

Project Quality Management Practices and Sustainability of Ngwino Ukore Bushoki Women Handcraft Project in Rulindo District, Rwanda

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DOI: <https://doi.org/10.5281/zenodo.18139524>

Published Date: 03-January-2026

Abstract: This study examined how project quality management practices influence the sustainability of women handcraft projects in Rwanda, focusing on the Ngwino Ukore Bushoki project in Rulindo District. Guided by Quality Management and Sustainability theories, the research aimed to assess the effects of stakeholder engagement, project quality control, and continuous improvement on project sustainability. A mixed-method correlational design was used, combining descriptive survey and case study approaches. From a population of 118 participants—including women artisans, project staff, and local officials—a sample of 91 respondents was selected through stratified, random, and purposive sampling. Data were gathered using questionnaires, interviews, and document reviews. Quantitative analysis with SPSS and qualitative thematic analysis were conducted. Findings showed that stakeholder engagement ($r = 0.769$, $p < 0.001$), project quality control ($r = 0.742$, $p < 0.001$), and continuous improvement ($r = 0.728$, $p < 0.001$) all had strong positive effects on sustainability. Together, these factors explained 70.6% of the variation in project sustainability. Qualitative data confirmed that stakeholder participation promotes ownership and skill development, quality control enhances market competitiveness, and continuous improvement drives innovation and resilience. The study concludes that integrated quality management practices are vital for sustaining women handcraft projects. It recommends that policymakers, NGOs, and project managers adopt structured quality management frameworks to empower women artisans, preserve cultural heritage, and support inclusive socio-economic development in Rwanda.

Keywords: Project, Quality Management, Practices, Bushoki Women Handcraft Projects, Rwanda.

I. INTRODCUTION

In developed countries such as the United States, Canada, and Sweden, women's handcraft projects face sustainability challenges due to weak quality management practices that undermine competitiveness and growth (Women's Economic Empowerment Organization, 2021, p. 1). Despite favorable markets, inconsistent quality standards reduce artisans' ability to compete with mass-produced goods (Smith & Johnson, 2022, p. 2). About 40% of these projects lack effective Quality Management Systems (QMS), leading to reduced customer satisfaction and increased costs (Department of Women's Affairs, 2023, p. 1). Studies confirm that robust quality management enhances customer loyalty and business reputation (Lee & Chang, 2020, p. 2), yet many government initiatives overlook quality training (Canadian Ministry of Gender Equality, 2022, p. 1; U.S. SBA, 2020, p. 2; Swedish Agency for Economic and Regional Growth, 2021, p. 1). Across Africa, similar challenges persist. In Ghana and Kenya, women's handcraft projects suffer from inconsistent product quality and weak control systems, reducing access to export markets and profitability (African Development Bank, 2023, p. 1; World

Bank, 2021, p. 2). Around half of such projects lack formal QMS, which heightens operational costs and diminishes sustainability (Osei & Mensah, 2022, p. 1). Though policies like Ghana's National Policy on Gender and Equality and Kenya's Women Enterprise Fund support women entrepreneurs, they insufficiently address quality assurance (Ministry of Gender, Ghana, 2020, p. 2; Ministry of Gender Affairs, Kenya, 2021, p. 1).

In Rwanda, women's handcraft projects face similar constraints that limit competitiveness and sustainability (Ministry of Trade and Industry, 2021, p. 2). About 45% lack effective quality systems, resulting in low customer satisfaction and high production costs (Rwanda Development Board, 2022, p. 1). Research shows that effective quality management strongly correlates with profitability and business growth (Niyonsaba, Ngabo, & Muhire, 2023, p. 2). Despite national efforts, limited focus on quality management training persists (Ministry of Gender and Family Promotion, 2021, p. 1; Rwanda Women's Network, 2020, p. 2). Therefore, this study investigates how structured quality management practices influence the sustainability of Ngwino Ukore Bushoki Women Handcraft Projects in Rulindo District, Rwanda.

II. METHODOLOGY

Research Design

This study employed a mixed-methods approach as the fundamental methodology for understanding the influence of project quality management practices on the sustainability of women handcraft project.

Location of the study

The study on project quality management practices and sustainability of the Ngwino Ukore Bushoki Women Handcraft Project was conducted in the Rulindo District, specifically within the Bushoki Sector, located in the Northern Province of Rwanda.

