

Original paper

THE COMMITMENT BEHAVIOR OF FISHERS TOWARDS THE DEVELOPMENT OF THEIR COMMUNITY A Case Study in Demak Central Java – Indonesia

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ABSTRACT

The commitment of fishers towards their community development is investigated in this study. Several statistical tools such as discriminant analysis, cross-tabulation and compare means with independent t-test have been employed to analyze the data which were collected from 56 samples in the study area of Wedung and Moro Demak, Demak Regency. The results showed that the commitment behaviour of fishers might be guided by several variables such as Age, Sex, Educ, Exper, Inc, Stay. In order to improve the commitment levels of respondents, thus, magnitude of the observed variables in the model could be explored further. Lastly, the model of fishers' commitment with discriminant analysis performs fairly good with the right prediction of the original grouped cases is correctly classified for about 62.5%.

Key words: Commitment, behaviour, community, fishers, Demak, discriminant.

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INTRODUCTION

It is realized that highly committed fishers would make their organization and community develop better in accomplishing tasks and functions. A better commitment and participation among fishers would help the individual and/ or fishers' community perform more soundly in carrying out its obligation and roles in the community development. The problem posed by this study is initiated from the future agenda suggested by Susilowati (2001). She found that fishers in Demak Regency provide lesser response than

fishers in Pemalang Regency, Central Java in participating and/ or committing in the activities of co-management processes. The study is aimed at determining factors which influence to the commitment level of fishers in developing their community. Some pertinent questions raised in this study include: (1) What are the factors which discriminate the degree of fishers' commitment in the study area; and (2) Are there any differences in the degree of fishers' commitment given several factors, such as gender and education.

MATERIALS AND METHODS

The concept of organisational commitment has attracted important attention in many studies (see, Allen and Meyer, 1991; Ko, Price and Mueller, 1997; Waridin et al., 2000). There is strong disagreement on the meaning and measurement of organizational commitment (Allen and Meyer, 1996); nevertheless, commitment has been defined in many ways. According to Porter et al. as quoted by Waridin (1999), organizational commitment is a strong belief in and acceptance of the organization's goals and values, and a strong desire to remain in the organization. Hence, there have been many important developments in both theory and research of commitment behavior. Two of these are of particular importance for the many researches (Meyer, Allen, and Smith, 1993). First, it has become increasingly apparent that commitment is a complex and multifaceted construct. For many years, a number of theoreticians and researchers have been defining and operationalizing commitment in different ways; as a result, it has been difficult to synthesize the results of the research of commitment. It is now acknowledged that commitment can take different forms, and it is therefore imperative that researchers state clearly what form or forms of commitment they are interested in and that they ensure that the measures they use are appropriate for the intended purpose. Second, there has been a broadening domain within which commitment is studied. Some of the earliest and most influence works with the organizational behaviour literature (see: Mowday, Steers, and Porter, 1979; Porter et al., 1974) examined employee's commitments to their employers, commonly referred to as organizational commitment.

Allen and Meyer (1991) defined their three-dimensional construct, namely: (1) affective component of organizational commitment (refers to the employee's emotional attachment to, identification with, and involvement in the organization); (2) continuance component (refers to the

cost that employee associates with leaving the organization); and (3) normative component (refers to the employee's feelings of obligation to remain with the organization). According to Dunham, Grube, and Castaneda (1994), the conceptual arguments for Allen and Meyer's (1991) construct and operational definitions are compelling, but there have been too few investigations of all three dimensions in one study. In this study, the concept of organisational commitment was adapted with necessary modification to this study in exploring the commitment of fishers in the fishing community. Furthermore, demographic and socio-economic backgrounds of respondents perhaps could also discriminate the degree of commitment towards development activities.

The Study Area

The research was carried out in fishing communities of Wedung and Moro Demak in Demak Regency, Central Java-Indonesia. These study areas are neighbourhood fishing villages and have similar characteristics. There were 56 fishers selected as the sample by using multistage sampling method.

Model Construction

A three-component model of organizational commitment that integrated a variety of alternative conceptualisations has been proposed by Meyer and Allen (1991) was used to measure fishers' commitment towards development activities in the study area, namely: affective (6 items), continuance (6 items), and normative (6 items). The Likert scale (1 to 5) was applied to measure the dimensions of commitment in the questionnaire. Furthermore, data were collected by using standardized questionnaire. The trained enumerators

interviewed the targeted respondents in the field.

Definition of the operational variables and its measurement is shown in

Table 1 and the model of fishers' commitment behaviour in the study is formulated as follows: **Commit = f (Age, Sex, Educ, Exper, Inc, Stay)**

Table 1. Definitions and Measurements of the Operational Variables

Variables	Definition	Measurement
COMMIT	Level of fishers' commitment to development activities in the fishing community.	Commitment is measured in Likert scale (1=very disagree to 5=very agree). The total commitment score then is divided into 2 categories: 1=if the actual score is above the average; 0=if the score is equal and/ or less the average.
AGE	Age of fishers	In numerical value (year)
SEX	Sex of fishers	Dummy (1= if male and 0= if otherwise)
EDUC	Formal education of fishers	In numerical value (years)
EXPER	Length of fishers' experience in fisheries activities	In numerical value (year)
INC	Average amount of fishers' income per month	In numerical value (Rp)
STAY	Length of fishers' stay in the community	In numerical value (year)

The data were collected by a cross-sectional survey. It entailed the collection of data at a point in time from sample representing a given population in the study area.

