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About the Journal **2020-2021**

The Research of Yangon University of Economics has come out by the guidelines of the Minister for the Ministry of Education in Myanmar. The Journal aims at the advancement of research in all areas of Economics. It also has the aim of providing a scholastics platform to professionals, researchers. and academicians associated with the field Economics. It is expected that the journal can provide implications for teaching and learning public policy, business policy and individual decision making.

The articles in this journal are contributed by researchers from all academic departments of our university. We fully appreciated the contributions of the researchers. We also admire their great efforts to contribute in this journal though gradually increasing numbers of students enrolled in Yangon University of Economics make them occupied with teaching.

Yangon University of Economics has always been trying to promote the quality of education. This journal is a proof of such endeavour.

Editorial Board

Violent Disciplinary Practices towards Children among Caretakers in Myanmar

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Abstract

Child discipline is a fundamental part of child nurturing in all societies. It gives grounding in children self-control and acceptable behaviour. Even though the requirement for child discipline is generally accepted, there is considerable discussion concerning violent disciplinary practices. Therefore, the violent disciplinary practices among caretakers in Myanmar are emphasized in this study. The data from the 2015-16 MDHS has been used and a sample of 6108 children age between 2 and 14 years are incorporated. The disciplinary practices among caretakers are estimated using the descriptive method and their determinants are investigated using the multinomial logistic regression analysis. Among sample children, 22.5%, 32.4%, 4% and 39.9% of them have experienced nonviolent discipline, psychological aggression, physical punishment and both psychological aggression and physical punishment, respectively. This research has found that birth order, mother's marital status and wealth quintiles are the significant predictors of the psychological aggression, physical punishment and both types of child disciplinary practices. The findings of this study can help guide efforts to prevent violent discipline and encourage positive childrearing. A comprehensive strategy is needed to prevent and address violence against children.

1. Introduction

Violence against children encompasses physical, emotional, sexual abuse, neglect and deprivation. Children are defenseless to rights violations in schools and communities, as well as at homes and works. There are a number of underlying and interrelating multifaceted risk factors that intimidate safety and wellbeing of the children.

Violence residues a severe reality for many of children around the world, leaves enduring consequences on their lives and hampers their development, learning abilities and school performance. It obstructs positive relationships, provokes low self-esteem, emotional distress and depression; and, at times, it leads to risk taking, self-harm and aggressive behaviors of children. Moreover, violence carries with it very serious economic costs for society, reducing human capacity and compromising social development (UNICEF, 2010).

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Violent discipline is a violation of a children's right to protect from all types of violence while in the upkeep of their caretakers comprising parents. Violence against children within the family is one of the most common forms of child maltreatment. Violent disciplinary practices, including physical punishment and psychological aggression, are socially accepted and often perceived as needed for children's upbringing, although they seriously threaten children's mental and social development and violate their fundamental rights (UNICEF, 2010).

UNICEF (2010) reports that, on the average, 75 % of the children age between 2 to 14 years experienced some form of violent discipline at their homes. Regardless of their family backgrounds and personal characteristics, all children are at risk of violent discipline. Psychological violence is more usual; however it frequently coincides with physical punishment.

A large body of evidences shows maltreatment causes stress that can disrupt early brain development. Extreme stress can harm the development of the nervous and immune systems (National Scientific Council on the Developing Child, 2005). As a result, children who are abused or neglected are at higher risk for health problems as adults. These problems include alcoholism, depression, drug abuse, eating disorders, obesity, high-risk sexual behaviors, smoking, suicide, and certain chronic diseases (Felitti et al., 1998). Abuse and neglect can occur in families where there is a great deal of stress. The stress can result from a family history of violence, drug or alcohol abuse, poverty, and chronic health problems (Runyan et al., 2002). The manner in which parents and caretakers discipline towards children can have long-term consequences for their physical and psychological development and well-being (Ministry of Health and Sport, 2017).

In 1989, world leaders made a historic commitment to the world's children by adopting the United Nations Convention on the Rights of the Child – an international agreement on childhood. It's become the most widely ratified human rights treaty in history and has helped transform children's lives around the world. But, still not every child gets to enjoy a full childhood and too many childhoods are cut short.

Although Myanmar is a Party to the Convention on the Rights of the Child, children still suffer risks of early marriage, sexual exploitation, trafficking, neglect and abuse. In order to address these challenges, after years of discussion and debate, Myanmar has finally enacted a law to protect the rights of children in 2019. Enactment of the Child Rights Law demonstrates Myanmar's commendable efforts to align national policies and regulatory frameworks with the UN Convention on the Rights of the Child that Myanmar ratified in 1991. The parliament passed a new Child Rights Law which covers all aspects of a child's life, including health, education, juvenile justice, children in armed conflict and alternative care arrangements. However, there is still a need to develop rules to guide the law's implementation.

In Myanmar, many vulnerable children live in the contexts of poverty, conflict and/or disaster. According to the report on The Kids Rights Index 2020, Myanmar stands in the 131th among 182 countries over the world. By comparing ASEAN countries, Myanmar was in the 8th during 2013-2015, 9th during 2016-2018 and 10th during 2019-2020. So, the rank of Myanmar has declined gradually and the rights of children have decreased.

According to the 2015-16 Myanmar Demographic and Health Survey (MDHS), it is observed that among children age 2-14 years, 77% of them have experienced any violent discipline methods while only 15% have experienced nonviolent discipline practice. Moreover, the MDHS found that 74% of those children experienced any form of psychological aggression, 43% experienced any form of physical punishment and 12% experienced any form of severe physical punishment (Ministry of Health and Sport, 2017).

Although violence against children is generally prevalent, it remains concealed and socially excused. It is widely perceived as a social taboo or a compulsory practice of discipline and occasionally informed. Likewise, children feel pressed to secrete incidences of violence commonly when committed by people they know and trust. Consequently, the data on this matter remain limited to capture the true scale and extent of this occurrence. To understand risk factors, and to enhance the protection of violence discipline practice among children, solid data through survey and research are necessary to discover the hiddenness and social acceptance of it.

There is a scarcity of study on how caretakers discipline towards children, use of certain methods and the reasons, particularly in Myanmar. Hence, this study intends to explore associated factors of violent disciplinary practices among caretakers in Myanmar. The findings of this study may support government planning for effective child protection services, inform the development of policies and actions for violence prevention, confirm a steady monitoring process to assess results and impacts, and ensure a sustained advancement in the children's fundamental rights in Myanmar.

2. Data and Method

2.1 Source of Data

In this study, the datasets from the 2015-16 Myanmar Demographic and Health Survey (MDHS) was used. Although the 2015-16 MDHS collected the data on 55584 people, this study focuses only on 7395 children age between 2 and 14 years. Sampling weights were used to attain nationally representative estimates and only 6108 children age between 2 and 14 years were involved in the final weighted samples.

2.2 Variables Description and Categorization

The 2015-16 MDHS household questionnaire included questions on how children in the household are usually disciplined by caretakers (including parents and others). The respondent to the household questionnaire (the household head or another household member) was asked a series of separate questions about disciplinary practices that may have been used with the child during the month before the survey.

In order to investigate violent disciplinary practices towards children in Myanmar, disciplinary practices (nonviolent disciplinary practice, psychological aggression, physical punishment and both psychological aggression and physical punishment) has been selected as the outcome and predictor variables considered in this study are age of children, sex of children, birth order, mother's age, education, occupation and marital status, father's education and occupation, parental survivorship, wealth quintiles and residence. The description and categorization for outcome variable (Y) and predictor variables (X_1 to X_{12}) are as follow:

Outcome Variable

Y= Disciplinary practice
= 1 if nonviolent disciplinary
=2 if psychological aggression
=3 if physical punishment
=4 if both psychological aggression and physical punishment

Predictor Variables
Children's Characteristics

X_1= Age of children
= 1 if 2-4 years
= 2 if 5-9 years
= 1 if 10-14 years
X_2= Sex of children
= 1 if boys

= 2 if girls
X_3= Birth order of children
= 1 if first
= 2 if second
=3 if third and above

Parent's Characteristics

X_4= Age of mother
= 1 if below 30 years
= 2 if 30-39 years
=3 if 40 years and above
X_5= Education of mother
= 1 if no education
= 2 if primary
= 3 if secondary
= 4 if higher
X_6= Occupation of mother
= 1 if unskilled labor
= 2 if unemployed
= 3 if skilled labor
= 4 if agriculture
= 5 if professional
= 6 if others
X_7= Marital status of mother
= 1 if divorced or separated
= 2 if married
= 3 if widowed
X_8= Education of father
= 1 if no education
= 2 if primary
= 3 if secondary
= 4 if higher
X_9= Occupation of father
= 1 if unskilled labor
= 2 if unskilled labor
= 3 if agriculture
= 4 if professional
= 5 if other
X_{10}= Parental survivorship
= 1 if both alive
= 2 if father decreased
= 3 if mother decreased
=4 if both decreased

Household Characteristics

X_{11} = Residence
= 1 if urban
= 2 if rural
X_{12} = Wealth index
= 1 if poor
= 2 if middle
= 3 if rich

2.3 Multinomial Logistic Regression Model

In recent years, specialized statistical methods for analyzing categorical data have increased, particularly for application in social science. Among them, the logistic regression is one of the important models that can be applied to analyze a categorical data. The multinomial logistic regression (MLR) model is generally and effectively used when the outcome variable is composed of more than two levels or categories. It allows the simultaneous comparison of more than one contrast, that is, the log odds of three or more contrasts are estimated simultaneously (Garson, 2009). The impact of predictor variables is usually explained in terms of odds ratios. Logistic regression applies maximum likelihood estimation after transforming the outcome variable into a logit variable (the natural log of the odds of the dependent occurring or not).

In this study, multinomial logistic regression analysis was used to analyze the impacts of a set of the predictor variables on the outcome variable "child disciplinary practice". The description of the model has been given in the following.