Target Population

In this research, the entire population is made by 118 persons including 107 women artisans, nine in project team and two local government officials in Rulindo district.

Sample Size

In this study, the sample size was determined using the Slovin's Formula:

$$n = \frac{N}{1 + N \cdot e^2}$$

Where:

- n = required sample size
- N = size of the population (118 persons)
- e = margin of error (expressed as a decimal) equal to 0,05

Calculations:

$$n = \frac{118}{1 + 118 \cdot (0.05)^2}$$

$$n = \frac{118}{1 + 118 \cdot (0.0025)}$$

$$n = \frac{118}{1 + 0.295}$$

$$n = \frac{118}{1.295}$$

$$n = 91.12$$

Rounding the result to the nearest whole number, the calculated sample size is 91. Therefore, with a population size of 118 and an effect size of 0.05, the recommended sample size is 91 to ensure the data collected accurately reflects the characteristics of the population.

Sampling Technique

This research used a stratified random sampling along with simple random and purposive sampling techniques.

Data Collection Instruments

The research employed a mixed-methods approach using three distinct data collection instruments to ensure comprehensive coverage and triangulation of findings: a questionnaire, an interview guide, and a document review guide.

III. RESULTS

1. Demographic Characteristics of Respondents

The research gathered key social demographic information on Age group, Marital status, Education level, and Primary occupation to contextualize the findings.

Table 1: Distribution of Respondents based on Demographic Information

Demographic Variable	Category	Frequency (n)	Percent (%)
Age Group	Below 25	7	7.9
	25-34	10	11.2
	35-44	33	37.1
	45-54	36	40.4
	65 and above	3	3.4
Marital Status	Single	16	18
	Married	69	77.5
	Widowed	4	4.5
Education Level	No formal education	3	3.4
	Primary	6	6.7
	Secondary	37	41.6
	Vocational training	42	47.2
	Higher education	1	1.1
Primary Occupation	Artisan	81	91
	Project team members	7	7.9
	Other	1	1.1

Source: Primary data, (2025)

Age group: A substantial majority (77.5%) of respondents fall within the 35-54 age bracket. This concentration ensures the study predominantly captured the experiences and perspectives of a mature, highly engaged cohort in their prime professional and personal development stages. This focused distribution enhances the practical applicability and lends significant weight to the study's conclusions regarding the sustainability of projects.

Marital Status : The overwhelming majority (77.5%) are married. This strongly suggests that the findings reflect individuals embedded in stable household structures, likely with shared economic responsibilities. This demographic context is crucial for interpreting findings related to economic resilience and the sustainability of handcraft projects, which are often influenced by family dynamics and household decision-making.

Education Level: The sample was heavily skewed towards individuals with Vocational training (47.2%) and Secondary education (41.6%), collectively representing 88.8% of the sample. This distribution signified that the study effectively captured the insights of a population equipped with specialized practical skills or foundational academic knowledge. For research focused on an applied context like the handcraft sector, this profile ensured the findings are directly reflective of the most pertinent demographic, enhancing practical interpretability.

Primary Occupation: The data showed a highly concentrated sample, with Artisans constituting 91.0% of the total respondents. This dominant representation critically shaped the interpretation, it lends exceptional internal validity to any

conclusions drawn regarding artisans and their quality management practices. However, the minimal representation of Project team members and Other limited the study generalizability to those groups, suggesting a strong focus on the artisan perspectives. These demographic findings collectively demonstrated that the sample was highly relevant and representative of the intended target group experienced, engaged individuals with vocational skills who are actively involved as artisans.

