while productive waqf initiatives are increasingly being used to support socio-ecological projects. However, systematic frameworks that combine these instruments with green finance principles remain limited.

Istanbul provides a compelling case for studying this nexus. As Turkey's economic and cultural hub, the city hosts both modern participation banks, which account for over 8% of national banking assets, and a range of Sharia-based microfinance institutions (Sinha et al., 2023). Several of these institutions, including cooperatives and microfinance projects supported by the Istanbul Development Agency (IDA), have already incorporated social and environmental considerations into their operations. However, these efforts remain fragmented and have not yet been fully integrated into a coherent green finance framework (Yüksel et al., 2023). For example, several Islamic cooperatives and microfinance projects supported by the Istanbul Development Agency (IDA) have demonstrated inclusive approaches that consider social and environmental impacts, although they are not yet systematically structured within the green finance framework.

Based on this background, this study aims to explore and analyze the integration of green finance principles into Islamic microfinance practices in Istanbul, Turkey. Specifically, this study seeks to understand how Islamic microfinance institutions adopt environmental and social sustainability values in their operational activities, and how Islamic social finance instruments such as zakat, infak, sadaqah, waqf, and qard al-hasan contribute to achieving sustainable development goals. This study also attempts to identify the challenges faced and opportunities available for developing microfinance models aligned with Sharia principles while supporting the global sustainability agenda. Through a qualitative case study approach, this research is expected to provide both conceptual and practical contributions to the development of sustainable Islamic finance literature as well as offer strategic recommendations for stakeholders in integrating green and social finance within the Islamic microfinance system.

Literature Review

Green finance theory

Green Finance Theory argues that financial flows should be directed toward activities that promote sustainable development by accounting for environmental and social externalities (Kaplan 2020; Uluyol 2024). This perspective highlights how traditional financial systems often fail to incorporate environmental costs, leading to unsustainable economic growth (Sachs et al. 2019). Consequently, the integration of green finance principles seeks to realign capital allocation toward projects that generate not only economic returns, but also positive environmental and social impacts. By internalizing externalities, such as carbon emissions, pollution, and resource depletion, green finance provides a framework for transitioning economies toward low-carbon and socially inclusive development paths (Jiang et al., 2023). This theoretical foundation underscores the importance of embedding sustainability criteria into investment decisions, risk assessments, and regulatory frameworks, thereby ensuring that financial markets contribute to the long-term ecological balance and social equity.

Islamic social finance principles

Islamic Social Finance Principles emphasize justice, equitable wealth distribution, and ethical investment. These principles are operationalized by prohibiting riba, applying risk-sharing contracts such as *mudarabah* and *musharakah*, and promoting social responsibility via zakat, waqf, sadaqah, and qard al-hasan (Asutay & Yilmaz, 2024; Orhan & Isiker, 2021). The convergence of these two frameworks provides a conceptual foundation for understanding how Islamic microfinance supports the dual objectives of social inclusion and environmental sustainability. This theoretical synergy is particularly relevant in contexts such as Istanbul, where green finance initiatives and Islamic microfinance institutions coexist.

Previous studies emphasize that green finance fosters investments in renewable energy, sustainable agriculture, and waste management, creating jobs and improving community welfare (Hassan & Cebeci, 2012; Slamet, 2020; Velioğlu, 2020). Islamic social finance instruments, particularly zakat and waqf, directly target poverty alleviation and equitable wealth distribution (Orhan & Isiker, 2021). Therefore, combining green finance with Islamic social finance generates a dual-impact mechanism that not only addresses environmental sustainability, but also enhances social outcomes for communities.

Instruments such as zakat, infak, and sadaqah can be mobilized to finance vulnerable communities, thereby reducing entry barriers to environmentally friendly economic activities (Ustaoglu & Yildiz, 2022). Moreover, productive waqf has been demonstrated to support ecological projects, such as renewable energy and sustainable farming, although its potential remains underutilized (Aladaq, 2023). Hence, aligning Islamic social finance with green finance objectives can provide a sustainable funding base for microfinance institutions while expanding the scope of programs that promote both social and environmental sustainability.

Participation banks and Islamic microfinance institutions currently account for more than 8% of the total banking assets in Turkey, reflecting a growing infrastructure for Sharia-compliant finance (Alshater et al., 2021). Early initiatives by Islamic cooperatives and projects supported by the Istanbul Development Agency (IDA) also demonstrated the initial adoption of social and environmental criteria (mir). However, the lack of systematic frameworks and limited scholarly documentation continue to pose significant challenges for effectively scaling up green Islamic microfinance practices in Istanbul (Çuruk & Kaynar, 2021).

