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Circular Practices Under Economic and Institutional Constraints: Evidence from MSMEs and Ecosystem Builders in Yangon, Myanmar

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Abstract
This qualitative study examined the drivers, barriers, and support needs associated with circular practices among micro, small, and medium-sized enterprises (MSMEs) in Yangon, Myanmar. Semi-structured interviews were conducted with 11 MSME owners and four representatives of ecosystem-building organizations recruited through purposive and snowball sampling. The interview data were analyzed manually in Microsoft Excel using a framework-guided thematic approach that combined deductive and inductive coding. Reported circular practices were also mapped against the 9R framework to identify the strategies used individually and in combination. The findings identified environmental commitment, resource scarcity, cost reduction, income generation from waste, training, ecosystem support, branding opportunities, and traditional reuse as key drivers. Participants described the implementation and expansion of circular practices as constrained by interconnected financial, technical, institutional, market, infrastructural, and awareness-related barriers.

The 9R mapping showed that reducing and recycling were the most frequently reported strategies, followed by reusing and repurposing, while other strategies were uncommon or unreported within this sample. Resource scarcity was reported to encourage resource conservation while also limiting investment and expansion amid inflation and supply-chain uncertainty. Both participant groups emphasized government participation, financial assistance, practical technical training, market linkage, and infrastructure development as necessary forms of support, although ecosystem builders placed greater emphasis on system-level constraints. Overall, circularity among the participating MSMEs emerged as a selective and adaptive process shaped by enterprise capabilities and wider ecosystem and institutional conditions.

Keywords: circular economy, circular strategies, ecosystem builders, MSMEs, Myanmar, resource constraints

1. Introduction

1.1 Background of the Study

Micro, small, and medium-sized enterprises (MSMEs) account for over 90% of enterprises, 70% of total employment, and 50% of global gross domestic product (International Finance Corporation, n.d.). They represent 97.2%–99.9% of businesses in ASEAN (Association of Southeast Asian Nations, n.d.) and approximately 89.9% of registered enterprises in Myanmar (Asian Development Bank, 2020), underscoring their relevance to resource-efficient

production. The circular economy (CE) seeks to reduce waste, extend product life cycles, and retain resource value (Geissdoerfer et al., 2017; Potting et al., 2017). For MSMEs, circular strategies can reduce costs, improve resource efficiency, and generate revenue, although ASEAN MSMEs commonly adopt only selected practices such as reduction, reuse, repair, recycling, and energy efficiency (ASEAN Secretariat, 2025). In Yangon, resource scarcity, limited purchasing power, and labor availability often shape circular practices more strongly than explicit environmental strategies (Win et al., 2023). Political instability, inflation, infrastructure limitations, and supply-chain disruption may encourage enterprises to conserve inputs, reuse materials, and generate income from waste.

1.2 Problem Statement

Circular practices among some Yangon MSMEs remain partial and informal, while limited finance, technical expertise, infrastructure, demand, institutional support, and purchasing power constrain their expansion. Although regional studies identify similar influences (ASEAN Secretariat, 2025; Win et al., 2023), localized evidence remains limited on why these practices continue, what restricts their development, and what support is required.

1.3 Study Significance

This study provides context-specific evidence by connecting MSME owners' experiences with ecosystem-builder perspectives on the financial, technical, market, infrastructural, and institutional conditions surrounding circular practices in Yangon.

2. Research Objectives

This study aims to:

2.1 Identify the key factors reported to motivate and enable circular practices among participating MSMEs in Yangon.

2.2 Examine the barriers constraining the implementation and expansion of circular practices among participating MSMEs in Yangon from the perspectives of MSME owners and ecosystem-builder representatives.

2.3 Identify the forms of support perceived as necessary to strengthen circular practices among participating MSMEs in Yangon.