In a model with outcome variable that has more than 2 categories, a baseline category should be determined in order to make comparisons or analyses. The baseline category (J) can be selected arbitrarily by the package software (Hosmer and Lemeshow, 2000). Hence, for a model, the outcome variable of which has four categories, three odds ratios are calculated, each category is compared with these ratios, and the model is linearized by taking the natural logarithms of these odds ratios to obtain logistic models. If J is selected as the baseline category, the probability of the outcome variable to lie within the baseline category π_j is defined as given in the following equation (Liao, 1994).

$$\pi_j = P(y = J) = \frac{1}{1 + \sum_{j=1}^{j-1} \exp\left(\sum_{k=1}^{K} \beta_{jk} x_k \right)} \;, \; j = 1, 2, \ldots, J-1$$

3. Results

3.1 Descriptive Statistics

The percent distribution of children, parental and household characteristics among children age 2-14 by child disciplining methods is shown in Appendix Table (1). Regarding the children characteristics, 22.8%, 37.8% and 39.4% of children are age group of 2-4 years, 5-9 years and 10-14 years, respectively. According to gender, 3073 children (50.3%) are boys while 3034 children (49.7%) are girls. The most of children (88.6%) are third child and above. Regarding the parental characteristics, most of mothers (43.1%) are age group of 40 years and above, 52.2% have primary education, 30.4% have unskilled work, and 91.9% are currently married. The most of fathers (41.5%) have unskilled work and 39.4% have primary education. Concerning parental survivorship, 92.9% of children have both mother and father alive, 5.3% of children have father decreased, 1.3% of children have mother decreased and 0.5% have both decreased. According to household characteristics, most of children (75.6%) live in rural areas and 49.4% from households with poor wealth quintile. Regarding the child discipline practices, 22.5 % of children experienced nonviolent discipline, 32.4% of children experienced psychological aggression, 4% of children experienced physical punishment and 39.5% of children experienced both psychological aggression and physical punishment.

3.2 Bivariate Analysis

Cross-tabulation and chi-square test are done to determine the relationship between children, parental and household characteristics and child discipline practices. The results are shown in Appendix Table (1). The results shows that age of children, sex of children, birth order, mothers' age, education, occupation and marital status, fathers' occupation, fathers' education, parental survivorship, wealth quintiles and residence are statistically related to child discipline practices of caretakers.

3.3 Multivariate Analysis

Multinomial Logistic Regression Model is performed on the child discipline practices of caretakers using the explanatory variables such as age of children, sex of children, birth order, mothers' age, education, occupation and marital status, fathers' occupation, fathers' education, parental survivorship, wealth quintiles and residence.

According to the results of Appendix Table (2), the value of Pseudo R square 3.28% indicates that the variation on child discipline practices of caretakers can be explained by the variation of explanatory variables. According to the result of Chi-square statistics 563.57 (p-value = 0.000), the model is significant at 1% level. Since log likelihood statistics is (-8302.94), it can be said that the association between the response variable and explanatory variables is supported. The parameter estimates for children, parental and household characteristics in Multinomial Logistic Model for the child discipline practices among caretakers are shown in Appendix Table (2).

In this analysis, the reference category of response variable is nonviolent discipline. For explanatory variables, children's age group with 2-4 years, boys, birth order with first child, mother's age with below 30 years, mothers who have no education, mothers who have unskilled job, separated and divorced mothers, fathers who have unskilled job, fathers who have no education, parental survivorship concerned with both father and mother alive, poor wealth quintile and urban residence are classified as reference categories for this analysis.

Psychological aggression

According to the results, the significant predictors of the psychological aggression are sex of children, birth order, mother's age, education, occupation, marital status, father's occupation, parental survivorship and wealth quintiles.

By comparing psychological aggression versus nonviolent discipline, it can be found that the coefficient of gender of children is significant at 1% level and the odds ratio is 0.78. It indicates that girls are about 0.22 times less likely to experience psychological aggression than boys. The coefficients of birth order are significant at 1% level and the odds ratios are 1.76 and 2.2. It shows that second child and at least third child are about 1.76 times and 2.2 times more likely to experience psychological aggression than first child.

The coefficient of mother's age group with 30-39 years is significant at 5% level and the odds ratio is 0.82. It indicates that the children of mother's age 30-39 years is about 0.18 times less likely to experience psychological aggression than those of mother's age below 30 years. The coefficients of mother's education are significant and the odds ratios are 0.7, 0.55 and 0.53. It shows that the children of mother with primary, secondary and higher levels of education are about 0.3, 0.45 and 0.47 times less likely to experience psychological aggression than those of uneducated mothers. The coefficients of mother's occupation with skilled labor and professional are significant and the odds ratios are 0.69 and 0.7. It means children of mother's occupation with skilled labor and professional are about 0.31 times and 0.3 times less likely to experience psychological aggression than their mothers are unskilled labors. The coefficients of mother's marital status are significant at 1% level and the odds ratios are 1.64 and 2.05. It finds that children of currently married mothers and widowed are about 1.64 times and 2.05 times more likely to experience psychological aggression than children of separated and divorced mothers. The coefficient of father's occupation with professional is significant at 10% level and the odds ratio is 0.77. It means that children of father's occupation with professional are about 0.23 times less likely to experience psychological aggression than their fathers are unskilled labors. The coefficient of father decreased in parental survivorship is significant at 1% level and the odds ratio is 0.69. It indicates that children whose father decreased is about 0.31 times less likely to experience psychological aggression than children who have both father and mother alive.

The rich wealth quintile of households is significant at 1% level and the odds ratio is 0.8. It indicates that children live in rich wealth quintile of households are about 0.2 times less likely to experience psychological aggression than those from households with poor wealth quintile.

Physical punishment

According to the results, the significant predictors of the physical punishment are age of children, birth order, mother's marital status and wealth quintiles.

By comparing physical punishment versus nonviolent discipline, it can be found that the coefficients of children's age groups are significant at 1% level and the odds ratios are 0.56 and 0.32. It indicates that children's age group with 5-9 years and 10-14 years are about 0.44 times and 0.68 less likely to experience physical punishment than children's age group with 2-4 years. Birth order is statistically significant and the odds ratios are 2.4 and 3.24. It shows that second child and at least third child are about 2.4 times and 3.24 times more likely to experience physical punishment than first child.

The coefficient of married mother is significant at 10% level and the odds ratio is 2.69. It indicates that children of currently married mothers are about 2.69 times more likely to experience physical punishment than children of separated and divorced mothers.

The coefficients of wealth quintiles are significant at 1% level and the odds ratios are 0.43 and 0.36. It indicates that children live in rich and middle wealth quintiles households are about 0.57 times and 0.64 times less likely to experience physical punishment than those from households with poor wealth quintile.

Both psychological aggression and physical punishment

According to the results, the significant predictors of both psychological aggression and physical punishment are age of children, sex of children, birth order, mother's education, occupation, marital status, father's occupation, parental survivorship and wealth quintiles.

By comparing both psychological aggression and physical punishment versus nonviolent discipline, it can be found that the coefficient of children's age group with 10-14 years is significant at 1% level and the odds ratio is 0.57. It indicates that children's age group with 10-14 years are about 0.43 times less likely to experience both psychological aggression and physical punishment than children's age group with 2-4 years. The coefficient of gender is significant at 1% level and the odds ratio is 0.76. It indicates that girls are about 0.24 times less likely to experience both psychological aggression and physical punishment than boys. The coefficients of birth order are significant at 1% level and the odds ratios are 1.69 and 1.81. It shows that second child and at least third child are about 1.69 times and 1.81 times more likely to experience both psychological aggression and physical punishment than first child.

The coefficients of mother's education with primary level and secondary level are significant and the odds ratios are 0.63 and 0.55. It shows that children of mother's primary and secondary levels of education are about 0.37 times and 0.45 times less likely to experience both psychological aggression and physical punishment than children of uneducated mothers. The coefficients of mother's occupation with skilled labor and professional are significant and the odds ratios are 0.62 and 0.45. It means that children of mother's occupation with skilled labor and professional are about 0.38 times and 0.55 times less likely to experience both psychological aggression and physical punishment than those mothers are unskilled labors. The coefficients of mother's marital status are significant at 1% level and the odds ratios are 1.85 and 2.81. It means that children of currently married mothers and widowed are about 1.85 times and 2.81 times more likely to experience both psychological aggression and physical punishment than those of separated and divorced mothers. The coefficients of father's occupation with agriculture and professional are significant and the odds ratios are 0.82 and 0.77. It means that children of father's occupation with agriculture and professional are about 0.18 times and 0.23 times less likely to experience both psychological aggression and physical punishment than their fathers are unskilled labors. The coefficients of parental survivorship with father decreased and mother decreased are significant and the odds ratios are 0.68 and 0.6. It indicates that children whose father decreased and mother decreased are about 0.32 and 0.4 times less likely to experience both psychological aggression and physical punishment than those of both father and mother alive.

The coefficients of wealth quintile are significant at 1% level and the odds ratios are 0.69 and 0.41. It indicates that children from middle and rich wealth quintile of households are about 0.31 times and 0.59 times less likely to experience both psychological aggression and physical punishment than children live in households with poor wealth quintile.

4. Discussions

The study aims to examine the relationship between the usage of child disciplinary practices and children, parental and household characteristics among parents and caretakers. This study indicates that girls experience lower rates of violent discipline practices than boys. This finding is consistent with past research of Dietz (2000). Our findings show that younger children are more likely to experience violent disciplinary practices than older children. The result is in line with Dietz, T. L., 2000 and Hunter et al., 2000. Child's birth order significantly related to child discipline practices. One sibling appears to be less exposed of violent discipline practices than two or more siblings. Also, the larger the family the more the child is exposed to discipline methods in general. Our findings are consistent with the findings of the previous studies with Khoury-Kassabri and Straus (2011). Our finding showed that low education of mothers increases violent disciplinary practices towards children. Therefore, low education was an influencing factor in child disciplinary practices. These findings are in line with Hunter et al. (2000) and Hadi (2000). Findings of this study suggest that children from households with higher wealth quintile are less likely to experience violent disciplinary practices. Our findings are consistent with the findings of the previous studies in other developing countries by Hadi (2000) and Tang (2006).