Analytical Tools

The analytical tools of multivariate (Hair Jr. et al.,1998) were employed and complemented by descriptive statistics (see Mason et al., 1999; SPSS, 1996). The statistical package for social science (SPSS) program was used to execute the data analysis in this study. The detail test pursued by the study is explained as follows.

(1) Descriptive statistics: frequencies, descriptive summary, cross-tab, and other indicators were used to describe the profiles of respondents and the observed variables in the study.

(2) A Multivariate statistics: Discriminant analysis was used to determine what are the factors able to discriminate

the level of fishers' commitment in the study area. Moreover, comparison with independent t-test (Mason et al., 1999) was also employed to verify whether there are differences in commitment level of fishers given different gender.

RESULTS AND DISCUSSION

Profiles of Respondents

Fifty six respondents were interviewed from the two neighbourhood fishing villages (Wedung and Moro Demak) and the statistics is summarized in **Table 2**. The age of fishers in average is about 35 years old with the youngest 20 years and the eldest 60 years. Most respondents elementary school holders (78.6%) some high school education (17.9%) one with bachelor degree (1.8%) and unschooled for 1.8% (see **Table 5**).

Table 2. Descriptive Statistics Summary of Respondents' Profile

Description	N	Minimum	Maximum	Mean	Std. Deviation
Age	56	20	60	34.71	10.30
Sex	56	1	2	1.20	.40
degree of education	56	0	4	1.25	.64
year of experience	56	2	40	15.13	10.12
number of family	56	0	7	3.82	1.74
amount of income	56	150000	3000000	752857.14	553487.17
length of stay	56	2	60	30.50	14.23
total commitment	56	39.00	59.00	50.1250	3.5627
class commit	56	.00	1.00	.4643	.5032
Valid N (listwise)	56				

Source: Primary data, processed, April 2003.

In average, respondents have been working for 15 years in fishing activities. The minimum working experience of respondents is 2 years and the longest one is 40 years. Mostly, respondents were staying in the observed fishing village for about 30.50 years. In addition, the average number of family members is 3.82 persons. Respondents earned about Rp. 150,000 to Rp. 3 million per month.

Commitment Performance by Several Factors

In order to provide a better view of respondents' commitment level, cross-tabulation of commitment performance is highlighted given factors of sex and education category as summarised in **Table 3** and **5**.

The level of commitment is classified into low and high category (with cutting point on its average commitment score). About 54% of respondents fall into low commitment category and the rest (46%) classified into high committed

fishers. Moreover, the proportion of respondents is composed by male (n=45) and female (n=11). Hence, the most committed respondent are 35.7% and 10.7% are for male and female, respectively. The association between the degree of commitment by sex category is found not statistically significant since the Pearson- χ^2 value is too small (0.363) with probability of significance is greater (54.7%) than alpha 5% (see **Table 3**). This implies that the commitment of respondent towards the development to their community is not necessarily associated with the sex category. In some extents, this situation could affirm that it is not always male fisher whose higher commitment in positive efforts for their community than female one as commonly perceived by public opinion. This phenomenon is also to be confirmed by the statistical result of comparison means which indicated that there is no difference in commitment level achieved by respondents given sex category as shown in **Table 4**.

Table 3. Association between Levels of Commitment by Sex Category

Sex	Level of Commitment		
	Low	High	Total
Male	25 (44.6%)	20 (35.7%)	45 (80.4%)
Female	5 (8.9%)	6 (10.7%)	11 (19.6%)

Total	30 (53.6%)	26 (46.4%)	56 (100%)
Pearson- χ^2	0.363 (prob-sig=0.547)		
Decision	There is no significant association		

Note: *=Significant at alpha 2%.

Source: Primary data, processed, April 2003.

Table 4. Comparison Means (Independent t-test) by Sex Category

Description	Levene's test	F-ratio	Prob-sig	Decision	
Total Commitment		0.897	0.348	Equal Variance	
	Sample	Mean	Std. Dev.	t-ratio	Prob-sig
Total Commitment	56	50.125	3.563	-0.907	0.368
Decision	Ho is failed to be rejected (There is no different in fishers' commitment level).				

Source: Primary data, processed, April 2003.

Commitment is sometimes associated with education level of the person. Logically, the higher of the education level attained by someone will impulse the higher degree in commitment. However, the results showed that there is no significant association between education level and the degree of commitment of fishers observed in the

field as shown in **Table 5**. This is perhaps due to the sample which is not proportionately distributed into the cell category in the contingency table. Thereafter, the Pearson- χ^2 value is too small (3.825) with probability to commit error for about 43% (exceed than alpha 5%).

