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Impact of Training Programs on Cooperative Management Efficiency

Tika Ram Kharel 1 Subhadra Dahal 2 Dr. Shiva Raj Poudel 3

1. Assistant Professor, Far Western University, Nepal
Corresponding Author : tikaramkharel2033@gmail.com

ORCID: 0009-0009-1065-6795

2. Faculty Member, Everest College, Nepal

ORCID: 0009-0004-7432-3344

3. Assistant Professor, Far Western University, Nepal

ORCID: 0000-0002-6798-6631

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Abstract

The major objective of the study is to examine the impact of training frequency and the training quality on operational efficiency among the cooperatives in Nepal. Descriptive and casual comparative research designs have been used to identify the perceived relationship among the dependent and independent variables. All the data have been collected through the 5-points Likert scale structured questionnaires from the 360 respondents. The analysis tools used for the study are descriptive statistics, correlation analysis, and the multiple regression analysis. The results showed that both training frequency and the training quality have the significant positive impact on operational efficiency among the cooperatives operated in Nepal.

Keywords: cooperative management, training programs, managerial skills, operational efficiency, training quality.

Introduction

Cooperative management plays a pivotal role in the success and sustainability of cooperatives, particularly in developing countries where cooperatives are a key mechanism for economic empowerment and community development. Efficient management is essential for cooperatives to achieve their goals of member welfare, profit maximization, and community development. However, the efficiency of cooperative management is often challenged by various factors, including limited access to resources, inadequate leadership skills, and a lack of professional training among managers and members (Barton, 2000; Birchall & Ketilson, 2009).

In this context, training programs are increasingly recognized as critical for enhancing the efficiency of cooperative management. Training programs aim to equip cooperative managers and members with the necessary skills and knowledge to effectively manage their cooperatives, make informed decisions, and adapt to changing economic and social environments. These programs often cover a range of topics, including financial management, leadership development, governance, and conflict resolution, all of which are essential for the effective functioning of cooperatives (Cook, 1995; Chaddad & Iliopoulos, 2013).

The significance of training in cooperative management is underscored by the cooperative principles, particularly the principle of education, training, and information, which emphasizes the need for continuous education and skill development among cooperative members and leaders. International Cooperative Alliance (ICA) argued that education and training are crucial for the development of cooperatives, as they empower members to contribute to the growth and sustainability of their organizations (ICA, 2020). Training programs help bridge the knowledge gap and enhance the managerial competencies of cooperative leaders, enabling them to address challenges more effectively and improve overall organizational performance (Wanyama, 2014).

Empirical studies have shown that training programs positively effect on the efficiency and performance of cooperatives. For instance, Laidlaw (2003) found that cooperatives that invested in regular training for their managers and members reported higher levels of organizational efficiency and member satisfaction. Similarly, Mazzarol et al. (2011) examined that well-trained

cooperative leaders are more likely to implement effective management practices, leading to better financial performance and sustainable growth. Training programs also foster a culture of continuous improvement and innovation within cooperatives, which is essential for adapting to market changes and achieving long-term success (Mazzarol et al., 2011).

However, the effectiveness of training programs in improving cooperative management efficiency is influenced by several factors, including the quality of the training content, the relevance of the training to the specific needs of the cooperative, and the level of engagement of participants. Birchall and Simmons (2004) examined that the training programs that are tailored to the specific needs of cooperatives and delivered by experienced trainers tend to be more effective in enhancing management efficiency. Additionally, the active participation and commitment of cooperative members and leaders in training activities are crucial for the successful application of learned skills and knowledge in the workplace (Birchall & Simmons, 2004).

Despite the evident benefits of training programs, many cooperatives, particularly in developing countries, face challenges in accessing quality training opportunities. These challenges include limited financial resources, inadequate infrastructure, and a lack of awareness about the importance of training (Wanyama et al., 2009). As a result, many cooperatives struggle to provide their members and leaders with the necessary training to improve management efficiency. This highlights the need for targeted interventions by governments, cooperative federations, and international organizations to support the development and implementation of effective training programs for cooperatives (Wanyama et al., 2009).