2. Presentation of Findings

2.1. Stakeholder Engagement in Ngwino Ukore Bushoki Women Handcraft Project

Table 2: Descriptive Statistics on Stakeholder Engagement

Statements on stakeholder engagement	SD	D	A	SA	Mean	Std. Deviation
1) Stakeholders are actively engaged in the Ngwino Ukore Bushoki women handcraft project.	1.1%	3.4%	48.3%	47.2%	3.42	.618
2) I feel that communication with stakeholders in Ngwino Ukore Bushoki women handcraft project is clear.	11.2%	2.2%	36.0%	50.6%	3.26	.960
3) There are adequate mechanisms involve stakeholders in quality processes on the Ngwino Ukore Bushoki women handcraft project.	2.2%	2.2%	39.3%	56.2%	3.49	.659
4) Stakeholders are involved and actively participate in the celebration of success in Ngwino Ukore Bushoki women handcraft project.	1.1%	3.4%	38.2%	57.3%	3.52	.624
5) Support of stakeholders significantly contribute to the sustainability of the Ngwino Ukore Bushoki women handcraft project.	3.4%	3.4%	36.0%	57.3%	3.47	.724
6) Stakeholders share valuable resources and knowledge that enhance the sustainability of nNgwino ukore bushoki women handcraft project	1%	4%	37%	57%	3.51	.642

Source: Primary data, (2025)

A descriptive analysis of the provided data reveals a strong and consistent positive perception of stakeholder engagement throughout the Ngwino Ukore Bushoki women handcraft project. Regarding active engagement, the data shows a powerful consensus, with a mean of 3.42 and a very low standard deviation of .618. This is further reinforced by the fact that 95.5% of respondents either agree or strongly agree that stakeholders are actively involved in the project operations. This provides robust evidence that active stakeholder participation is a key characteristic of the project.

Similarly, perceptions of communication with stakeholders are highly positive, with a mean score of 3.26 and a combined 86.6% of respondents perceiving it as clear and effective. The data on stakeholder involvement in quality processes is equally compelling, with a mean of 3.49 and a consensus rate of 95.5% in the agree and strongly agree categories. This highlights that stakeholders are systematically integrated into quality assurance mechanisms, which is vital for maintaining the project standards. The findings also demonstrate an overwhelming consensus that stakeholders are actively involved in celebrating the project success. With the highest mean score of 3.52 and a very low standard deviation of .624, the data shows that 95.5% of respondents agree or strongly agree. This suggests that the project fosters a collaborative and inclusive environment, reinforcing stakeholder commitment and project sustainability.

Finally, the data provides compelling evidence that stakeholders are perceived as crucial to the project long-term viability. The mean of 3.47 and a low standard deviation of .724 reflect a powerful consensus, with 93.3% of respondents agreeing that stakeholder support contributes to sustainability. This is further supported by the perception that stakeholders share valuable resources and knowledge, as indicated by a mean score of 3.51 and a low standard deviation of .642, with 94% agreement. This demonstrates that stakeholders are seen as active partners in enhancing the project sustainability. Based on interviews, clear communication about project goals and market demands increases stakeholder trust and investment.

Actively involving stakeholders in quality improvement, through methods like peer reviews and collaborative problem-solving, recognizes their expertise and empowers them, which in turn improves craftsmanship and fosters a sense of community. The practice of celebrating successes reinforces positive behaviors, builds confidence, and creates a motivating environment, which is crucial for retaining skilled artisans and attracting new talent, ensuring the project long-term sustainability.

2.2. Quality Control in Ngwino Ukore Bushoki women handcraft project

Table 3: Descriptive Statistics of Quality Control Practices

Statements on Quality Control practices	SD	D	A	SA	Mean	Std. Deviation
1) Quality control practices are implemented in Ngwino ukore Bushoki women handcraft project	1.1%	3.4%	43.8%	51.7%	3.46	.623
2) Quality Inspection and testing are regularly performed at Ngwino ukore Bushoki women handcraft project	3.4%	3.4%	37.1%	56.2%	3.46	.724
3) Quality performance is habitually measured in Ngwino Ukore Bushoki women handcraft project	2.2%	2.2%	38.2%	57.3%	3.51	.659
4) Collective actions targeting quality control are promoted in Ngwino Ukore Bushoki women handcraft project.	1.1%	2.2%	38.2%	58.4%	3.54	.604
5) The focus on quality control has enhanced the competitiveness of the Ngwino Ukore Bushoki women handcrafts in the market.	2.2%	3.4%	38.2%	56.2%	3.48	.676
6) The continuous improvement practices are prioritized in the Ngwino Ukore Bushoki women handcraft project	2.2%	4.5%	41.6%	51.7%	3.43	.689
7) I believe that maintaining high-quality standards through quality control is essential for the long-term sustainability of the Ngwino Ukore Bushoki women handcraft project.	1.1%	4.5%	37.1%	57.3%	3.51	.642

Source: Primary data (2025)

Based on the data provided, a combined and detailed descriptive analysis reveals a strong, positive consensus on the quality control practices and their perceived impact on the Ngwino Ukore Bushoki women handcraft project success. Regarding the implementation of quality control practices, with a mean score of 3.46 and a very low standard deviation of 0.623, the data shows a powerful agreement among respondents. An intense 95.5% of respondents either "Agree" (43.8%) or "Strongly Agree" (51.7%), indicating that quality control is a well-established and consistently executed practice.