5. Conclusion

The study indicates that the significant predictors of the violent disciplinary practices. The psychological aggression is related to sex of children, birth order, mother's age, education, occupation, marital status, father's occupation, parental survivorship and wealth quintiles. However, the physical punishment is associated with age of children, birth order, marital status of mother and wealth quintiles. Moreover, both psychological aggression and physical punishment are related to age of children, sex of children, birth order, mother's education, occupation, marital status, father's occupation, parental survivorship and wealth quintiles.

This study has some limitations. First, the study was cross sectional in nature and involved the reporting of past behaviors. Second, the study can be criticized for the use of an indirect measure of household wealth because reliable income is difficult to obtain in developing countries. Finally, our selection of variables was constrained by the MDHS data and so further studies should include additional variables which are related to child disciplinary practices.

Nevertheless, this study has important findings to point out needs of parents and caretakers and consequences of child maltreatment to prevent violent discipline towards children. The results of this study may help the government, civil society, communities, and other stakeholders to design and implement programs and policies that provide young children reach their full potential by supporting families and communities as well as increasing access to quality early childhood care and education. The effective and right child discipline practices will help parents and caretakers in order to make children for their happiness, healthiness and well-behavior.

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Appendix

Appendix Table (1) Percent distribution and the relationship between child disciplinary practices and children, parental and household characteristics among parents and caretakers in Myanmar

Independent Variables	Classification	Weighted Number	Percent	χ^2	P-value
Age of Children	2-4 years	1394	22.8	119.8***	0.000
	5-9 years	2305	37.8		
	10-14 years	2409	39.4		
Sex of Children	Boys	3073	50.3	25.3***	0.000
	Girls	3034	49.7		
Birth Order	First	427	7.0	65.7***	0.000
	Second	272	4.4		
	Third and above	5409	88.6		
Age of Mother	Below 30 years	1245	20.4	12.7**	0.048
	30-39 years	2232	36.5		
	40 years and above	2631	43.1		
Mother's Education	No education	926	15.2	58.1***	0.000
	Primary	3189	52.2		
	Secondary	1695	27.7		
	Higher	298	4.9		
Mother's Occupation*	Unskilled labor	1858	30.4	46.6***	0.000
	Unemployed	1523	24.9		
	Skilled labor	228	3.7		
	Agricultural	1025	16.8		
	Professional	250	4.1		
	Others	1222	20.0		
Mother's Marital status	Separated or divorced	194	3.2	36.1***	0.000
	Married	5613	91.9		
	Widowed	301	4.9		
Father's Occupation*	Unskilled labor	2534	41.5	26.2***	0.010
	Skilled labor	835	13.7		
	Agricultural	1601	26.2		
	Professional	599	9.8		
	Others	512	8.4		
Father's Education*	No education	891	14.6	19.5**	0.022
	Primary	2407	39.4		
	Secondary	2281	37.4		
	Higher	467	7.6		
Parental Survivorship	Both alive	5675	92.9	18.9**	0.026
	Father decreased	324	5.3		
	Mother decreased	76	1.3		
	Both decreased	33	0.5		
Wealth Quintiles	Poor	3015	49.4	192.2***	0.000
	Middle	1075	17.6		
	Rich	2019	33.1		
Residence	Urban	1493	24.4	24.3***	0.000
	Rural	4615	75.6		
Child Discipline Practices *	Nonviolent discipline	1377	22.5		
	Psychological aggression	1976	32.4		
	Physical punishment	242	4.0		
	Both psychological aggression and physical punishment	2417	39.5		
	Total	6108			

*Missing data on mothers' occupation for 2 cases, father's education for 62 cases, father's occupation for 27 cases and child disciplinary practices for 96 cases.
Source: MDHS (2017)

Appendix Table (2) Parameter estimates of Multinomial Logistic Regression Model for child disciplinary practices among parents and caretakers in Myanmar

Independent Variables	Classification	Psychological Aggression			Physical Punishment			Both Psychological Aggression and Physical Punishment		
		β	OR	P-value	B	OR	P-value	β	OR	P-value
Constant		-0.06	0.94	0.870	-2.95***	0.05	0.001	0.71**	2.03	0.037
Age of Children	2-4 years (ref)									
	5-9 years	0.19	1.20	0.104	-0.58***	0.56	0.002	-0.14	0.87	0.199
	10-14 years	-0.02	0.98	0.847	-1.13***	0.32	0.000	-0.56***	0.57	0.000
Sex of Children	Boys (ref)									
	Girls	-0.25***	0.78	0.000	-0.01	0.99	0.943	-0.28***	0.76	0.000
Birth Order	First (ref)									
	Second	0.56***	1.76	0.010	0.88**	2.40	0.026	0.53***	1.69	0.006
	Third and above	0.79***	2.20	0.000	1.18***	3.24	0.000	0.59***	1.81	0.000
Age of Mother	Below 30 years (ref)									
	30-39 years	-0.20**	0.82	0.031	-0.15	0.86	0.426	-0.001	0.99	0.990
	40 years and above	-0.01	0.99	0.908	0.04	1.04	0.831	0.15	1.16	0.112
Mother's Education	No education (ref)									
	Primary	-0.36*	0.70	0.091	-0.43	0.65	0.397	-0.46**	0.63	0.029
	Secondary	-0.61***	0.55	0.006	-0.36	0.70	0.487	-0.59***	0.55	0.008
	Higher	-0.55**	0.53	0.021	-0.62	0.54	0.256	-0.27	0.76	0.254
Mother's Occupation	Unskilled labor (ref)									
	Unemployed	-0.18	0.84	0.158	0.28	1.32	0.153	0.07	1.07	0.475
	Skilled	-0.36**	0.69	0.044	0.24	1.27	0.506	-0.42**	0.66	0.022
	Agricultural	0.02	1.02	0.858	-0.05	0.95	0.852	0.2	1.22	0.102
	Professional	-0.36*	0.70	0.081	-0.09	0.91	0.865	-0.74***	0.48	0.001
	Other	-0.16	0.85	0.201	0.29	1.33	0.256	0.1	1.11	0.392
Mother's Marital Status	Separated or divorced (ref)									
	Married	0.49***	1.64	0.010	0.99*	2.69	0.064	0.62***	1.85	0.001
	Widow	0.72***	2.05	0.005	0.57	1.77	0.422	1.03***	2.81	0.000
Father's Occupation	Unskilled labor (ref)									
	Skilled	-0.02	0.98	0.848	-0.16	0.85	0.485	0.10	1.11	0.332
	Agricultural	-0.10	0.91	0.329	-0.12	0.89	0.533	-0.20**	0.82	0.036
	Professional	-0.26*	0.77	0.092	-0.46	0.63	0.221	-0.26*	0.77	0.081
	Other	-0.06	0.94	0.698	-0.27	0.76	0.440	-0.13	0.88	0.419
Father's Education	No education (ref)									
	Primary	0.10	1.10	0.636	0.52	1.69	0.310	0.03	1.03	0.897
	Secondary	0.02	1.02	0.923	0.81	2.24	0.125	0.07	1.07	0.737
	Higher	0.07	1.07	0.754	0.71	2.04	0.195	-0.09	0.91	0.676

Appendix Table (2). Parameter estimates of Multinomial Logistic Regression Model for child disciplinary practices among parents and caretakers in Myanmar (contd.)

Independent Variables	Classification	Psychological Aggression			Physical Punishment			Both Psychological Aggression and Physical Punishment		
		β	OR	P-value	B	OR	P-value	β	OR	P-value
Parental Survivorship	Both alive (ref)									
	Father decreased	-0.37***	0.69	0.010	0.05	1.05	0.850	-0.39***	0.68	0.006
	Mother decreased	0.16	1.18	0.539	-0.20	0.82	0.751	-0.51*	0.60	0.088
	Both decreased	-0.29	0.75	0.490	-0.33	0.72	0.756	-0.26	0.77	0.541
Wealth Quintiles	Poor (ref)									
	Middle	-0.06	0.94	0.490	-0.84***	0.43	0.000	-0.36***	0.69	0.000
	Rich	-0.23***	0.80	0.006	-1.02***	0.36	0.000	-0.89***	0.41	0.000
Residence	Urban (ref)									
	Rural	0.07	1.07	0.411	-0.08	0.92	0.685	-0.13	0.88	0.127
Log Likelihood		-8302.94								
LR Chi-square		563.57*** (P-value=0.000)								
Pseudo R^2		0.0328								

***, **, * statistically significant at 1%, 5% and 10% level.

Reference category is nonviolent discipline.

Source: MDHS (2017)

Determinants of Fertility in Rural Myanmar

Sanda Thein[1], Thin Marlar Oo[2]

Abstract

This study examines determinants of fertility in rural area of Myanmar. Women in the reproductive age group differ in various characteristics including socioeconomic and demographic variables which requisite the assessment of determinants of fertility. This study has used data from the 2015-16 Myanmar Demographic and Health Survey. The analysis is confined to 6408 ever married women of reproductive age in rural area. Multiple regression analysis is used to identify determinants of fertility. Results indicate that women education, contraceptive use, age at first birth were significantly associated with fertility reduction in Myanmar for ever married women. Child mortality and marital status were significantly associated with an increase in fertility. The results of path diagram show that education has indirect impact on fertility by affecting " age at first birth" or "use of contraception" which are the intermediate variables and then each intermediate variable will affect directly to fertility. The general conclusion of this study is that sociocultural factors play a significant role in influencing fertility in rural Myanmar, and it is important to consider existing social structures, norms and traditions when formulating policies related to fertility decline in the country.