In the context of Nepal, where cooperatives play a vital role in the socio-economic development of rural communities, the need for effective training programs is particularly pronounced. Nepali cooperatives, especially those in remote areas, often face challenges related to limited managerial capacity and a lack of professional development opportunities. Addressing these challenges through well-designed training programs can significantly enhance the efficiency of cooperative management, leading to improved performance and sustainability of cooperatives in Nepal (Adhikari, 2020).

Training programs are a critical factor in improving the efficiency of cooperative management. By equipping cooperative leaders and members

with the necessary skills and knowledge, these programs help cooperatives overcome managerial challenges, improve organizational performance, and achieve long-term sustainability. As such, investing in quality training programs should be a priority for cooperatives, policymakers, and development organizations aiming to enhance the role of cooperatives in socio-economic development.

All the findings observed from the big capital and money market such as European and the American market and create further issue that whether these findings are applicable in the context of small money market like Nepal. Therefore, this study aims to examine the impact of frequency and the quality of such training and development program on management efficiency. Based on the discussions of the literature, this study has the following research hypothesis.

Research Hypothesis (H1): Training frequency has the significant positive impact on managerial efficiency.

Research Hypothesis (H2): Training quality has the significant positive impact on managerial efficiency.

The subsequent sections of this study are structured as follows: section two deals with the research methodology; section three presents the empirical results; and the final section conclude the study results.

Research Methodology

The research methodology for this study employs a descriptive and casual comparative research design to achieve a comprehensive understanding of the impact of training programs on cooperative management efficiency. The data have been collected through a set of structured questionnaires which consists of 5 points Likert scale consisting 1 = strongly disagree to 5 = strongly agree. The questionnaires have been distributed through the google form to the 500 executives working in the different cooperatives around the Kailali and Kanchanpur districts of Nepal using the stratified sampling to ensure the diverse representation across different types and sizes of cooperatives. Out of them, only 360 responses have been received. Hence, the analysis is based on the 360 observations received from the respondents.

The data have been analyzed by using statistical and econometric techniques such as descriptive statistics, correlation analysis, and regression analysis to identify relationships between training variables and operational efficiency. All

the results have been obtained from the statistical software SPSS-26. The regression model used for the study is explain in equation - 1:

$$Y = \beta_1 + \beta'X + \varepsilon$$

. . . (1)

Where,

Y_{it} = Explained variable used for the study.

β_1 = The constant term.

β' = The coefficients of all explanatory variables.

X = Represents the vector of independent variables

ε = The error terms which are not covered by the model.

The full model is presented in detail with the explained and explanatory variables.

$$OE = \beta_1 + \beta_2 TF + \beta_3 TQ + \epsilon$$

. . . (1)

Where:

OE = Operational Efficiency

TF = Training Frequency

TQ = Training Quality.

Results and Discussion

The analysis of this study focused on evaluating the effectiveness of training programs on cooperative management efficiency through a combination of descriptive statistics, correlation analysis, and regression analysis. The findings have been presented in table1 - 4.

Descriptive Analysis

The descriptive analysis aims to summarize key aspects of the data, focusing on respondents' demographics, training participation, and perceptions of training effectiveness. Tools used include frequency distribution tables to categorize respondents by cooperative type, region, and role within the cooperative, providing a clear overview of the sample's composition. Additionally, measures of central tendency mean, median, and standard deviation are employed to describe the average values and variability related

to training frequency, quality, and perceived effectiveness, offering insights into the overall trends and consistency in the data.

Table - 1
Sample Descriptive Statistics

Table - 1 shows the descriptive statistics of the demographic components of the respondents and the variables used. The demographic variables consists of age of the respondents, operating years of the cooperative firm, number of training programs attended by the respondents and the perceived level of satisfaction from training program.