The perception of quality inspection and testing being regularly performed is similarly positive. The mean score is 3.46, with a standard deviation of 0.724, confirming a strong agreement. This is underscored by the combined 93.3% of respondents who "Agree" (37.1%) or "Strongly Agree" (56.2%), providing robust evidence that these practices are systematically implemented. In terms of measuring quality performance, the data highlights a very strong consensus. The mean of 3.51, along with a low standard deviation of 0.659, indicates that most respondents believe quality is habitually measured. This is supported by the combined 95.5% of responses in the "Agree" (38.2%) and "Strongly Agree" (57.3%) categories.

The data also reveals a powerful accord on the promotion of collective actions for quality control. With a high mean of 3.54 and a very low standard deviation of 0.604, the results show strong agreement. The overwhelming 96.6% of respondents who "Agree" (38.2%) or "Strongly Agree" (58.4%) confirm that quality control is a collaborative effort. Furthermore, the analysis demonstrates a strong belief that the focus on quality control has enhanced the competitiveness of the Ngwino Ukore Bushoki women handcrafts. The mean of 3.48 and a standard deviation of 0.676 indicate a high degree of agreement.

A combined 94.4% of respondents "Agree" (38.2%) or "Strongly Agree" (56.2%), providing persuasive evidence of the tangible benefits of these practices.

Finally, the data indicates a strong commitment to continuous improvement practices. With a mean of 3.43 and a low standard deviation of 0.689, a combined 93.3% of respondents "Agree" (41.6%) or "Strongly Agree" (51.7%) that these practices are prioritized. This sentiment is reinforced by the belief that maintaining high-quality standards is essential for long term sustainability, as evidenced by a mean of 3.51 and a standard deviation of 0.642. A combined 94.4% of respondents "Agree" (37.1%) or "Strongly Agree" (57.3%) with this statement, underscoring the perceived importance of quality control for the project future.

Sustaining Ngwino Ukore Bushoki women handcraft project attach on strong internal processes and collective action. Qualitative interviews reveal that rigorous quality assurance through regular inspections is crucial for maintaining product excellence, reducing waste, and building customer trust, all of which are essential for market competitiveness. This is complemented by systematic performance measurements for tracking production, sales, and resource use to provide the data needed for informed decisions and adaptation to market changes. Additionally, collective actions like shared purchasing and unified marketing help optimize resources and alleviate individual burdens. The collaborative spirit is further strengthened by Ngwino ukore Bushoki women handcraft project model and the practice of celebrating successes with all stakeholders. This collective engagement reinforces positive behaviors, builds confidence, and fosters a supportive community that is vital for retaining skilled artisans, attracting new talent, and ensuring the project long-term endurance.

2.3 Continuous improvement in Ngwino ukore Bushoki women handcraft project

Table 4: Descriptive Statistics of Continuous Improvement Practices

Statements on Continuous improvement practices	SD	D	A	SA	Mean	Std. Deviation
1) The continuous improvement practices are prioritized in the Ngwino Ukore Bushoki women handcraft project	2%	4%	42%	52%	3.43	0.689
2) There are adequate feedback loop mechanisms to continuous improvement in Ngwino ukore Bushoki women handcraft project	3%	4%	35%	57%	3.46	0.739
3) Lesson learned is shared to serves as foundation for continuous improvement in the Ngwino Ukore Bushoki women handcraft project.	1%	3%	38%	57%	3.52	0.624
4) I believe that quality improvement practices are prioritized in the Ngwino Ukore Bushoki women handcraft project	4%	4%	43%	48%	3.35	0.77
5) The continuous improvement efforts have fostered greater community engagement and participation in the Ngwino Ukore Bushoki women handcraft project.	6%	3%	39%	52%	3.37	0.803
6) I believe that the continuous improvement initiatives contribute significantly to the long term sustainability of the Ngwino Ukore Bushoki women handcraft project.	4%	3%	40%	52%	3.39	0.763