Key words: Fertility, Children ever born, Ever married women, Demographic health survey, Intermediate variables

1. Introduction

Human fertility is influenced by a variety of socio-cultural factors. These factors, when compared with a host of others such as biological, demographic, economic and behavioural, vary widely with respect to their relative importance in different geographical settings. For example, the generally acknowledged striking differences in the fertility characteristics of developed societies and those of developing ones reflect fundamental differences in their basic institutional structures and consequently in their socio-cultural conditions. Bongaarts (1978) showed that the socioeconomic factors had effect on fertility level and developing societies had higher fertility level than industrial societies. Bongaarts clearly made the difference between direct and indirect variables that influenced fertility level. Direct factor refers to the proximate determinants or intermediate variables which connect fertility and any other variables. For example, education has indirectly impact on

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fertility by affecting "age at first married" or "use of contraception" which are the intermediate variables and then each intermediate variable will affect directly to fertility. Cleland and Hobcraft (1985) analysed the world fertility survey data for several countries have shown evidence of outstanding sub-national and international variations in fertility rates. A lot of interest has therefore been focused on the mechanisms by which these variations in fertility rates are achieved.

In Myanmar, total fertility rate is declining from 5.7 in 1973 Myanmar Population and Housing Census data to 2.3 in 2014 Myanmar Population and Housing Census. Fertility is higher in rural compared to urban areas in the country. Nevertheless, below replacement level fertility of 1.9 children per woman was observed in urban area. The total fertility rate was 2.4 children per woman in rural Myanmar. Moreover, there are regional disparities in fertility in the country. Mar Lar Htun (2015) studied that factors affecting the fertility differential in different states and regions in Myanmar. This results found that women's residence, religion and knowledge about contraceptive methods were not directly associated with children ever born except for the case of Islamic women. Howerever, age of first marriage and education were found directly effect with children ever born in almost all states and the region. Ye Lin Naing (2016) analyzed the factors affecting fertility in Chin State, Myanmar. This results found that women's place of residence, age, child death are found positively associated with the number of children ever born. On the other hand, women's education, employment status, head of household and migration are found negatively associated with the number of children ever born.

Various individual and household background characteristics of women influenced the level of fertility which required systematic assessment. The reasons of rising total fertility rate in rural area is multifactorial and it depends on socio-economic characteristics, women situation and health care facilities of area. Therefore, the main aim of the study is to requisite fertility among ever married women in each of the socioeconomic and intermediate variables that affect, directly and indirectly reproductive behaviour in rural Myanmar.

2. Materials and Methods

2.1 Source of Data

This study used the secondary data from the Myanmar Demographic and Health Survey (MDHS) 2015-16. It was conducted by Ministry of Health and Sports (MoHS). It is a nationally representative survey. In MDHS 2015-16, there were a total of 12500 households with 3399 urban and 9101 rural in household survey and 8739 ever married women age 15-

49 and 4146 never married women in individual survey. Out of 8739 ever married women, 6408 from rural area and 2331 from urban area. In this study, 6408 ever married women aged 15-49 from rural area were included.

2.2 Multiple Regression

This study examines the determinants of fertility behaviour of women in rural Myanmar, focusing on the socioeconomic, and intermediate factors that directly and indirectly affect reproduction. Multiple linear regression analysis is used for investigating the effects of several factors concurrently on the fertility behaviour of women. This technique is suitable in the case when the dependent variable is continuous and the independent variables are continuous and/or categorical. The functional relationship between the dependent variable and the independent variables is approximated by multiple regression model. The regression coefficients are estimated through ordinary least squares (OLS) which minimizes the sum of squares of residuals. OLS assumes that residuals are normally distributed, have zero mean, equal variance and are uncorrelated. The multiple regression model also assume linearity and has the following additive form:

Y= α + β_1 X_1+ β_2 X_2 …+ β_n X_n +ε

where,Y = the dependent variable; $\alpha =$ the constant; β_1, β_2, … β_n = the partial regression coefficients for each of the independent variables; X_1, X_2, ... X_n = the independent variables; and ε = the error term. For multiple regression analysis, the dependent variable is total number of children born and the independent variables are socioeconomic variables such as child mortality, women education and marital status and intermediate variables such as breastfeeding duration, contraceptive use and age at first birth.

2.3 Test for Assumptions

Assumptions necessary for linear regression were checked, using residuals. For the normality assumption a histogram of residuals was drawn and the dependent variable, although slightly skewed towards the left, had almost a normal distribution. For the homoscedasticity and linearity assumptions the residuals were plotted against the observed and the predicted values of the independent variables. This plot showed no obvious signs of funnelling, suggesting the assumption of homoscedasticity has been satisfied and it also satisfies the linearity assumption. The correlation matrix was used to diagnose collinearity among the independent variables. Explanatory variables are not highly correlated with each other.

3. Results

3.1 Descriptive Analysis

This study consisted of (6408) ever married women in reproductive age 15-49 year old from the rural area of Myanmar. Appendix Table 1 shows summary statistics for the number of children ever born for women age 15-49 years. The average number of children ever born for the entire sample is 2.82. The result showed the difference in mean number of children ever born according to child mortality. The women who had not child mortality had 2.24 births while those who had child mortality had 4.90 births. Duration of breastfeeding differences in fertility indicate that the mean number of children ever born for less than two years (3.02) is higher than that of more than equal two years. There are noticeable differences in fertility by use of contraceptive. The mean number of live births for women who had use of contraceptive have 2.63 births while those women who had not use have 2.96. Women who had not use of contraceptive have, on average 0.33 more live births than those women who had use. The effects of education on fertility show clear differentiation between those with or without education. Women with some education exhibit lower fertility than those without education. A fertility differential of 2.53 births is observed between women who have no education and those with higher education. Women whose age at first birth is below age 20 clearly have the highest fertility and those who start childbearing at age 25 and above have fewer numbers of children ever born. Fertility variations among women according to their marital status are also reflected in the data. Married women show higher fertility (2.84) than the others women (2.59).

3.2. Multivariate Analysis

In this study, the multivariate regression analysis is used to separate the factors significantly associated with the number of children ever born among ever married women in rural myanmar. The correlation matrix of all variables used in the model is presented in Appendix Table 2. The results indicated that the correlation between the dependent variable (CEB) and the independent variables are modest, with the highest being child mortality (0.549). The correlation between breastfeeding duration and children ever born is neither in the right direction nor significant whereas those for the other independent variables are in the hypothesized direction and are significant.

Appendix Table 3 shows partial regression coefficients from the regression of children ever born to ever married women on child mortality, breastfeeding duration, contraceptive use, education, age at first birth and marital status. The results show that the adjusted R-square value of 0.386 implies that 39 percent of the total variation in children ever born is explained by the variables included in the model.

The result also showed that five of the variables included in the model contribute significantly to the variation in fertility. Of the five significant variables, three are associated with a significant reduction in fertility. They are contraceptive use, education and age at first birth. The coefficient of child mortality is positively and significantly related with the total number of children ever born (1.296). The estimated result shows that women who have child mortality had 1.296 more number of children ever born compare to women who did not have child mortality after controlling for other variables with significant level at $p < 0.001$.

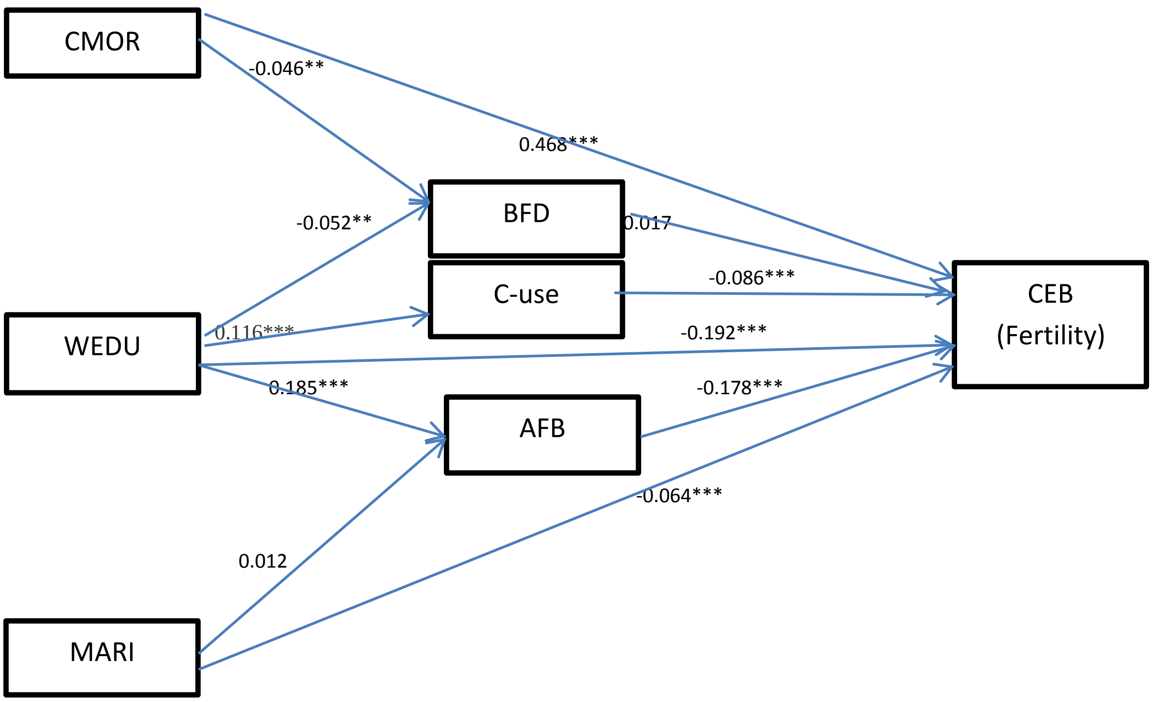
Regarding breastfeeding duration, when other variables are controlled, breastfeeding duration had negative relationship with the number of children ever born (B = - 0.036). It mean that regression coefficients on breastfeeding duration indicates that women who breastfeed for two years or longer have about 3.6 percent less children ever born than those women who breastfeed for periods shorter than two years. The education of women was also significant associated with the number of children ever born. The results show that the educated women had 0.518 lower the number of children ever born (B = - 0.518) than that those who had no education after controlling for other variables with significant level at $p < 0.001$.