Research Methods

This study employed a qualitative research design using a case study approach to investigate the integration of green finance principles into Islamic social finance-based microfinance practices in Istanbul, Turkey. The selection of a qualitative method was influenced by the exploratory nature of the research, which aimed to gain an in-depth understanding of complex social and environmental phenomena within their real-life contexts (Hawash et al., 2022). Data were collected through semi-structured interviews with key stakeholders including managers of Islamic microfinance institutions, beneficiaries, and regulatory officials. Additionally, relevant documents, such as organizational reports, policy papers, and financial records, were analyzed to complement and triangulate the interview data (Rasoulinezhad & Taghizadeh-Hesary, 2022). The sample was purposively selected to include institutions actively involved in Islamic microfinance and recognized for incorporating sustainability elements into their operations (George et al., 2022). The rationale for this sampling technique was to ensure the richness and relevance of the collected data to address the research questions. Data collection took place over a period of three months from March to May 2024.

A purposive sampling strategy supplemented by limited snowballing was used to recruit participants who had direct experience with Islamic microfinance and/or sustainability-related initiatives in Istanbul. A total of 25 participants were interviewed. The participant breakdown was as follows: 12 institutional actors (managers and program officers from Islamic microfinance institutions and cooperatives), five regulatory/policy actors (representatives from participation banks, municipal development agencies, and relevant financial regulators), and eight beneficiaries (micro-entrepreneurs or household-level recipients of Islamic microfinance services).

Inclusion criteria for institutional participants required (a) active operation in Istanbul, (b) provision of microfinance products or services based on Islamic/social finance principles, and (c) evidence or stated involvement in sustainability-related activities (e.g., projects or policies addressing the environment, energy, or social welfare). The inclusion criteria for individual participants required (a) at least one year of involvement with the relevant institution for managers and officers, (b) active responsibility for policy or oversight for regulatory actors, and (c) receipt of microfinance support within the previous 24 months for beneficiaries.

Participant identification and recruitment were conducted in two stages. First, a purposive list of candidate institutions and contacts was compiled using public directories, project lists from the Istanbul Development Agency (IDA), and networks of participating banks and Islamic cooperative associations. Institutional gatekeepers were contacted by email and telephone, an information sheet and consent form were provided, and interviews were scheduled upon receipt of consent. Second, snowballing was employed. After each interview, respondents were asked to recommend additional knowledgeable informants to ensure coverage of under-represented perspectives, especially among beneficiaries. Recruitment and selection decisions were logged in a recruitment register (date of contact, response, and reason for non-participation) to support reproducibility.

Data collection took place over a three-month period, from March 1 to May 31, 2024. Semi-structured interviews lasted between 45 and 90 minutes (mean ≈ 60 minutes), were audio-recorded with participant permission, and were transcribed verbatim. Interviews were conducted in person where feasible and via secure online platforms when necessary. Translation/interpretation was provided where needed and checked for accuracy. In addition to interviews, documentary sources were purposively collected for triangulation, including 12 documents (annual organizational reports, project evaluations, policy briefs, and selected financial statements) obtained from institutional websites and direct institutional requests.

Sampling continued until thematic saturation was reached, and initial analysis indicated no emergence of new substantive themes after approximately the 22nd interview. Three additional interviews were conducted to confirm saturation and to ensure balanced representation across stakeholder groups, resulting in a final sample of 25. To enhance transparency and reproducibility, the study maintained (a) a recruitment log, (b) interview schedules and field notes, (c) an audit trail of analytic decisions, and (d) de-identified transcripts and a coding framework stored on encrypted drives. Member checking with key institutional respondents and triangulation across interviews and documents was applied to strengthen credibility.

All procedures conformed to research ethics protocols. Participants were provided written information sheets, gave written or recorded verbal informed consent, and were assured of confidentiality and anonymization in reporting. Institutional approval or permission to access organizational documents was obtained from the participating institutions, where required.