Table 5. Association between Levels of Commitment by Education

Education	Class of Commitment		
	Low	High	Total
Unschooling	1 (1.8%)		1 (1.8%)
Elementary	23 (41.1%)	21 (37.5%)	44 (78.6%)
Junior High School	4 (7.1%)	4 (7.1%)	8 (14.3%)
Senior High School	2 (3.6%)		2 (3.6%)
Degree		1 (1.8%)	1 (1.8%)
Total	30 (53.6%)	26 (46.4%)	56 (100%)
Pearson- χ^2	3.825 (prob-sig=0.430)		
Decision	There is no significant association		

Source: Primary data, processed, April 2003.

Discriminant Analysis on Fishers' Commitment

Porter et al. as quoted by Waridin (1999) said that organizational commitment is a strong belief in and acceptance of the organization's goals and values, and a strong desire to remain in the organization.

Hence, measurements on fishers' commitment to their community perhaps could be analogously adapted from the organizational commitment as defined by Allen and Meyer (1996) and Luthans, Baack, and Taylor (1987) with necessary modification.

This study is aimed at determining the factors, which might be able to

discriminate the perceived respondents' commitment level to their fishing community by using Determinant Analysis (Hair et al., 1998). The statistical results of Discriminant analysis perform fairly well since the canonical correlation (r) and its squared (r^2) is relatively low. In overall, the independent variable of AGE, SEX, EDUC, EXPER, INC and STAY is statistically able to discriminate the level of fishers' commitment in the study area as shown by the F-approx (43.296) with probability to commit error (1.3%) is less than alpha 5% as shown in **Table 6**. The unstandardized canonical discriminant coefficients range between 0.0001 to 0.227 and all variables have positive signs (except for AGE and SEX).

The negative sign of AGE variable could be interpreted that given a higher number of age perhaps could encourage respondents for not tightly committed with their community. This situation is in accordance with the law of diminishing productivity, once an individual has exceeded the maximum productivity level,

thus she or he might lead to be counter-productive given additional inputs. The negative sign associated with SEX variable (1=male; 0=otherwise) implies that there is a tendency that male respondents might behave less committed than the female sampled towards their community development in the study area. However, this finding seems to be further investigated for the agenda of the future works.

There were 30 respondents with lower commitment in participating co-management processes (CMPs) in their community. However, 40% of them (n=12) were actually behaved highly committed. In the other hand, there were 34,6% (n=9) respondents expected to have higher commitment in CMPs activities but in fact they performed low commitment. Nevertheless, the model of fishers' commitment with discriminant analysis indicates that the right prediction of the original grouped cases is correctly classified for about 62.5% (fairly good).

Table 6. Summary of Discriminant Analysis COMMIT = f (AGE, SEX, EDUC, EXPER, INC, STAY)

Variables	Unstandardized Canonical Discriminant Coefficients
AGE	-0.227
SEX	-0.021
EDUC	0.121
EXPER	0.106
INC	0.0001

Variables	Unstandardized Canonical Discriminant Coefficients		
STAY	0.055		
CONSTANT	3.325		
Canonical Correlation (r) (r ²)	0.359 (0.129)		
Wilks' Lamda	0.871		
Chi-Square (prob-sig)	7.052 (0.316)		
Box's M: F – Approx. (prob-sig)	43.296# (0.013)*		
Class Commitment	Predicted Group Membership		
	Low	High	Total
Original Count:			
Low	18	12	30
High	9	17	26
%:			
Low	60.0	40.0	100.0
High	34.6	65.4	100.0

Note: #= Tests null hypothesis of equal population covariance matrices.

*= Significant at alpha 2%. 62.5% of original grouped cases correctly classified.

CONCLUSION

The total respondents of 56 persons were selected by multistages sampling method from the two fishing villages of Wedung and Moro Demak in Demak Regency. They were classified into low (n=30 or 53.6%) and high (n=26 or 46.4%) levels of commitment. The proportion of sample with respect to gender is male (n=45 or 80.4%) and female (n=11 or 19.6%).

It was found that there was no significant association between sex category and degree of commitment. This finding was confirmed by the results of independent t-test which said that there is no significant different in male and female of fishers' commitment in the study areas. Similarly, there was no association between level of commitment and level of education. Based on this situation, we can conclude that commitment of fishers towards their community development in the study area is rather subjective

justification compared to consideration of the statistical modelling.

The discriminant analysis resumed that AGE, SEX, EDUC, EXPER, INC and STAY variables were able to discriminate the level of commitment of the observed respondents (F-approx=43.296 with prob-sig=0.013) and the commitment model has fairly good to provide the right prediction about 62.5%. This implies that in order to improve the commitment degree of fishers in the study area perhaps the magnitude of the predictor in the model (such as: AGE, SEX, EDUC, EXPER, INC, STAY) could be explored further. Thereafter, the findings of this study might be used for classification (grouping) of fisher's commitment for many purposes, among others are for determining the fisher's target for extension, training, credit scheme recipient and other treatments or purposes. The study remains an initial research on fisher's commitment with limited scope (in terms of location, respondent and modelling) and it is

recommended to pursue a detail research with necessary enhancement.

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