While contraceptive use and marital status play a significant role in reducing the total number of children ever born per woman. The result indicates that the ever married women who have ever used contraceptive methods have about 35.5 percent less children compared to those who have never used (B = - 0.255) after controlling for other variables with significant level at $p < 0.001$. Women who were legally married were more likely than those without a legal marriage to have higher fertility. Past studies have shown that married women have tendencies for high fertility compared to unmarried women. In this study, the effect of marital status show that married women had about 22.2 percent more number of children compared to others women (B = 0.222) after controlling for other variables with significant level at $p < 0.001$.

The negative coefficient on respondent's age at first birth indicates that older the respondent at first birth, the fewer the number of children ever born per woman. The coefficient of age at first birth negatively and significantly related with the total number of children ever born (B = - 0.082). An increase of one year of respondent's age at first birth decreases the number of children ever born by 8.2 per cent, after controlling for other variables with significant level at $p < 0.001$.

3.3. Path Diagram

Path analysis is a straightforward extension of multiple regression. Its aim is to provide estimates of the magnitude and significance of hypothesised causal connections between sets of variables. This is best explained by considering a path diagram. Regression weght is predicated by the diagram. A graphic presentation of how some socioeconomic and demographic factors operate through the intermediate variables to affect fertility is presented in Figure 1.



*** P < 0.001, ** P < 0.01, * P< 0.05

Figure 1

Path Diagram For Effects of Children Ever Born in Rural Myanmar

The diagram shows that all variables affect children ever born directly, however, child mortality, respondent's education and marital status also do so indirectly by way of their influence on breastfeeding, contraceptive use and age at first birth. The curved lines on the left indicate that while there is a relation between child mortality, education and marital status, no causal assumptions are made about it. The path coefficients are the β weights from the multiple regression analyses. For example, the -0.178 on the line between age at first birth and children ever born means that every 1.0 standard deviation increase in age at first birth leads to a 0.178 standard deviation decrease in children ever born. The "e" values (roughly error variance) are computed as $\sqrt{1 - R^2}$ = 0.78. It is the part of the dependent variable not explained by the independent variables. Squaring the residual coefficient gives the percentage unexplained by the total model. This means that 61 percent of the total variance is unexplained by the model picture in this diagram. Indirect effects are obtained by multiplying path coefficients. For example, indirect effect of child mortality on children ever born, it multiply the effect of child mortality on breastfeeding (-0.046) times the effect of breastfeeding on children ever born (-0.017). This will give an indirect effect.

4. Discussions

Fertility is affected by socioeconomic and intermediate changes. In some societies, a decline in fertility has been related to a decline in polygamy. In others there is a connection between lower fertility and the raising of the age at marriage. The results of this study revealed that socioeconomic variables such as child mortality, women education and marital status are indirect effect of fertility and intermediate variable such as breastfeeding duration, contraceptive use and age at first birth are direct effect of fertility. Child mortality are positively related with fertility, meaning that the higher the child mortality, the higher the level of fertility. Similarly, Dust (2003) found that child mortality had a significant positive effect on fertility, that is, that an increase in the child mortality rate would significantly increase fertility. Child mortality affect fertility through the intermediate variable of breastfeeding thus: the death of a child that is being breastfeed shortens the duration of breastfeeding.

The result shows that women who have no education have fertility that is higher than that of women who have higher education. The similar finding was also evidenced in a study in educated women are more likely to postpone marriage, have smaller family size and use contraception than are uneducated women. (Martin TC 1995). Furthermore, the result also shows that the effect of education on fertility is transmitted through the intermediate variables viz. contraceptive use and breastfeeding duration. Contraceptive use is negatively related to fertility. Education, as opposed to none, is more likely to have a depressing effect on fertility because of the positive relationship education has with contraceptive use. And then, educated women, compared to those who have never been to school, are more likely to have their first birth much later because the former get involed in education for longer periods of time and tend to develop other interests that compete with childbearing and child rearing. The similar finding was found in Bongaarts, J. (1978)'s study, which showed that education has indirectly impact on fertility by affecting " age at first married" or "use of contraception" which are the intermediate variables and than each intermediate variable will affect directly to fertility.

Age at first birth, which is increased by increasing education, thus reducing fertility, is the single most important factor which emerged from the study as significantly affected fertility in Myanmar. In this study, the results show that an increase of one year of respondent's age at first birth reduces women's fertility. The similar finding was found in Langeni-Mndebele, T. T (1997)'s study, which showed that an increase of one year of respondent's age at first birth reduce young women's fertility by 27 percent. Postponement of age at first birth can lower fertility substantially. When the social, the economic and the cultural climate change, and other factors which reduce the level of fertility are in operation, age at first birth is likely to be raised. Among socioeconomic measures contributing to postponement of age at first birth as a determinant of fertility decline are education, vocational training, improved employment opportunities outside the home, and other social and economic opportunities for women.

The results of path diagram show that child mortality are positively related with fertility, meaning that the higher the child mortality, the higher the level of fertility. Child mortality affect fertility through the intermediate variable of breastfeeding thus: the death of a child that is being breastfeed shortens the duration of breastfeeding. Furthermore, the result also shows that the effect of education on fertility is transmitted through the intermediate variables viz. contraceptive use and breastfeeding duration. Contraceptive use is negatively related to fertility. Education, as opposed to none, is more likely to have a depressing effect on fertility because of the positive relationship education has with contraceptive use. And then, educated women, compared to those who have never been to school, are more likely to have their first birth much later because the former get involed in education for longer periods of time and tend to develop other interests that compete with childbearing and child rearing. The similar findings was found in Bongaarts, J. (1978)'s study, which showed that education has indirectly impact on fertility by affecting "age at first married" or "use of contraception" which are the intermediate variables and than each intermediate variable will affect directly to fertility.

5. Conclusion and Recommendations

This study has focussed on socioeconomic and intermediate factors that directly and indirectly affected the reproductive behaviour of women in rural Myanmar. A multivariate analysis was performed with child mortality, breastfeeding duration, contraceptive use, women education, age at first birth and marital status, to explore the fertility variation among ever married women age 15 to 49 who have had births during last 5 years before the MDHS.

Results indicate that women educations, contraceptive use, age at first birth were significantly associated with fertility reduction in Myanmar for ever married women. Child mortality and marital status were significantly associated with an increase in fertility. Age at first birth, which increased with increasing education, emerged as the single most important determinant of fertility in rural Myanmar. Education has indirectly impact on fertility by affecting " age at first birth" or "use of contraception" which are the intermediate variables and than each intermediate variable will affect directly to fertility. The general conclusion of this study is that since sociocultural factors play a significant role in influencing fertility in rural Myanmar, and because of the complex ways in which mechanisms operate to affect fertility.

It is therefore important to consider existing social structures, norms and traditions when formulating policies related to fertility decline in the country. The government should consider the education and health programs that focus more to the rural area, especially the remove area where access to education and health service is limited. In addition, road infrastucture should also be developed in rural areas to enable women to have more accsee to information and family planning services.

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Appendix

Table (1)

Average Number of Children Ever Born to Women Age 15-49 Years, with Selected Variables

Variables	Number of Cases	Children Ever Born
Child Mortality		
No	5017	2.24
Yes	1391	4.90
Duration of Breastfeeding		
<2yrs	3422	3.02
≥ 2yrs	2986	2.94
Use of Contraceptive		
No	3715	2.96
Yes	2693	2.63
Education		
No Education	1225	3.91
Primary	3363	2.93
Secondary	1624	1.95
Higher	196	1.38
Age at First Birth		
< 20	1868	3.85
20-24	2836	3.12
≥ 25	1704	2.21
Marital Status		
Married	5813	2.84
Others(Living with Partner, Windowed,Divorced,Separated)	595	2.59
Total	6408	2.82

Data Source: 2015-16 Myanmar Demographic and Health Survey

Table (2)

Correlations of Selected Variables for Ever Married Women aged (15-49)

	X_1	X_2	X_3	X_4	X_5	X_6	X_7
X_1	1.000	0.549***	0.022	-0.154***	-0.334**	-0.282***	-0.049***
X_2		1.000	-0.035**	-0.124***	-0.217***	-0.151***	-0.027*
X_3			1.000	-0.027**	-0.042**	0.021	-0.069***
X_4				1.000	0.135***	-0.008	-0.210***
X_5					1.000	0.183***	-0.029*
X_6						1.000	-0.13
X_7							1.000

Where, X_1 = children ever born, X_2 = child mortality, X_3 = duration of breastfeeding, X_4 = contraceptive use, X_5 = women education, X_6 = age at first birth, X_7 = marital status

*** P < 0.001, ** P < 0.01, * P < 0.05

Table (3)
Association of Predictors with Children Ever Born

Variables	B	SE B	BETA	Sig
CMOR (No=0, Yes=1)	1.296	0.041	0.468	0.000
BFD (<2yrs=0,≥ 2yrs=1)	-0.036	0.030	-0.017	0.242
C-USE (No=0,Yes=1)	-0.355	0.062	-0.086	0.000
WEDU (N0=0,Yes=1)	-0.518	0.041	-0.192	0.000
AFB	-0.082	0.007	-0.178	0.000
MARI (Others=0, Married=1)	0.222	0.051	0.064	0.000
CONSTANT	8.760	2.2867		0.002
R	0.623			
R-SQUARE	0.388			
ADJUSTED R_SQUARE	0.386			
NUMBER OF CASES	6408			