3. Literature Review

3.1 Circular Economy and MSME Practices

The circular economy (CE) seeks to reduce waste and retain the value of products and materials (Ellen MacArthur Foundation, 2013). At the enterprise level, the framework proposed by Potting et al. (2017) distinguishes ten strategies numbered R0–R9: refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, and recover. These encompass avoiding or reducing resource use, extending product and component life, and recovering value from materials. Although commonly termed the 9R framework, its numbering begins at R0. The hierarchy prioritizes resource conservation and value retention; it does not prescribe a sequence that every enterprise must complete. The framework is appropriate here because it distinguishes specific practices that a general adoption/non-adoption classification would obscure. It enables comparison of the strategies reported by resource-constrained MSMEs without assuming that all strategies are relevant or feasible for every business. In this study, it serves as a descriptive classification framework rather than a measure of enterprise maturity or environmental performance. Circular practices can reduce waste and operating costs, improve resource efficiency, and create business opportunities for MSMEs (Rizos et al., 2016; Wu et al., 2021).

However, integrated circular business models may require resources and capabilities beyond those of smaller enterprises. Resource-constrained MSMEs may therefore adopt selected strategies, particularly reduction, reuse, and recycling, rather than transform their entire business models (Gaustad et al., 2018; Murray et al., 2017; Sohal & De Vass, 2022).

3.2 Drivers and Barriers Affecting MSME Circular Practices

MSME circular practices reflect internal drivers—including environmental commitment, knowledge, cost saving, and practical feasibility—and external drivers such as demand, collaboration, government support, finance, technology, and business networks (Findik et al., 2023; Mishra et al., 2025; Rizos et al., 2016; Sawe et al., 2021). Training can help translate CE concepts into practices suitable for smaller enterprises (Sawe et al., 2021). Implementation requires change across policy, ecosystem, organizational, and operational levels (Domenech & Bahn-Walkowiak, 2019). Common barriers include finance, technical knowledge, administrative burdens, management capability, government assistance, consumer awareness, regulation, and supply-chain complexity (ASEAN Secretariat, 2025; Mishra et al., 2025; Rizos et al., 2016; Sharma et al., 2021). These barriers may reinforce one another when financial constraints restrict technology and expertise and weak demand or policy uncertainty reduces expected returns.

3.3 Developing-Country Context and Research Gap

Developing countries face infrastructure deficiencies, technological limitations, informal economic activity, and weak policy implementation that may restrict formal CE transitions (Ahmed et al., 2022; Ding et al., 2019). Yet resource scarcity and low purchasing power may encourage repair, reuse, and material conservation, making circular practices necessity-driven rather than explicitly environmental (Korsunova et al., 2022). Studies in Bangladesh similarly identify inadequate technology, logistics, policy implementation, and public participation as constraints (Ahmed et al., 2022; Azizuddin et al., 2021). Research in Yangon links reuse and repair to resource scarcity, limited purchasing power, and labor availability (Win et al., 2023). Building on this evidence and the concept of necessity-driven circularity (Korsunova et al., 2022), this study examines how conditions that encourage resource conservation can simultaneously restrict the development of circular practices. Its empirical focus is the comparison of MSME owners' experiences with ecosystem-builder perspectives on capabilities, finance, market access, and institutional support. This comparison provides a basis for examining both the possibilities and limits of enterprise adaptation in Yangon.

The analytical framework connects three strands of literature. The 9R framework identifies the practices reported by enterprises (Potting et al., 2017). Necessity-driven circularity explains how scarcity and limited purchasing power can encourage resource conservation and value retention (Korsunova et al., 2022; Win et al., 2023). Research on MSME barriers and enablers identifies the capabilities, finance, networks, and institutional conditions that may support or constrain these practices (Rizos et al., 2016; Sohal & De Vass, 2022). Together, these perspectives guide examination of how pressures to conserve resources coexist with constraints on investment and expansion. Comparing MSME owners with ecosystem-builder representatives links enterprise experiences to the wider support environment. These connections guide interpretation rather than constitute causal relationships tested by the study.

4. Research Methodology

4.1 Research Design

This exploratory qualitative study investigated the drivers, barriers, and support needs associated with circular practices among MSMEs in Yangon. Semi-structured interviews enabled participants to describe their experiences and permitted follow-up questions.