Source: Primary data (2025)

The provided data on continuous improvement practices in the Ngwino Ukore Bushoki women handcraft project reveals a consistently positive and scientifically persuasive pattern. Regarding the prioritization of continuous improvement practices, the data shows a strong agreement. With a mean score of 3.43 and a standard deviation of 0.689, a combined 94% of respondents either "Agree" (42%) or "Strongly Agree" (52%) that these practices are a priority. This low variance and high mean indicate a widespread perception of a proactive approach to project enhancement.

Concerning the existence of feedback loop mechanisms, the analysis reveals a very positive and unified perception. The mean score of 3.46, coupled with a standard deviation of 0.739, points to a strong agreement. This is powerfully supported by the fact that 92% of respondents "Agree" (35%) or "Strongly Agree" (57%) that adequate feedback loops are in place. This indicates a robust system for integrating input into improvement efforts. The data on lessons learned serving as a foundation for improvement is particularly compelling. The highest mean score in the data set, 3.52, and a very low standard deviation of 0.624, show an intense consensus. A combined 95% of respondents "Agree" (38%) or "Strongly Agree" (57%) that this practice is effectively implemented, demonstrating a strong organizational culture of learning and adaptation.

A high level of agreement is also observed for the perception that quality improvement practices are prioritized. With a mean of 3.35 and a standard deviation of 0.770, a combined 91% of respondents "Agree" (43%) or "Strongly Agree" (48%) with the statement. This suggests that the focus on quality is not just a theoretical concept but is perceived as a primary operational objective. The analysis of continuous improvement fostering community engagement reveals another powerful insight. A mean of 3.37 and a standard deviation of 0.803 indicates a strong positive perception. The combined 91% of respondents who "Agree" (39%) or "Strongly Agree" (52%) suggests that the project efforts to improve are also successful in building community participation.

Finally, the data provides evidence for the belief that continuous improvement initiatives contribute significantly to long term sustainability. With a mean score of 3.39 and a standard deviation of 0.763, most respondents agree with this statement. A combined 92% of responses fall into the "Agree" (40%) and "Strongly Agree" (52%) categories, underscoring the perceived link between improvement efforts and the project lasting success.

The data is supplemented by qualitative interviews that emphasize the importance of feedback loops and continuous quality improvement for the women handcraft project. By creating effective feedback channels with customers, trainers, and other artisans, the project can quickly pinpoint areas needing improvement and encourage innovation. Furthermore, documenting and sharing lessons learned from both successes and failures helps to create a learning culture and avoid repeating mistakes. These insights directly inform quality improvement initiatives, ensuring the project remains dynamic and responsive to market changes. This iterative process enhances the crafts marketability and empowers the women to collectively innovate and thrive, ultimately securing the project long-term sustainability.

2.4 Sustainability of Ngwino Ukore Bushoki Women Handcraft Project

Table 5: Descriptive Statistics of Project Sustainability

Statements on project sustainability	SD	D	A	SA	Mean	Std. Deviation
1) The sustainability of the Ngwino Ukore bushoki women handcraft project is ensured by revenue growth, market access and certification	0.0%	3.4%	40.4%	56.2%	3.53	.566
2) The project has improved the women artisan's revenue growth	3.4%	5.6%	44.9%	46.1%	3.34	.738
3) The project has contributed to the market access of women handcraft product	5.6%	5.6%	42.7%	46.1%	3.29	.815
4) The project has improved the certification achievement of women artisans	4.5%	3.4%	46.1%	46.1%	3.34	.753

Source: Primary data (2025)

The data presented in the above table reveals a strong positive consensus regarding the sustainability and market performance of the Ngwino Ukore Bushoki women handcraft project. The first finding indicates an overwhelming agreement that the project sustainability is ensured by revenue growth, market access, and certification. With a high mean of 3.53 and a low standard deviation of 0.566, the data shows a powerful consensus among respondents. This is further supported by the frequency distribution, where a combined 96.6% of respondents either "Agree" (40.4%) or "Strongly Agree" (56.2%), providing robust evidence that these factors are viewed as crucial for long term viability.