Data Source: 2015-16 Myanmar Demographic and Health Survey

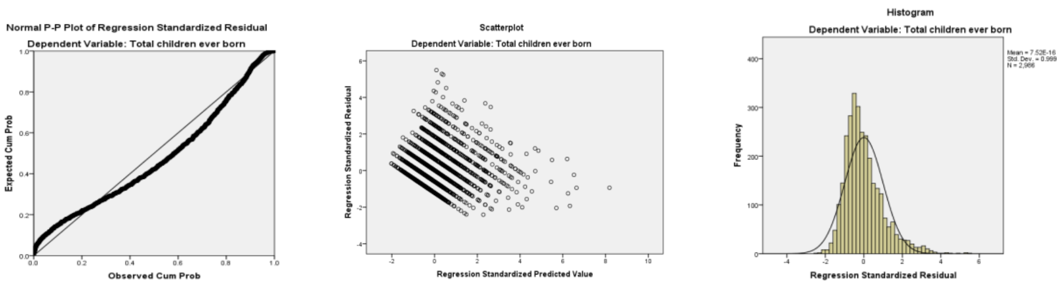

Figure 2

Test for assumptions

Effect of Internal Marketing on Employee Satisfaction of Research Firms in Yangon

Theingi Nwe[1]

Abstract

Treating both employees and customers with the same total dedication to satisfy their needs, enables the organization to inspire employees to do extra work beyond the call of duty and help to build and sustain a great organization. If the organization did those elements right, it can preserve the satisfaction of employees in the organization and they want to serve the organization till success.The company should consistently prioritize the improvement of employee capabilities that would have an impact on employee efficiency to satisfy external consumer demands.The aim of this study is to identify the effect of internal marketing on employee satisfaction at research firms in Yangon. To achieve the study objectives, data were collected through the selection of a sample random of all workers in research companies from managerial levels and non managerial levels.Descriptive method has been used to test the data, and data were collected through simple random sampling method is applied to select (250) respondents that are 60% of total 416 employees.Questionnaire method and personal interview method are used to collect primary data. Secondary data is collected from relevant texts and journals, previous papers, and internet websites. For this analysis, questionnaires were used. The first measured internal marketing, while the second provided concerns about the job satisfaction of employees. The study concluded that internal marketing has a beneficial influence on the satisfaction of research firm workers. Overall, the findings of this study indicate that satisfied employees will be committed to their job, and product, place, and promotional opportunities should be given due consideration as they significantly affect employee satisfaction level among employees.

Keywords: Employees Satisfaction; Internal Marketing; Research Companies.

Introduction

In order to offer greater customer service, organizations not only do external marketing, but also internal marketing. Internal marketing should be used to give employees the opportunity to grow as an individual, to develop their skills, to communicate with colleagues, as well as to external customers. Effective internal marketing enhances employees' constructive behavior, which improves the pride of the company and improves employee retention (Arnett, Laverie& McLane, 2002). Internal marketing involves taking workers as clients and getting their satisfaction. It should be a priority before external marketing for employees. It is the task of successfully recruiting, educating, and motivating employees to perfect customer service. Among them, market research firms are also doing

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internal marketing for their employees. The market research firm systematically gathers data on individuals, industry and marketing, defines and analyzes market demands, scale and competitiveness, and promotes knowledge in order to make informed choices about the policies, activities and future customer base of the organization. Research firms analyze and provide data about markets and customers. Thus, In order to get clearer information and to give it to its customers well and truly, it needs to do internal marketing for their employee satisfaction. Internal marketing provides a variety of benefits to the organization. Employees feel more motivated and experience higher job satisfaction. They feel empowered to make decisions and begin to feel more respected and valued for their contributions. This feeling leads to a greater sense of belonging to the "team" as well as responsibility and accountability to employers (Masvaure&Maharaj, 2014).

Rationale of the Study

The essential factor of a successful organization is employees that strive for the organization's goals. In order to drive organization and move the organization forward, employees have to be engaged – work with passion and feel a profound connection to their company. However, different studies have shown that organizations struggle to engage employees. Therefore, organizations that want to achieve their strategic goals need to seek and employ different practices to foster employee engagement.The company must first satisfy its employees and that can be done by using internal marketing. It is necessary for company to fulfill its employee needs to be successful. Just like customers are important in external marketing, employees are important in internal marketing. Employees' attraction, engagement and retention were considered as a human resource management responsibility. However, the role of internal marketing is gradually becoming more important in human resource management field. Today's organizations have to change the way of how they motivate and communicate with employees as new technologies, social media and immediate public exposure have reshaped the job market and shifted the power from the employer to the employee in the new era of transparency.

Objectives of the Study

There are two objectives of the research.

(1) To explore internal marketing of research firms in Yangon.

(2) To analyze the relationship between internal marketing and employee satisfaction at research firms in Yangon.

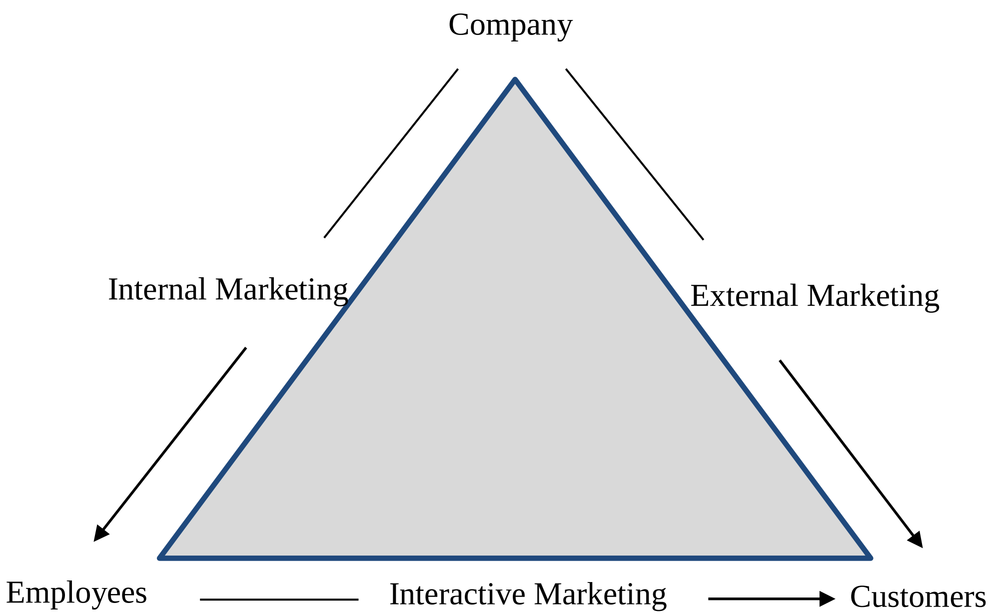
Theoretical Background

The internal market relates to the workers employed for the corporation. Over the long run, the commitment and retention of these workers are crucial to the organization's success. An internal market orientation is necessary in order to achieve this. This has been defined by Ahmed and Rafiq (2002) as within a company targeted at the workers of the organization, a continuing marketing focus. The goal of internal market orientation is to coordinate and inspire workers to meet the market goals of the organization and to enable workers to undertake better. They offer better quality support while the workers work well, which eventually increases customer satisfaction and improves the organization's performance(Slater & Narver, 1995).

Internal market orientation helps businesses to develop successful relationships with their workers. This is focused on a desire to provide workers with superior service by recognizing and addressing their needs in almost the same manner that interaction is needed to create value for the external clients of the company. The organisation is in a stronger position to provide external customers with reliable offerings while addressing the demands of internal customers. They are more motivated if the needs of the workforce are fulfilled, which increases employee satisfaction and retention (Mudie and Pirrie, 1993).

The triangle of service marketing that represents the organization, customers and workers as illustrated in Figure1. In order for service operations to succeed and for internal and external market convergence to take place, multiple marketing strategies such as external marketing, interactive marketing and internal marketing have to be carried out effectively between each of the three points of the triangle.

Figure (1) Service Marketing Triangle



Source:Philip Kotler, Kevin L. Keller (2012), Marketing Management, 14th Edition, Pearson Education Limited

According to Ahmed andRafiq(2002),internal marketing considers workers as internal buyers, treating positions as internal goods that satisfy the needs and expectations of these internal customers while addressing the priorities of the company. If it needs to have satisfied customers, it must also have satisfied staff. Internal marketing also employs, creates, motivates and retains skilled staff with a job that meets their criteria (Mishra, 2010). It is the concept of treating workers as clients, and it is the technique of shaping jobs to meet human needs. The successful implementation of an internal marketing campaign results in optimistic attitudes towards employment, such as improved commitment and higher employee satisfaction levels (Rajasekar, 2014).

In order to satisfy or engage with internal customers, the marketing mix or internal marketing is comprised of the controllable elements within the company. In this study, the internal marketing elements refer to the marketing mix elements comprising: product, price, place, and promotion. These controllable internal marketing components are used to effect the expectations and actions of workers and are able to achieve the desired corporate outcomes if used correctly.

A product usually refers to the work of the employee from an internal perspective (Kotler, Kevin and Keller, 2012). Approaching work as commodities go beyond the duties that must be carried out on a regular basis; it also takes into consideration factors such as training, role fit and clearly defines job tasks, involvement in decision-making (empowerment) and career opportunities as the components of a product. The organization has limited expectation of involving workers and meeting corporate goals without well-designed goods. They are less likely to leave the company if workers are happy, ensuring that talented customer-oriented staff will be kept within the organization.