4.2 Participants and Sampling

Participants comprised MSME owners and representatives of ecosystem-building organizations. Eligibility was based on relevant practical experience rather than familiarity with CE terminology. MSMEs had to operate in Yangon and have practiced at least one strategy identifiable within the 9R framework for one year or longer. Owners were selected because they could describe their enterprises' practices, motivations, constraints, and support needs. This practice-based criterion accommodated enterprises whose activities preceded their recognition of the CE concept. Enterprise size followed the employee-based criteria of the Organisation for Economic Co-operation and Development (OECD): micro enterprises employed fewer than 10 people, small enterprises 10–49, and medium-sized enterprises 50–249 (OECD, n.d.). Ecosystem-builder representatives required experience supporting MSMEs in sustainability or CE in Yangon within the preceding three years. Their financial, technical, capacity-building, market-linkage, or networking roles provided contextual perspectives on conditions beyond individual enterprises. Participant identities were protected through codes and broad organizational descriptions.

Purposive sampling was followed by snowball sampling, resulting in 11 MSME owners and four ecosystem-builder representatives. The enterprises varied in size and circular practices, while the ecosystem builders provided contextual perspectives on surrounding financial, technical, institutional, and market conditions. The sample enabled experience-based comparison across enterprises and participant groups but does not establish comprehensive saturation across sectors or stakeholder groups. The four ecosystem-builder interviews provided contextual perspectives. Recurrence of broad codes should not be equated with exhaustive understanding of their meanings (Hennink et al., 2017).

4.3 Data Collection

Participants were recruited through professional, business, and entrepreneurship networks and Facebook business groups, and contacted through Messenger, Viber, email, or LinkedIn. The primary researcher conducted 30–45-minute remote interviews via Zoom, Viber, or Google Meet between October and November 2025. Two interview guides were developed from the driver and barrier categories synthesized in the literature review. Each covered organizational background, drivers, barriers, and support needs. Parallel questions were tailored to participants' roles: owners described their enterprises, whereas ecosystem-builder representatives discussed the MSMEs they supported. Broad questions were followed by category-specific prompts addressing economic, market, capability, institutional, network, and cultural conditions.

The complete English-language guides are provided in Supplementary Appendix A; interviews were conducted in Burmese. Interviews were conducted in Burmese, audio-recorded, and transcribed by the primary researcher, with interview notes supplementing the transcripts. Selected quotations were translated into English and lightly edited for clarity, grammar, and confidentiality while preserving their substantive meaning. Potentially identifying details, including exact funding amounts, retailer names, specialized product descriptions, and establishment years, were generalized or omitted. Participation was voluntary. Participants were informed of the study's purpose, procedures, intended data use, and their right to decline questions or withdraw. Permission to record was obtained. Identities and organizational information were kept confidential, and identification codes were used in reporting.

4.4 Data Analysis

Data were analyzed manually in Microsoft Excel using a framework-guided thematic approach combining deductive and inductive coding. The primary researcher repeatedly read the

transcripts, coded statements relevant to the objectives, and recorded them in a coding matrix. Reported practices were mapped against the 9R framework using the activity described rather than participants' familiarity with CE terminology. Reuse concerns continued use for the original function; repurposing concerns a different function for a discarded product or its parts; and recycling involves processing waste materials into usable materials (Potting et al., 2017). The term "upcycling" alone was therefore insufficient to distinguish repurposing from recycling. Recover refers specifically to energy recovery through incineration, rather than any activity that generates value from waste. An enterprise could be assigned multiple strategies where distinct activities supported those classifications. Strategy counts describe the participating enterprises and do not measure adoption intensity, environmental benefit, or progression through the hierarchy.

Deductive coding drew on the literature and conceptual framework. Driver categories covered economic and operational factors, market and competitive factors, knowledge and capability, institutional and network support, and community values and traditional practices. Barrier categories covered financial, technical and knowledge, institutional and policy, market and network, and awareness and cultural constraints. Inductive coding captured issues not represented by these initial categories. Coded statements were organized into driver, barrier, and support-need themes. The analysis distinguished an activity from its reported motivation or constraint: for example, using production waste could describe a circular practice, while seeking additional income explained its motivation. The same category structure was used to compare agreement and differences in emphasis between MSME owners and ecosystem-builder representatives. Theme counts indicate the number of participants reporting a theme, not the number of statements, statistical prevalence, or relative importance. Participants could contribute to multiple themes.