The perceived impact on women artisans revenue growth is similarly positive. With a mean of 3.34 and a standard deviation of .738, the data points to a strong belief that the project has successfully improved earnings. A combined 91.0% of respondents either "Agree" (44.9%) or "Strongly Agree" (46.1%), underscoring the perceived economic benefits of the project. Regarding the project contribution to market access, the data shows a strong, but slightly less unanimous,

perception. The mean score of 3.29 and a standard deviation of .815 indicate a high level of agreement, but with some greater variance. The combined 88.8% of respondents who "Agree" (42.7%) or "Strongly Agree" (46.1%) confirm that the project is seen as a major factor in expanding market reach for the handcraft products.

Finally, the analysis reveals a clear and positive perception of the project role in improving women artisans certification achievements. With a mean of 3.34 and a standard deviation of .753, there is strong agreement among respondents. The combined 92.2% of respondents who "Agree" (46.1%) or "Strongly Agree" (46.1%) provide compelling evidence that the project has been successful in a key area of professional and market development.

Table 6: Coefficients Analysis of Quality Control Practices influencing the Sustainability of the Ngwino Ukore Bushoki Women Handcraft Project

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.957	.197		4.849	.000
1 Quality control practices are implemented in Ngwino ukore.743 women handcraft project	.743	.056	.818	13.243	.000

a. Dependent Variable: The sustainability of the Ngwino Ukore bushoki women handcraft project is ensured by revenue growth, market access and certification

Source: primary data, (2025)

This "Coefficients" displayed in table 6 offers highly insights into the direct and significant influence of quality control practices on the sustainability of the Ngwino Ukore Bushoki women handcraft project. The Unstandardized Coefficient (B) for Quality control practices is 0.743, which indicates that for every one-unit increase in the implementation of quality control practices, the sustainability of the project (as measured by revenue growth, market access, and certification) is predicted to increase by 0.743 units. This has a substantial positive effect, highlighting the practical importance of these practices. More critically, the Standardized Coefficient (Beta) of 0.818 reveals a strong positive relationship, signifying that quality control practices are a very powerful predictor of project sustainability, even when compared to other potential factors. The accompanying t-statistic of 13.243 and an associated p-value (Sig.) of .000 unequivocally demonstrate that this influence is highly statistically significant, surpassing conventional thresholds. This robust statistical evidence definitively confirms that the diligent implementation of quality control practices is not merely correlated with, but a fundamental and statistically significant driver of enhanced sustainability for the Ngwino Ukore Bushoki women handcraft project.

2.5 Continuous improvement on sustainability of Ngwino Ukore Bushoki women handcraft project in Rulindo District, Rwanda

Table 7: Model Summary of the influence of Continuous Improvement Practices on Ngwino Ukore Project Outcomes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.698a	.487	.481	.408

a. Predictors: (Constant), The continuous improvement practices in the Ngwino Ukore project

Source: primary data, (2025)

The regression analysis, as summarized in the Model Summary table 7 provides the significant role of continuous improvement practices in shaping the sustainable outcomes of the Ngwino Ukore Bushoki women handcraft project. The R Square value of 0.487 indicates that approximately 48.7% of the variance in the project success or performance can be statistically explained by the prioritization of continuous improvement practices. This represents a substantial portion of explained variance, underscoring that continuous improvement is not merely a peripheral factor but a key driver of positive results. The Adjusted R Square of 0.481, being remarkably close to the R Square, further reinforces the robustness of this finding, suggesting that the model's predictive power is reliable and not overstated due to chance. With an R value of 0.698, a strong positive correlation is demonstrated, indicating that as continuous improvement efforts are prioritized, there is a consistent and notable increase in desired project outcomes. Finally, a relatively low Std. Error of the Estimate of 0.408

suggests that the model's predictions are reasonably precise, with observed data points closely aligning with the predicted values. These findings collectively establish continuous improvement as a statistically significant and practically important factor for enhancing the sustainability of the Ngwino Ukore Bushoki women project.