Prices can also be specifically addressed through commitment and support from management. To create the perception that employees are cared for, management commitment and support are also required. If employees are supported by organizations and management, employees are more likely to feel that the organization supports them and provides them with the assistance needed to complete their tasks and cope with the stressful demands placed on them. There are many costs borne by the employee in terms of price in internal marketing that are not monetary based, but more intrinsic in nature. These intrinsic costs relate to the price employees pay to work for the organization, in other words, the sacrifices that they make (Kotler, Kevin and Keller, 2012). Exhaustion is the result of a long time of constant physical or emotional pressure that leaves workers feeling exhausted, depressed and unable to satisfy consumer demands.

Abzari, Ghorbani, and Madani, (2011) said in external marketing, place is as the strategic and organizational operations that take place in making goods or services available to target customers. It requires the networks, distributors and transportation methods required to ensure that the commodity or service is delivered in the proper condition to the right consumers at the right time and place. From an internal point of view, the place contains non-physical elements of the work environment in which the organisation and employee exchanges take place.The unseen and intangible dimensions, such as the organization's cultural and symbolic aspects, are non-physical. Organizational structure is an important factor in establishing the community and ideology of the inner environment.

Promotion includes the internal contact that takes place within the corporation.It lets the company ensure that workers are properly aware about the vision, mission and priorities of the organization, and the role they play in contributing to them. In internal marketing, the primary aim of promotion is to build awareness and expertise within the company. And hence, employees understand just what is needed of them to do their job correctly. Employees realize exactly what is asked of them to do their job correctly.

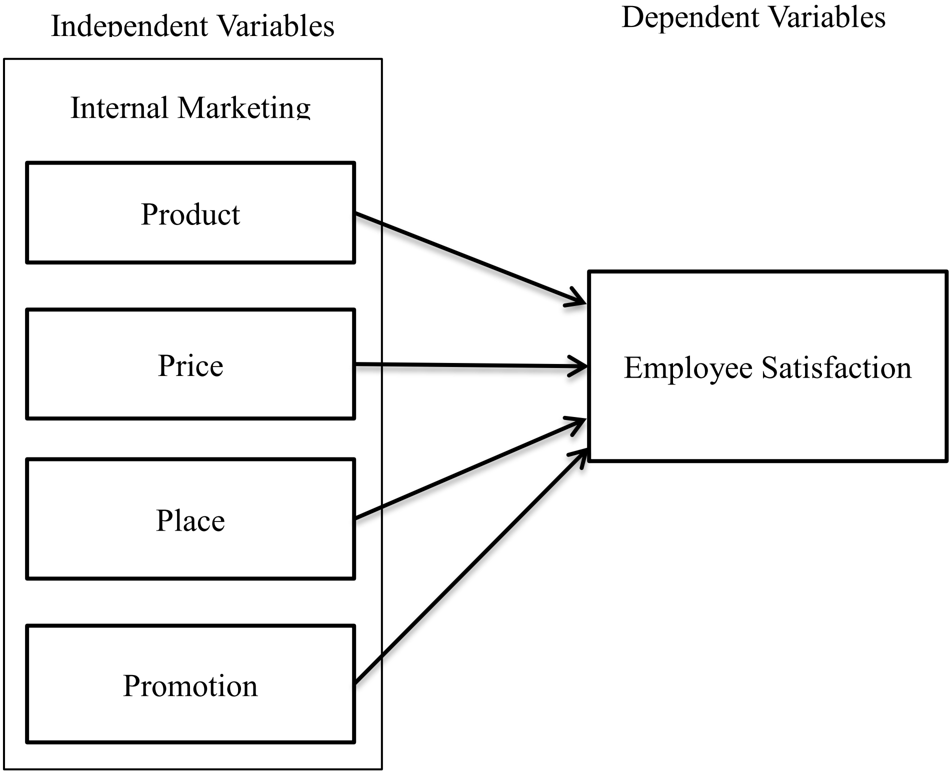
From an internal marketing perspective, promotion directly interacts with the organization's inner contact efforts.A significant aspect in internal marketing is internal communication, since it is the main factor in developing an understanding among employees. Ahmed and Rafiq (2002) said that to communicate with their staff, service companies made extensive use of advertising. They recognize that, particularly considering the way that they are supposed to uphold the commitments made by these communications, workers constitute a significant audience for these advertisements.It helps to build an organizational atmosphere that focuses on addressing the needs of workers and discussing what the company is doing to satisfy these needs.

The interaction between the service worker and the client is important and it is crucial to provide a healthy balance between employee satisfaction and customer satisfaction. In companies, employee satisfaction is an important concern as it may have a dramatic impact on workers as well as organizational efficiency.If workers like their job, they are more likely to be more effective in coping with everyday stressors they will face.The mood and manner in which the service is conducted specifically affects it, therefore, affect the service quality experienced by the customer.

Literature Review

There have many research studies of relationship with employee satisfaction, employee performance and internal marketing. According to Isfahani, Yarali, &Kazemi, (2012), product, price, place, promotion have positive effect on employee satisfaction. Magatef&Momani(2016) stated that internal marketing and internal communication significantly influences on employees performance. The internal marketing factors such as product, price, place, promotion affect the employee engagement (Hebbaz&Chergui, 2012). Figure (2) shows a conceptual framework of the relationship between internal marketing and employee satisfaction for researchcompanies.

Figure (2) Conceptual Framework of the Study



Source: Own Compilation Based on Theoretical Background & Previous Research

Research Methodology

This analysis is performed on internal marketing of research firms. Out of 60 percent of the total 416 workers, the 250 respondents are gathered and actually employed in research firms. Structured interviews with questionnaires are carried out. This research highlights 4 determining variables: product, price, place, and promotion, and it influences employee satisfaction in the workplace. Descriptive statistics is conducted. For choosing 250 workers, 60 percent of the total 416 employees, a simple random sampling method is applied. The questionnaire system and the personal interview method are used to obtain primary data. The appropriate primary data are obtained at the headquarters of the Yangon research company. Secondary data from related texts and articles, prior reports, and websites are gathered. The related foreign study journals, academic papers and so on are also other data points.

Results from Finding

Profiles of employees consist of gender, age, marital status, education level, income, working experience, and position. For a total of 416 workers, 250 employees were chosen to evaluate the internal marketing of research firms.

Table (1) Profile of respondents

Sr.No	Particular	Frequency	Percent (%)
	Sex -Gender		
1	Male	100	40
2	Female	150	60
	Age (Years)		
1	≤ 25	78	31
2	26-35	144	58
3	36-45	24	9
4	46 years	4	2
	Marital status		
1	Single	155	62
2	Married	95	38
	Quality of Education		
1	Completed HighSchool	22	9
2	Finished Diploma	40	16
3	First Degree Terminated	108	43
4	Master Completed	80	32
	Working Experience (Years)		
1	Under 2 Years	116	46
2	2 – 4 years	82	33
3	Above 4 years	52	21

	Position		
1	Level of Entry	86	34
2	Executive	128	51
3	Senior Executive	22	9
4	Manager	10	4
5	Senior Manager	4	2
	Monthly Income		
1	Below 350,000 Kyats	128	51
2	Between 350,001 Kyats – 500,000 Kyats	66	26
3	Between 500,001 Kyats – 650,000 Kyats	46	19
4	Over 650,000 Kyats	10	4

Source : Survey data (2019)

Reliability Test Analysis of Employee Satisfaction on Internal Marketing

This section is intended to analyze the internal marketing of analytical organizations. With respect to the impact of internal marketing, the level of employee satisfaction is measured using the Five-Point Likert Scale. The elements of scale are represented as follows; strongly disagree as 1, disagree as 2, neither disagree nor agree as 3, agree as 4, and strongly agree as 5.

(1) Reliability of Internal Marketing

In this research, reliable measurement of scales is conducted by conducting Cronbach's alpha values. These values are deemed "excellent" at around 0.90, "good" at around 0.80, and "adequate" at around 0.70. Before the analysis, product was measured with five items, price were measured with five items, place were measured with five items, promotion was measured six items and employee satisfaction were measured five items adopted from previous empirical studies and journals. Reliability results are shown in Table (2) by Cronbach's Alpha Reliability Analysis.

Table (2) Reliability of Internal Marketing

Sr.No	Sales Force Compensation	Cronbach's Alpha	No. of Items
1	Product	0.724	5
2	Price	0.752	5
3	Place	0.696	5
4	Promotion	0.713	6
5	Employee Satisfaction	0.794	5

Source: Survey Data (2019)

Table (2) presents Cronbach's alpha values for each five items (product, price, place, promotion, employee satisfaction) from 0.696 to 0.794. The consistency coefficient of the product is 0.724, the price is 0.752, place is 0.696, promotion is 0.713, and employee satisfaction is 0.794. Thus, the alpha values of all variables are at the acceptable levels.

(2) Employee Perception on Internal Marketing

The overall mean value of employee perception on internal marketing is shown in following Table (3).

Table (3) Employee Perception on Internal Marketing

Sr.No	Particular	Mean Value	StandardDeviation
1	Product	3.78	0.60
2	Price	3.61	0.58
3	Place	3.82	0.51
4	Promotion	3.48	0.55

Source: Survey data (2019)

Table (3) presents the employee perception on internal marketing. Promotion is the lowest mean value and the highest mean value is the place and it should be concluded that workers agree on the company's place.

According to the result, the highest mean score is the place, and it can be concluded that workers enjoy their environment, working with their peers and love to contact upper management directly.They are more comfortable working there. So they can get the data anytime they need it and their managers take good care of them for their job. However, the lowest mean score is promotion. It can be said that they want recognition and warmly friendship from their colleagues. And then, since they are operating under intense conditions, they want more rewards and they expect to win while they struggle.