Results and Discussion

The research findings are presented based on data collected from interviews, document analysis, and field observations related to the integration of green finance principles with Islamic microfinance practices in Istanbul (see Table 1). The results indicate that Islamic microfinance institutions actively incorporate environmental and social sustainability values through various operational strategies (Sinha et al. 2023). Key instruments such as zakat, infak, sedekah, wakaf, and qard al-hasan are utilized not only to provide financial access to vulnerable populations but also to promote community welfare and environmentally responsible projects.

Table 1. Key themes emerging from interviews, document analysis, and field observations

Main Theme	Sub-Themes	Illustrative Evidence	Source
Adoption of Green Finance Principles	• Support for eco-friendly micro-enterprises • Integration of environmental criteria in lending decisions	"We prioritize financing for projects with low environmental risks, such as organic farming and solar energy."	Interview with microfinance manager; field observations
Role of Islamic Social Finance Instruments	• Zakat for poverty alleviation • Waqf for ecological projects • Qard al-hasan for sustainable livelihoods	Productive waqf funds directed to renewable energy and recycling initiatives	Document analysis; interview with waqf official
Social Impact	• Job creation • Women's economic empowerment • Improved access to basic services	Women-led cooperatives financed for small-scale plastic recycling	Interview with beneficiaries; field notes
Challenges	• Lack of regulatory framework • Limited standardized impact measurement tools • Stakeholder knowledge gaps on sustainability	"We have no standardized metrics to measure environmental outcomes."	Interview with regulatory official
Opportunities	• Growing public awareness • Government support • Potential for innovative green financial products	Policy papers highlighting green sukuk and micro-solar financing schemes	Document analysis; field observations

Source: Data processed, 2025

The analysis revealed that while there is a growing awareness and adoption of green finance concepts, its implementation is still in the early stages and varies across institutions. The identified challenges include limited regulatory frameworks specifically addressing green finance within Islamic microfinance, lack of standardized impact measurement tools, and limited stakeholder knowledge on sustainable finance practices. Conversely, opportunities such as increasing public awareness, government support, and the potential for innovative financial products have been noted as catalysts for further development.

These findings contribute new insights by linking Islamic social finance instruments with global sustainability goals, thus confirming the theoretical alignment noted in the literature. However, this study also highlights practical gaps and the need for more structured frameworks and capacity building to fully realize the potential of green finance in Islamic microfinance. The discussion connects to the research questions by elaborating how principles of sustainability are embedded in microfinance practices and how social finance tools support sustainable development in the local context of Istanbul. This underscores the importance of integrating Islamic financial ethics with environmental stewardship to achieve an inclusive and sustainable financial system.

This study thoroughly investigated the integration of green finance principles with Islamic microfinance practices in Istanbul, Turkey. Through in-depth semi-structured interviews, document analysis, and field observations conducted from March to May 2024, it was consistently found that Islamic microfinance institutions in Istanbul have begun to internalize environmental and social sustainability values within their operational frameworks. This integration is tangibly manifested through the strategic utilization of Islamic social finance instruments, such as zakat, *infaq*, *sadaqah*, *waqf*, and *qard al-hasan*.

These instruments not only serve as crucial mechanisms for providing financial access to vulnerable communities, but are also actively directed towards enhancing community well-being and supporting environmentally responsible projects. For instance, lending proposals are now filtered based on their environmental impact, supporting micro-enterprises in plastic recycling, small-scale organic farming, and mini-solar panel installations for low-income households. The social dimension is concurrently strengthened by a focus on decent job creation, women's economic empowerment, and improved access to basic services. While there is growing awareness and adoption of green finance concepts, their implementation remains in the early stages and varies across institutions. Three primary challenges were identified: limited specific regulatory frameworks, lack of standardized impact measurement tools, and constrained stakeholder knowledge regarding sustainable finance practices. However, significant opportunities have emerged, including increasing public awareness, government support, and the potential for innovative financial products. In essence, this research confirms the substantial potential and conceptual alignment between green finance and Islamic microfinance in Istanbul, underscoring that realizing this full potential necessitates addressing identified structural and capacity-building challenges.

Based on in-depth interviews, observations, and document analysis conducted with various Islamic Microfinance Institutions (IMFIs) in Istanbul, six major thematic aspects were identified that reflect the integration of environmental and social sustainability values with the application of Islamic social finance instruments.

First, in terms of the *Integration of Environmental and Social Sustainability Values*, IMFIs in Istanbul have begun to internalize sustainability principles into their operational frameworks. This is evident through the implementation of environmental impact screening for financing proposals, support for eco-friendly micro-enterprises such as plastic recycling and organic farming, and strengthening of social dimensions, including decent job creation, women's economic empowerment, and access to basic services.