The primary researcher conducted the initial coding and theme development. To strengthen analytical credibility, the supervising researcher reviewed the coding framework, theme definitions, category assignments, theme counts, and selected supporting extracts. The coding matrix was also re-examined for accounts that did not conform to the dominant patterns. Differences in interpretation were discussed and resolved by consulting the coding records and, where necessary, the original Burmese transcripts. Key analytical decisions and revisions were documented to maintain an audit trail. During the analytical review, the researchers also considered how recruitment through professional networks and the primary researcher's familiarity with the local MSME context might have influenced participant access and data interpretation. Potential assumptions were discussed and checked against the supporting extracts before the themes were finalized.

5. Research Findings

5.1 Participant Profile

The study included 11 MSME owners (S1–S11) and four ecosystem-builder representatives (SEB1–SEB4). Table 1 presents their anonymized profiles using broad categories to reduce identification risk.

Table 1: Anonymized Profile of Study Participants

Code	Participant type/size	Broad activity or support role	Reported circular strategies	Operating duration
S1	Micro enterprise	Plastic-waste recycling and product manufacturing	Recycling, reducing	More than 10 years
S2	Micro enterprise	Handicrafts produced from discarded materials	Recycling, repurposing, reusing	3–5 years

Code	Participant type/size	Broad activity or support role	Reported circular strategies	Operating duration
S3	Micro enterprise	Products manufactured from agricultural waste	Repurposing, recycling, repairing	3–5 years
S4	Micro enterprise	Personal-care products and refill systems	Reducing, reusing, refusing	3–5 years
S5	Small enterprise	Organic-waste management and fertilizer production	Recycling, reducing	6–10 years
S6	Small enterprise	Resource-efficient agricultural production	Refusing, reducing, reusing	6–10 years
S7	Small enterprise	Products manufactured from agricultural by-products	Recycling, repurposing	6–10 years
S8	Small enterprise	Alternative fuel produced from agricultural residues	Recycling, reducing, repurposing	3–5 years
S9	Small enterprise	Food production and recovery of value from production waste	Reducing, reusing	6–10 years
S10	Medium enterprise	Waste-management, auditing, and consulting services	Reducing, rethinking, recycling	6–10 years
S11	Medium enterprise	Plastic-waste recovery and product manufacturing	Reusing, reducing, repurposing, recycling	More than 10 years
SEB1	Ecosystem builder	Financial, technical, and networking support	Not applicable	Not applicable
SEB2	Ecosystem builder	Capacity development, market linkage, and access-to-finance support	Not applicable	Not disclosed
SEB3	Ecosystem builder	Technical assistance, market access, and financial guidance	Not applicable	Not disclosed
SEB4	Ecosystem builder	Entrepreneurship development, training, networking, and market support	Not applicable	Not disclosed

Source: Authors' data.
Note. S1–S11 were MSME owners who reported on their enterprises' practices and operating conditions. SEB1–SEB4 were representatives of organizations directly involved in supporting MSMEs through capacity development, finance, technical assistance, market linkage, or networking. Roles are reported broadly to protect participant anonymity.

At the time of data collection, the MSMEs had operated for at least three years and implemented at least two circular strategies. The ecosystem builders had more than two years of experience supporting MSMEs in Yangon.

5.2 Patterns of Circular Strategies

Reducing and recycling were each reported by eight MSMEs, reusing and repurposing by five each, refusing by two, and repairing and rethinking by one each. Refurbishing, remanufacturing, and recovering were unreported. Enterprises combined strategies, including reducing with recycling, recycling with repurposing, and reducing with reusing. These patterns describe the selected enterprises rather than a uniform development pathway. Unreported strategies may reflect sector relevance and sample composition as well as resource constraints; the interviews do not establish the relative influence of these explanations.

5.3 Drivers of Circular Practices

Five driver categories were identified: economic and operational factors, market and competitive factors, knowledge and capability, institutional and network support, and community values and traditional practices. Eight MSMEs reported an environmental or sustainability-oriented initial motivation, although they did not necessarily recognize their activities as CE. The remaining three began by seeking to reduce costs or operational waste.