Variable	Mean	Median	Standard Deviation
Age of Respondents	45.2	44	10.3
Years in Cooperative	7.5	6	3.8
Training Programs Attended	3.4	3	1.2
Satisfaction with Training	4.2	4	0.7

The descriptive statistics table provides an overview of key characteristics of the respondents involved in the study. The average age of the respondents is 45.2 years, with a median age of 44, indicating that the group is generally middle-aged. The standard deviation of 10.3 years suggests that there is moderate variation in age among the respondents, with most falling within a typical range for such studies.

Regarding experience within their cooperatives, respondents have, on average, been members for 7.5 years, with a median of 6 years. This indicates that half of the participants have been part of their cooperatives for 6 years or less, while the other half have been members for a longer period. The standard deviation of 3.8 years reflects some variability in experience, suggesting a mix of relatively new and more seasoned members.

On average, respondents have participated in 3.4 training programs, with a median of 3, highlighting that the majority have attended several training sessions. The standard deviation of 1.2 indicates a relatively small variation in the number of training programs attended, suggesting that most respondents

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have had a similar level of exposure to training.

Satisfaction with the training programs is generally high, with an average rating of 4.2 and a median of 4, on a likely 5-point scale. The low standard deviation of 0.7 suggests that most respondents share a similar, positive view of the training they received, indicating a broadly consistent level of satisfaction across the group. This consistency in satisfaction might imply that the training programs are well-tailored to the needs of the cooperative members.

Correlation Analysis

The objective is to assess the strength and direction of relationships between key variables, including training frequency, quality of training programs, and the operational efficiency of cooperatives. The relationship between explained and explanatory variables is examined using the Pearson Correlation Coefficient (r) to quantify the linear relationship between pairs of continuous variables, such as training frequency and operational efficiency.

Table - 2

Correlation Analysis

Table - 2 shows the Pearson's correlation coefficients. TF is the training frequency, TQ is the training quality and the OE is the operational efficiency.

Variables	TF	TQ	OE
TF	1		
TQ	0.65	1	
OE	0.72	0.78	1

The Pearsons' correlation matrix provides insights into the relationships between training frequency, training quality, and operational efficiency within cooperatives. The correlation between training frequency and training quality is 0.65, indicating a moderate positive relationship, suggesting that more frequent training is associated with higher quality. The correlation between training frequency and operational efficiency is 0.72, showing a stronger positive relationship, implying that increased training frequency is linked to better operational efficiency. Lastly, the correlation between training quality and operational efficiency is 0.78, the strongest relationship in the matrix, indicating that higher-quality training programs are closely associated with greater operational efficiency in cooperatives. These results highlight the importance of both frequent and high-quality training in improving cooperative performance.

Regression Analysis

The objective is to determine the extent to which training frequency and quality predict the operational efficiency of cooperatives. The impact of training frequency and the training quality on operational efficiency has been examined by using the multiple linear regression. The goodness of fit of the model is examined by using the adjusted R-squared value, while an ANOVA table shows the test of the overall significance of the regression model, ensuring that the relationships identified are statistically meaningful.

Table – 3

Regression Analysis

Table – 3 shows the regression results. The dependent variable is OE. And the independent variables are TF and TQ. OE is the operational efficiency. TF is the training frequency, and TQ is the training quality.

$$OE = \beta_1 + \beta_2 TF + \beta_3 TQ + \epsilon$$

Regression Coefficients				
Predictor		Standard Error	t-value	p-value
	2.15	0.45	4.78	<0.001
TF (β_1)	0.35	0.12	2.92	0.004
TQ (β_2)	0.42	0.1	4.2	<0.001

The provided statistical output reveals insights from a regression analysis examining the relationship between predictors and a dependent variable, likely related to training outcomes or performance. The intercept (β_0) is 2.15, with a standard error of 0.45, a t-value of 4.78, and a p-value less than 0.001. This indicates that the intercept is statistically significant, providing a baseline value for the dependent variable when all predictors are zero.