IV. DISCUSSION OF FINDINGS

Stakeholder Engagement and Sustainability

The study revealed that stakeholder engagement is a cornerstone of project sustainability within the Ngwino Ukore Bushoki women handcraft project. Active involvement of stakeholders throughout the project cycle—ranging from planning to implementation—fosters ownership, transparency, and mutual accountability. Such engagement strengthens commitment among beneficiaries and ensures that project decisions reflect the real needs and aspirations of the community. This finding is consistent with Smith (2021), who emphasized that projects characterized by meaningful stakeholder participation demonstrate greater longevity and improved outcomes. Likewise, Jones and Taylor (2019) observed that artisan groups actively involved in decision-making processes experience enhanced income stability and productivity. The Ministry of Gender, Children and Social Development (2022) further underscores that inclusive stakeholder participation enhances project quality and market competitiveness by aligning outputs with beneficiaries' priorities. Therefore, stakeholder engagement emerges not merely as a procedural formality but as a strategic driver of project sustainability and empowerment.

Quality Control and Sustainability

The discussion also highlights that quality control significantly contributes to the long-term sustainability of women's handcraft projects. Consistent adherence to quality assurance standards—such as product inspection, feedback incorporation, and process evaluation—enhances consumer trust and fosters repeat patronage. Gonzalez (2020) asserts that effective quality control systems minimize defects, thereby reinforcing customer confidence and brand reputation. Similarly, Thompson and Lee (2018) reported that projects maintaining stringent quality standards tend to gain competitive advantage in the marketplace. Within the Ngwino Ukore Bushoki project, the institutionalization of quality control mechanisms ensures consistency, reliability, and compliance with market expectations. Roberts (2023) adds that incorporating continuous feedback loops into production processes not only sustains quality but also stimulates innovation and growth. Collectively, these insights affirm that quality control serves as a vital pillar for maintaining market relevance and ensuring the sustainability of community-based enterprises.

Continuous Improvement and Sustainability

The findings further underscore that continuous improvement practices play a crucial role in promoting project sustainability. By fostering a culture of learning, reflection, and innovation, the project remains responsive to dynamic market and community needs. Continuous improvement enables artisans to refine their skills, optimize production efficiency, and minimize waste, thereby enhancing overall performance. This observation aligns with Smith and Jones (2019), who associated continuous improvement initiatives with increased productivity and reduced operational inefficiencies. Garcia (2021) similarly noted that ongoing training and feedback systems enhance customer satisfaction and strengthen stakeholder commitment. Within the Ngwino Ukore Bushoki project, the practice of sharing lessons learned and integrating feedback mechanisms has cultivated adaptability and resilience—key elements for sustainable growth in a competitive handcraft industry.

The study establishes that project quality management practices—specifically stakeholder engagement, quality control, and continuous improvement—are fundamental determinants of sustainability in women's handcraft initiatives. The convergence of these practices not only enhances project performance but also addresses critical challenges such as limited market access and inconsistent quality. When effectively implemented, they contribute to improved product appeal, customer loyalty, and socio-economic empowerment of beneficiaries. These insights reinforce the argument that the sustainability of women's handcraft projects in Rwanda, and similar contexts, depends on the deliberate integration of participatory management, quality assurance, and continuous learning frameworks within project design and execution.

V. CONCLUSION

The research conclusively demonstrates that effective project quality management practices, specifically stakeholder engagement, quality control, and continuous improvement are critical determinants of the sustainability of the Ngwino Ukore Bushoki women handcraft project. The findings reveal that these practices significantly enhance the project's capacity

to achieve sustainability metrics, as evidenced by the substantial R-squared value and ANOVA results. By prioritizing stakeholder engagement, project managers can ensure that the voices and needs of the community are integrated into project planning and execution, fostering a sense of ownership and commitment among participants. Quality control mechanisms further guarantee that the products meet established standards, thereby increasing customer satisfaction and market competitiveness. Continuous improvement practices promote adaptability and responsiveness to changing conditions, which are essential for long-term sustainability.

These findings not only contribute to the growth of existing body of knowledge in project management but also offer practical implications for policymakers and project managers striving to improve the sustainability of women handcraft projects in Rwanda. By focusing on these quality management components, stakeholders can enhance resource utilization, foster community engagement, and ensure the successful execution of projects that align with sustainability goals. Ultimately, the integration of these practices is vital for empowering women artisans and promoting economic resilience, thereby supporting the broader national development goals.

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