Resource scarcity and cost saving were prominent drivers. MSMEs used discarded or reusable inputs to reduce reliance on virgin materials and generate revenue. S9 explained, "Our aim was to generate income from waste. Previously, usable production by-products were discarded and sent to landfill. We therefore began converting them into a new food product to create an additional income stream." Other enterprises reused packaging, prevented production losses, consolidated transportation, or substituted waste for conventional inputs.

Customer demand was not a strong initial driver because consumers prioritized price, quality, and convenience. SEB2 observed, "Very few businesses adopt circular practices in response to customer demand. Consumers mainly consider price, convenience, and quality." Nevertheless, participants associated circular practices with stronger brand identity and increased collaboration opportunities. S3 explained, "Circular practices have strengthened our brand. We do not need to invest heavily in marketing, and we receive support from the community." Ecosystem builders agreed that branding created value in niche markets but was insufficient for competing with larger imported brands. Capacity-building programs were identified as an important driver by 10 MSMEs. Participants described these programs as helping them recognize and systematize their circular activities. S4 stated, "Before attending the training, I did not clearly understand the model. I began solely because of my passion and interest, so my practices were not very systematic or efficient. I can now implement a more systematic and efficient model." Ecosystem builders also reported improvements in resource use, operating practices, environmental commitment, and CE understanding.

Ecosystem builders provided technical knowledge, grants, partnerships, and market connections amid limited government support. Participants reported using grants for machinery, facilities, and distribution and described networking events as opportunities to connect with customers, partners, and specialists. Both groups identified traditional repair, reuse, sharing, and product-life extension as foundations for circular practices but distinguished these habits from commercial demand. SEB2 explained, "Customers choose these products not because they are made from recycled plastic, but because they offer convenience, lower prices, and better quality." Consumers reused products to save money but did not necessarily purchase marketed circular products.

5.4 Barriers to Implementation and Expansion

Five categories of barriers were identified: financial, technical and knowledge-related, institutional and policy-related, market and network-related, and awareness and cultural barriers. Table 2 compares the perspectives of the two participant groups across five cross-cutting dimensions that encompass the principal drivers and barriers identified in the analysis.

Table 2: Comparison of MSME and Ecosystem-Builder Perspectives on Key Drivers and Barriers

Dimension	MSME perspective	Ecosystem-builder perspective
Economic and Operational Factors and Financial Constraints	MSME owners associated scarcity and cost saving with circular practices, while inflation, inadequate records, and limited grants were reported to constrain expansion.	Confirmed cost saving as a driver; emphasized financial services, collateral, inflation, and logistics costs
Market and Network Factors	Branding provided recognition, but declining purchasing power and limited distribution restricted sales	Confirmed limited demand and emphasized that sustainability alone offered insufficient competitive advantage

Dimension	MSME perspective	Ecosystem-builder perspective
Knowledge and Technical Capability	MSME owners described training as improving their knowledge, but reported that practical training and technical expertise remained limited.	Emphasized data recording, environmental performance measurement, machinery maintenance, and electricity constraints
Institutional and Policy Conditions	Ecosystem support was important; government support and policy consistency were inadequate	Emphasized declining development funding and weak institutional coordination
Community Values and Public Awareness	Reuse traditions supported early practices, but low awareness weakened trust and willingness to pay	Distinguished traditional reuse from demand for commercial circular products

Source: Authors' data.

Financial barriers, reported by eight MSMEs, included inadequate financial records, collateral requirements, inflation, and limited access to international grant funding. Many micro and family-owned enterprises lacked the documentation required by finance providers. SEB1 explained, "Most micro and small businesses lack the required documents and do not have sufficiently developed financial and business models to qualify for these loans." S11 described inflation: "We are not even sure whether the money received from selling 100 bags last month will be sufficient to buy 100 bags of raw materials this month." Participants described weak documentation and economic instability as restricting access to finance and opportunities for expansion. Technical barriers included shortages of expertise, practical training, machinery, spare parts, and maintenance services. S2 stated, "Training programs focus on theoretical concepts rather than operating procedures, so we have to learn from YouTube." Ecosystem builders also emphasized unreliable electricity and weak data-recording capabilities. Some MSMEs could not document material inputs, waste, recycling outputs, or environmental improvements, limiting their ability to demonstrate performance or seek green finance.