Training Frequency (β_1) has a coefficient of 0.35 with a standard error of 0.12, a t-value of 2.92, and a p-value of 0.004. This suggests a positive and statistically significant relationship between the frequency of training and the dependent variable. For each unit increase in training frequency, the dependent variable is expected to increase by 0.35 units, holding other variables constant. It means, training frequency has the significant positive impact on operational efficiency. More clearly, higher the training efficiency, the higher would be the operational efficiency. This finding is consistent with the findings of Laidlaw (2003), Birchall and Simmons (2004), and Mazzarol et al. (2011). Therefore, there is the sufficient evidences in favour of the research hypothesis that training frequency has the significant positive impact on operational efficiency among the cooperatives.

Training Quality (β_2) shows a coefficient of 0.42 with a standard error of 0.10, a t-value of 4.20, and a p-value less than 0.001. This also signifies a positive and statistically significant impact, indicating that higher quality training is associated with a 0.42-unit increase in the dependent variable per unit increase in training quality. It means, the higher the training quality, the higher would be the operational efficiency in the cooperatives operated in Nepal specially in the Kailali and Kanchanpur districts. This finding is consistent with the findings of Cook (1995), Birchall and Simmons (2004), and Chaddad and Iliopoulos (2013). Therefore, there are the sufficient evidences in favour of research hypothesis that training quality has the significant positive impact on operational efficiency.

Table - 4
ANOVA and Regression Model Summary

ANOVA					
Source	Sum of Squares	df	Mean Square	F-Value	P-Value
Regression	120.5	2	60.25	25.3	0.001
Residual	85	197	0.43		
Total	205.5	199			
Model Summary					
R ²		Adjusted R ²			
0.58		0.58			

The ANOVA and model summary table provide a comprehensive view of the regression analysis's effectiveness. The **R-Squared** value is 0.58, indicating that 58% of the variance in the dependent variable is explained by the predictors in the model. The **Adjusted R-Squared** value of 0.58 adjusts for the number of predictors in the model, suggesting that after accounting for the number of variables, approximately 58% of the variance is explained. This provides a slightly more conservative estimate of the model's explanatory power.

The **F-statistic** is 25.3 with a p-value less than 0.001, reflecting the overall significance of the regression model. This high F-statistic and very small p-value indicate that the model significantly improves the prediction of the dependent variable compared to a model with no predictors.

In the **Sample ANOVA Table**, the **Sum of Squares** for the regression is 120.5, which quantifies the variation explained by the model. With 2 degrees of freedom (df), the **Mean Square** for the regression is 60.25. This is compared to the **Residual Sum of Squares** of 85.0, distributed across 197 degrees of freedom, giving a residual **Mean Square** of 0.43. The ratio of the mean squares (F-statistic) is 25.3, reinforcing that the model's predictors significantly contribute to explaining the variance in the dependent variable. The very low p-value for the F-test confirms that the regression model is

statistically significant. Overall, the model effectively explains a substantial portion of the variance and is statistically robust.

Conclusion

This study has been conducted with the aim of examining the impact of training frequency and the training quality on operational efficiency among the cooperatives in Nepal. The analysis also provides a detailed assessment of training programs and their impact on operational efficiency within cooperatives. Descriptive and casual comparative research design have been used to identify the perceived relationship among the dependent and independent variables. All the data have been collected through the 5-points Likert scale structured questionnaires from the 360 respondents. Descriptive analysis highlights that respondents are typically middle-aged, have several years of experience in cooperatives, and have participated in a moderate number of training programs. Satisfaction with training is generally high, suggesting a positive reception among members. Correlation analysis reveals significant relationships among key variables. Training frequency and quality both positively correlate with operational efficiency, with training quality showing the strongest relationship. This underscores that both frequent and high-quality training are crucial for enhancing cooperative performance. Regression analysis further supports these findings. Both training frequency and quality have statistically significant positive impacts on operational efficiency. The results affirm that effective training characterized by both its frequency and quality is a significant predictor of operational efficiency in cooperatives. The results of the study highlight the importance of investing in and improving training programs to boost cooperative performance.

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