Second, regarding the *Utilization of Islamic Social Finance Instruments (ISFI)*, institutions strategically deploy zakat, infaq, sadaqah, waqf, and qard al-hasan not only to address financial inclusion for vulnerable groups but also to support community welfare and environmentally sustainable initiatives. For instance, productive waqf funds are used to build water-saving irrigation systems for small-scale farmers, whereas qard al-hasan is prioritized for household waste recycling businesses.

Third, the *Awareness and Adoption of Green Finance Concepts* are growing across institutions, although implementation remains at an early stage and varies significantly. Some institutions have started to raise awareness among staff and beneficiaries, while others still perceive green finance as a complementary component rather than a core value.

Fourth, the theme of *Implementation Challenges* reveals three main obstacles: (1) the lack of specific regulatory frameworks for green finance within the Islamic microfinance context, (2) the absence of simple, standardized tools to measure environmental impact at the micro level, and (3) limited knowledge among stakeholders regarding sustainable finance practices.

Fifth, in terms of *Development Opportunities*, this research identifies several promising factors, such as growing public awareness of environmental issues in Istanbul, increasing government interest in the green economy, and the potential for innovative Islamic financial products, such as community-level green sukuk. Sixth, the aspect of *Contribution and Gaps* affirms the strong theoretical alignment between Islamic social finance instruments and global sustainability goals. However, significant implementation gaps persist. There is a pressing need for clear operational guidelines, capacity-building efforts for practitioners, and a structured roadmap developed in collaboration with regulators and experts. Overall, these findings emphasize the importance of an integrative approach that combines Islamic values, environmental responsibility, and financial innovation to strengthen the social and ecological impacts of Islamic microfinance in the context of a global green transition.

Discussion

The findings of this study substantially enrich our understanding of the convergence between green finance and Islamic microfinance practices, particularly within the context of Istanbul. This is aligned with the results of Yüksel et al. (2023). Arguments regarding the inherent compatibility of Sharia principles with global sustainability goals, our research empirically demonstrates that Islamic social finance instruments such as zakat, *infaq*, *sadaqah*, *waqf*, and *qard al-hasan* not only serve as vital mechanisms for financial inclusion but also act as powerful tools to promote social welfare and environmentally responsible practices. This confirms that the potential of Islamic social finance extends far beyond mere charitable aid, transforming into a catalyst for sustainable development at the grassroots level (Liu & Abu Hatab, 2023). For instance, the use of productive *waqf* for clean water and renewable energy projects illustrates the evolution of Islamic philanthropy from merely consumptive to sustainable investment, generating dual benefits.

Nevertheless, our field data identify disparities in the adoption and implementation of green finance principles among Islamic microfinance institutions. A significant challenge is the lack of a specific regulatory framework for green finance within the Islamic microfinance domain (Taghizadeh-Hesary et al., 2023). The absence of clear guidelines creates operational ambiguity and hinders the standardization of practices, potentially limiting the scale and impact of green initiatives (Mirza et al. 2023). This contrasts with Islamic finance markets in Malaysia or Indonesia, which have begun developing *green sukuk* guidelines or *fatwas* related to sustainable investments. In general, Istanbul and Turkey still require similar frameworks to foster innovation and investor confidence.

Furthermore, limited standardized impact measurement tools pose a crucial barrier. Without clear and universally accepted metrics, Islamic microfinance institutions struggle to quantify and communicate their contributions to environmental and social objectives accurately. This reduces transparency and impedes their ability to attract further funding from increasingly impact-oriented investors (Alshater et al., 2021). For example, how much carbon emissions are reduced by an organic farming project financed by *qard al-hasan* or how many liters of water are saved because of a water *waqf* program? It is difficult to answer these questions without adequate tools. Finally, the constrained knowledge and capacity of stakeholders regarding green finance principles represents an educational and capacity-building challenge that requires urgent attention (George et al., 2022; Li et al., 2023; Zhang et al., 2023). Interviews indicate that despite good intentions, there is often a knowledge gap on how to systematically integrate sustainability principles into daily operations and how to identify truly "green" projects.