Institutional barriers included limited government participation, unstable import and logistics policies, formalization difficulties, and weak local coordination. Limited municipal cooperation affected waste collection and segregation, while road closures and unpredictable procedures complicated imports and exports. One ecosystem-builder representative explained, "Previously they sold their raw products to the neighboring countries like Thailand and China. Due to road closures and unstable policies, they cannot sell and mainly focus on local customers." Declining development funding also reduced MSME support. SEB1 explained, "Because of the conflict, international organizations allocate considerably less grant funding to Myanmar than to Cambodia and Laos. Consequently, we can implement fewer programs and projects with meaningful impact."

Market and network barriers included weak demand, declining purchasing power, limited distribution channels, and restricted access to international markets. Eight MSMEs reported weak demand as a major challenge, as customers prioritized affordability, quality, necessity, and convenience. S2 explained, "Because purchasing power is low, we cannot rely on this business as a stable source of income or expand it." MSMEs emphasized the immediate effects of limited sales and distribution, while ecosystem-builder representatives also highlighted logistics constraints and insufficient market linkage opportunities. Awareness and cultural barriers included limited public understanding of circular practices, concerns about the quality of recycled products, and low willingness to pay for environmental benefits. Although traditional reuse remained familiar as a cost-saving practice, it did not necessarily create

demand for commercially marketed circular products. Both participant groups identified low consumer awareness and participation as barriers, but ecosystem-builder representatives placed greater emphasis on the need for broader public education and community-level engagement.

5.5 Perceived Support Needs

Both groups identified six forms of support: government involvement and law enforcement, finance, capacity-building, technical assistance, market and networking opportunities, and infrastructure. Government participation and finance were emphasized most frequently, together with clearer policies, coordination, public awareness, and government-supported waste segregation. One ecosystem-builder representative stated, "Only government regulation can guide and influence end users. MSMEs cannot achieve this alone." Financial support was needed for machinery, facilities, product development, and market expansion. S9 reported, "I received grant funding through a business competition. With this funding, we were able to expand into modern retail channels."

Participants requested continuous, practical training suited to enterprise capacity. Technical assistance was needed for product development, machinery, waste auditing, production scaling, and environmental performance measurement. Other needs included CE-focused market events, reliable electricity, improved logistics, affordable workspaces, and stronger waste-management systems. S7 explained, "More awareness events and knowledge sharing sessions should be organized. Inviting business owners who are working in this economy can inspire other MSMEs. In this way, more people value and understand this economy." These needs extended beyond individual enterprise capabilities to wider market, infrastructural, financial, and institutional conditions.

6. Discussion

6.1 Circular Practices as Environmental Commitment and Economic Adaptation

Circular practices among the participating MSMEs combined environmental commitment with economic adaptation. The findings support accounts of necessity-driven circularity in which scarcity and limited purchasing power encourage resource conservation and value retention (Korsunova et al., 2022; Win et al., 2023). They also reveal a tension within this adaptation: conserving materials or earning income from waste could support ongoing operations, while inflation, weak demand, and limited finance restricted investment in improving or expanding those practices. This distinction between sustaining a practice and developing it further helps explain why motivations and barriers should be considered together. The same economic environment could increase the incentive to conserve inputs while reducing the resources available for machinery, technical assistance, documentation, and market development. This interpretation is grounded in participants' accounts; the cross-sectional interviews do not demonstrate a causal sequence. The 9R mapping identifies the combinations reported, but does not by itself explain why other strategies were absent. Sector relevance and sample composition remain alternative explanations. Similarly, niche branding benefits did not necessarily translate into wider demand: familiar traditions of reuse coexisted with low willingness to pay for commercially marketed circular products.

6.2 Capability Development within Interconnected Constraints

Both groups described training as supporting CE knowledge and more systematic practices, consistent with previous research on capability development (Mishra et al., 2025; Sawe et al., 2021; Sohal & De Vass, 2022). Their emphases differed. Owners highlighted immediate production problems, practical operating skills, and sales, whereas ecosystem-builder representatives placed greater emphasis on record keeping, performance measurement, and the conditions required to access finance and support. These perspectives are complementary

rather than contradictory. Practical improvements may be difficult to finance when enterprises cannot document costs, material flows, or expected benefits. Conversely, documentation training alone may offer limited value when enterprises face unreliable electricity, machinery shortages, or weak demand. The comparison therefore suggests that capability support should connect operational assistance with financial documentation and market access, while recognizing infrastructure constraints. These are differences in emphasis within a small sample, not fixed characteristics of the two stakeholder groups.

6.3 Role and Limits of Ecosystem Support

Both groups associated ecosystem support with access to training, grants, technical assistance, networks, and markets, consistent with previous MSME research (Rizos et al., 2016; Sohal & De Vass, 2022). However, participants described government support as limited, whereas previous studies identify government assistance as a potential enabler (ASEAN Secretariat, 2025; Rizos et al., 2016). This difference concerns the availability of support in the study context rather than a rejection of its importance. Ecosystem builders could address some enterprise needs but had limited capacity to resolve unreliable electricity, policy uncertainty, logistics disruption, and waste-system deficiencies. The findings thus distinguish support that assists individual enterprises from conditions requiring wider institutional coordination. In management terms, training and grants may enable specific improvements while leaving constraints on continued development unresolved.

6.4 Research Contribution

This study contributes a context-specific explanation of how circular practices are sustained and constrained among MSMEs already engaged in them. First, connecting 9R classification with necessity-driven circularity distinguishes the practices enterprises report from the conditions supporting their continuation and development. The findings suggest that pressures encouraging material conservation can coexist with barriers to further investment, extending accounts of necessity-driven circularity beyond the motivation to retain resource value. Second, comparing owners and ecosystem-builder representatives connects immediate operational concerns with requirements for documentation, finance, markets, and institutional support. This comparison clarifies why assistance directed at a single enterprise capability may be insufficient when complementary resources or infrastructure are unavailable. The management and innovation implication is that circular development involves coordinating feasible operational changes with the support needed to sustain them. These findings offer an interpretive contribution from Yangon rather than a validated causal model, a universal sequence of 9R adoption, or evidence of measured environmental improvement.

7. Conclusion

Among the participating MSMEs, environmental commitment and economic necessity supported circular practices, while interconnected financial, technical, market, and institutional constraints restricted their development. Resource scarcity was associated with incentives to conserve materials and difficulties financing further improvements. Owners and ecosystem-builder representatives highlighted complementary operational and support-system concerns. The findings suggest that continued development requires enterprise capabilities alongside access to finance, markets, and reliable infrastructure. The observed 9R combinations remain specific to this sample and do not establish a universal pathway of circular transition.

8. Recommendations

8.1 Managerial Implications

MSME owners should assess circular opportunities according to sector relevance, operational

capacity, and expected costs and benefits. Initial actions may include reducing material losses, reusing suitable packaging, or finding productive uses for waste. The 9R framework can help identify options, but enterprises need not implement every strategy or follow a fixed sequence. MSMEs should maintain simplified records of material inputs, waste, production costs, resource savings, and revenue from recovered materials to support performance evaluation and applications for finance or development programs. Where expertise is limited, they should collaborate with ecosystem builders, technical specialists, universities, and other circular enterprises. Marketing should emphasize price, quality, convenience, and functional value rather than rely solely on environmental benefits. Circular attributes can provide additional differentiation, while retailer collaboration, business networks, and market linkage events may expand market access.

8.2 Policy and Ecosystem Implications

Policymakers and financial institutions should consider simpler financing procedures and assistance suited to microenterprises. Ecosystem builders should connect practical technical training with financial documentation, grants, buyer matching, and continuing advice. Programs should reflect enterprise size and sector needs. Wider coordination should address electricity reliability, logistics, machinery imports, waste systems, and public awareness, since enterprise-level training and finance alone cannot resolve these constraints.