On the other hand, this study also identifies strategic opportunities that could accelerate integration. Increasing public awareness of sustainability issues creates conducive market demand for green financial products and services. Consumers and communities increasingly value institutions that demonstrate commitment to environmental and social responsibility. Growing government support, as evidenced by various sustainability initiatives in Turkey, can be a vital enabler for policy and fiscal incentives that favor green Islamic microfinance (Sinha et al., 2023). Furthermore, the potential for innovative financial products that blend Sharia principles with green finance criteria offers new avenues for fund mobilization and sustainable investment, such as micro *green sukuk* or Sharia-compliant crowdfunding platforms for environmental projects.

Theoretically, this study fills a gap in the literature by addressing green finance and Islamic finance separately (Bakry et al., 2023; Gilchrist et al., 2021; Lee et al., 2023; Madaleno et al., 2022). By focusing on their intersection at the microfinance level, this research enriches the conceptual framework of sustainable Islamic finance by providing empirical evidence on how *maqasid Shariah* particularly those related to environmental preservation (*hifz al-bi'ah*) and social welfare (*hifz al-nafs*, *hifz al-mal*), are translated into financial practices on the ground. Practically, these findings offer valuable insights for policymakers to design supportive regulatory frameworks for Islamic microfinance institutions to develop more integrated operational strategies and for communities to understand how Islamic instruments can be tools for sustainable empowerment.

The findings of this study indicate that Islamic Microfinance Institutions (IMFIs) in Istanbul have begun to internalize environmental and social sustainability values within their financial practices. This aligns with Maqashid al-Shariah's principles, particularly in terms of hifz al-bi'ah (protection of the environment) and hifz al-mal (protection of wealth). As argued by Wang et al. (2022), Islamic finance should not only pursue profitability, but also promote social justice and environmental stewardship. The integration of sustainability values is evident in the adoption of environmental screening mechanisms for financing proposals and in the support provided to eco-friendly micro-enterprises and gender-inclusive initiatives. These findings support the views of (Debrah et al., 2022), who emphasized the ethical and sustainable orientation inherent in Islamic financial practices. Thus, IMFIs have evolved beyond their role as financial intermediaries to become agents of ecological and social transformation. Moreover, the strategic use of Islamic Social Finance Instruments, such as zakat, waqf, and qard al-hasan, to fund environmentally friendly and community-based projects reflects a functional shift from traditional consumptive support to a more developmental and sustainable financing approach. (Wang et al. 2022). also highlighted the potential of productive waqf and qard al-hasan in financing inclusive and high-impact green sectors.

However, the study also uncovered several implementation gaps, particularly the absence of specific regulatory frameworks for green microfinance in Islamic contexts, and the lack of simple, standardized tools to measure environmental impacts at the micro-enterprise level. These findings echo the concerns raised by Meo and Karim (2022), who argued that integrating sustainability values into Islamic finance requires both strong regulatory backing and institutional capacity. In addition to these challenges, this research identifies strategic opportunities, such as increasing public awareness of environmental issues, growing governmental interest in the green economy, and the emergence of innovative Islamic financial products (e.g., community-level green sukuk). These developments present real opportunities for IMFIs to scale their impacts and strengthen their legitimacy within society. Finally, this study highlights the urgent need for enhanced institutional capacity and human resources, as well as the development of a comprehensive roadmap at both the national and global levels to support the integration of green finance principles into Islamic microfinance. This represents a key contribution of this research, particularly in the context of promoting a sustainable Islamic microfinance model amid global climate challenges and developmental transitions.

Conclusion

This study highlights the growing integration of green finance principles within Islamic microfinance practices in Istanbul and demonstrates how sustainability values are increasingly embedded in financial operations targeting vulnerable communities. The findings reveal both promising advancements and significant challenges, such as regulatory gaps and limited impact measurement tools, which need to be addressed to fully harness the potential of green finance in Islamic social finance instruments such as zakat, wakaf, and qard al-hasan. Moving forward, there is a clear need to develop comprehensive regulatory frameworks and standardized evaluation methods to support the scaling of sustainable microfinance initiatives. Additionally, enhancing stakeholder knowledge and capacity building is crucial for advancing these efforts. Future research could expand by quantitatively assessing the environmental and social impacts of green Islamic microfinance products and by exploring comparative studies across different regions. Ultimately, this study contributes to the broader discourse on sustainable finance by bridging Islamic financial ethics with global sustainability goals and offering practical insights for policymakers, financial institutions, and community practitioners.

Author contributions

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