9. Limitations and Future Research

This study has several limitations. First, participants were purposively selected because they were already engaged in circular practices; the findings therefore do not explain non-adoption or discontinuation. Second, the study was limited to Yangon and included enterprises from diverse sectors, restricting sector-specific comparison. Third, the four ecosystem builders provided contextual insights rather than representation of the wider support ecosystem. Fourth, the findings relied on self-reported interviews, and the primary researcher conducted the original coding and Burmese-to-English translation. Although the supervising researcher reviewed the coding framework, theme development, category assignments, theme counts, and selected supporting extracts, the complete dataset was not independently recoded, member checking was not conducted, and the translations were not independently verified. Researcher interpretation and translation-related nuances may therefore remain. The 9R mapping also relied on interview descriptions rather than direct observation or technical process verification. Strategy classifications and their distribution should therefore be interpreted cautiously, particularly where reported activities could overlap across categories.

Finally, environmental performance, resource savings, and waste reduction were not independently measured. The findings should therefore be interpreted as context-specific qualitative evidence rather than statistically generalizable conclusions. Future research should include non-adopters and enterprises that discontinued circular practices. Comparative studies across regions, industries, and enterprise sizes could clarify contextual differences, while longitudinal and mixed-method research could examine how circular practices develop and relate participants' experiences to measurable environmental and business outcomes.

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Supplementary Appendix A: Interview Guides

The following English-language guides reproduce the interview questions documented in the original study, with minor language editing for readability. Interviews were conducted in Burmese.

A. Interview Guide for Ecosystem-Builder Representatives

Section 1. Organizational Background

1. Can you briefly describe your organization and its role in supporting MSMEs?
2. How does your organization engage with or promote circular economy practices among MSMEs?
3. In your view, how widespread is CE adoption among MSMEs in Yangon?

Section 2. Drivers

4. Overall, what do you see as the main drivers of MSMEs' adoption of circular practices?
5. From an economic and operational perspective, how do cost savings, resource efficiency, or resource constraints influence MSMEs?
6. From a market and competitive perspective, how do customer demand, market trends, or branding affect MSMEs' choices?
7. From a knowledge and capability perspective, how does access to training, knowledge-sharing sessions, or technical support help MSMEs adopt CE practices?
8. From an institutional and network-support perspective, how important are government, NGOs, or business networks in enabling MSMEs?
9. From a cultural and mindset perspective, how do traditional practices, community values, or customer attitudes play a role?

Section 3. Barriers

10. Overall, what are the main barriers preventing MSMEs from adopting CE practices?
11. What financial barriers are most common among MSMEs?
12. What technological or knowledge-related barriers do you observe MSMEs facing?
13. What institutional or policy barriers hinder MSMEs?
14. What market and network barriers affect MSMEs' adoption?
15. What awareness-related or cultural barriers do you observe among MSMEs in Yangon?

Section 4. Support and Suggestions

16. What kinds of support mechanisms are most effective in enabling MSMEs' circular transition?
17. What changes in policy, market systems, or capacity building would you recommend to improve MSME participation in CE?

B. Interview Guide for MSME Owners

Section 1. Business Background

1. Can you briefly describe your business, including its size, sector, and years in operation?
2. What types of circular economy practices, such as reuse, recycling, repair, or upcycling, do you currently apply?
3. How long have you been practicing these strategies?

Section 2. Drivers

4. Overall, what are the main drivers of your business's adoption of circular economy practices?
5. From an economic and operational perspective, how important are factors such as cost savings, resource efficiency, or resource use in driving your CE practices?
6. From a market and competitive perspective, how do customer demand, competition, or branding influence your CE adoption?
7. From a knowledge and capability perspective, how do skills, training, or expertise help you adopt CE practices?
8. From an institutional and network-support perspective, what role do government, NGOs, or business networks play in motivating you?
9. From a cultural and mindset perspective, how do values, traditions, or consumer attitudes shape your motivation to adopt CE?

Section 3. Barriers

10. Overall, what are the main challenges you face in practicing circular economy strategies?
11. What financial barriers affect your adoption?
12. What technological or knowledge-related barriers do you experience?
13. What institutional or policy barriers limit your adoption?
14. What market and network barriers do you face?
15. What awareness-related or cultural barriers constrain your practices?

Section 4. Support and Suggestions

16. What kind of support would help you overcome these barriers?
17. What recommendations do you have to improve support for MSMEs adopting CE in Yangon?