(3) Relationship between Internal Marketing and Employee Satisfaction

Correlation is the statistical instrument that can describe when and how closely pairs of variables are related. This section explores that the correlations of independent variables (product, price, place, and promotion) are tested to show their correlation with the dependent variable (employee satisfaction). Correlation coefficient ranges from -1.0 to 1.0. If it is positive, the value means that as one variable gets larger and the other gets larger. If the value is negative, it means that one variable gets larger and the other gets smaller. The effects of the relationships between the measured variables are shown in the table (4).

Table (4) Relationship between Internal Marketing and Employee Satisfaction

Sr. No	Description	Pearson Correlation Coefficient	P-value
1	Product	0.629**	0.00
2	Price	0.416**	0.00
3	Place	0.389**	0.00
4	Promotion	0.522**	0.00

Source: Survey data (2019)

* The degree 0.05 (2-tailed) correlation is significant

** Correlation at the 0.01 (2-tailed) level is significant

Dependent Variable: Employee Satisfaction

According to Table (4), Internal marketing and employee satisfaction are significant at 0.01 with two tails (1 percent level). A positive correlation between independent variables (product, price, position, and promotion) and dependent variables can be found in the correlation analysis (employee satisfaction). From the results, it prescribes a product (r = 0.629), place (r = 0.416), place (r = 0.389), and promotion (r = 0.522). Product, price and promotion are moderately correlated with employee satisfaction through the importance they have mentioned, and the position is weakly correlated with employee satisfaction.

(4) Multiple Regression Results for Internal Marketing and Employee Satisfaction

To assess the proposed objectives of the interaction between internal marketing and employee satisfaction, multiple regression analysis is developed. The relationship between internal marketing and employee satisfaction of research companies is measured by multiple regression analysis. The conclusions of the multiple regression study are presented in the table (5).

Table (5) Multiple Regression Results for Internal Marketing and Employee Satisfaction

Model	Unstandardized Coefficients		T	Sig
	B	Std. Error		
(Constant)	-0.057	0.404	-0.140	0.889
Product	0.482	0.080	6.007	0.000***
Price	0.022	0.101	0.217	0.828
Place	0.183	0.098	1.857	0.066
Promotion	0.340	0.080	4.225	0.000***
R Square	0.514			
Adjusted R Square	0.498			

Source: Survey data (2019)

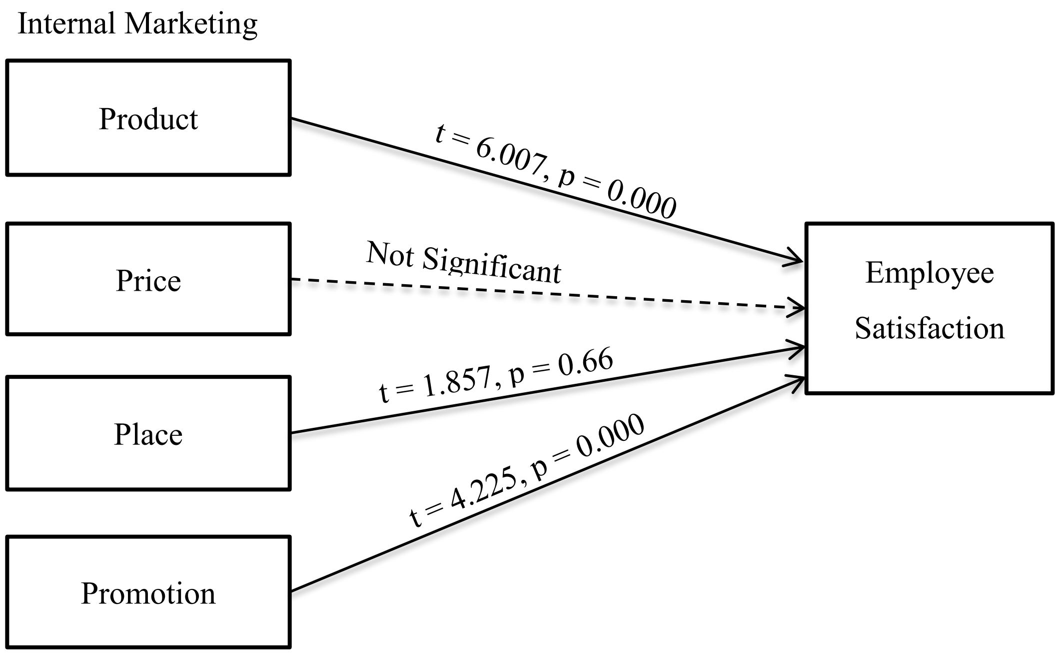
Note: *** Significant at 1% Level

The model explains that the average degree of employee satisfaction varies, as R is 51 percent square value, according to the findings in Table (5). This suggests that independent variables can describe the dependent variable's 51 percent variance. In employee satisfaction, one product unit increased 0.482 times. In employee satisfaction, one unit of value improved 0.022 times. In employee satisfaction, one unit of the place improved 0.183 times. One unit of promotion increased 0.340 times in employee satisfaction. Among the factors of internal marketing, product and promotion are more supported employee satisfaction than other factors. According to the findings, the internal marketing aspect is sufficiently relevant to impact the satisfaction of employees.

The two internal marketing, product and promotion are significant at 1 percent significance level. Internal product shows the positive value in coefficient with 1 percent level significance. This suggests that one unit increases in product become 6.007 unit increases in employee satisfaction when other factors are constant. It suggests that there’s a high chance to increase in employee satisfaction if research companies organize some training and development programs and create some opportunities for their employee in career development program in the company.

Similarly, promotion shows the positive value in coefficient with 1% level-significance. It suggests that increasing one unit in promotion becomes 4.225 unit increases in employee satisfaction when other factors are constant. Therefore, this is a good opportunity for research firms to grow in order to encourage the availability of allowances and to build up a communication channel to improve employee satisfaction. Furthermore, place affects positively on employee satisfaction. It means that increasing one unit in place becomes 1.857 units raise in employee satisfaction when other factors are constant. The empowerment and the management style of research companies make them satisfy in their workplace. Thus, if research companies just follow the current style with some modification to upgrade the level of empowerment can create more on the employee satisfaction. The final results of the multiple regression analysis are illsurated with the proposed conceptual framework shown in Figure(3).

Figure (3) Results of the Relationship between Internal Marketing and Employee Satisfaction



Source: Survey data (2019)

Notes: → Significant Effect

- - -> Not Significant Effect

According to Figure (3), the internal marketing, product, place, and promotion structural model is positively linked to employee satisfaction. Price is not significant because the value of t weakens at multiple analysis of regression. It can be inferred that research firms can provide for the achievement of employee satisfaction as a result of the significant relationship between internal marketing and employee satisfaction.

Findings and Discussions

This study is an analysis the internal marketing of research firms and an examination of the satisfaction of workers with their internal marketing. As it is about internal marketing, the main focus is on product, price, place and promotion. According to the study, the internal marketing that is provided by the company honors employee loyalty.

Research firms supply their workers with internal marketing to inspire them to work and to receive their fulfillment. Initially, according to the mean effects, place is the highest mean benefit in internal marketing. Of the four internal marketing factors, the promotion component earned the lowest mean value. Nonetheless, both indicators indicated the agreement levels of the respondents.It can be said that the participants agreed that the internal marketing variables were successfully offered by research firms.

These internal marketing indicators had a strong correlation with employee satisfaction, according to the findings of the correlation coefficient. This meant that the more company paid the sales force compensation factors, the more employee satisfaction was gained by this company. The implementation of internal marketing is essential for this company to obtain the satisfaction of employees. In addition, product and promotion had the stronger correlation with employee satisfaction than the other two factors (price, place). The addition of product and promotion by this organization is essential for the employees.

In order to examine the correlation between internal marketing and employee satisfaction, multiple regression analysis was used as the key analysis. The findings showed that employee satisfaction is positively and significantly correlated to product, place, and promotion. Price has not impacted on employee productivity in this study. This is because there are certain allowances provided by the company, but the financial reward does not include too much.However, it should be noted that internal marketing has a beneficial influence on the satisfaction of employees.

For product, employees have agreed on their product which identify the company has a clear job description and job task for their employee and they have been treated supported very well. Besides, the employees agreed their place supported by the company. It can be inferred that the company's work flow and work style are very transparent and comfortable, which may allow their workers to better get work completed quicker.They have agreed on internal marketing promotion variables since the organization has given multiple offline as well as internet communication channels in the workplace. According to the findings, the satisfaction upon research companies has related to its internal marketing.

Conclusion

This analysis resulted in details that would provide research firms with the potential to gain more satisfaction from their workers. It concludes that employees feel somewhat satisfied but not too positive to be part of the company because all the overall results are just above "3" and not yet "4".

First of all, In order to fulfill the basic competencies for the position, the organization should have more products for its employees particularly in internal and external training programs.A good understanding of the expertise, abilities and skills that the company will require in the future should also be developed. The organization's long-term priorities and short-term expectations must have been clear to staff. The business will provide the excellent workers in Myanmar to attend the worldwide, overseas training sessions and exchange back sessions. This will assist in the personal satisfaction of workers and would also serve the company.

Secondly, there may be improvements in the price of delivery as well. For everyone, learning new things is never old.There should be an easier way to access a work-related internet learning course.For research firms to have trained and motivated workers, that can be nice. It can also be beneficial about their personal lives.

Thirdly, the organization started to rethink the place as named communication in order to get more employee satisfaction. One of the organization's richest contact networks is face-to-face or personal communication, such as weekly meetings, kickoff conferences.For complex or emotionally altered communications, this is the safest channel to use because it allows for ambiguity to be explained by contact between speaker and receivers. Mobile communications are also widely used. For immediate announcement or urgent meeting conditions, it could target more mobile contact since checking a response is quicker than checking an email.Research firms have already used it for electronic networks such as email, internet, intranet and social media sites, but there may be more powerful ways to connect.

Finally, enhancing development programs, such as growing bonuses, occasional or excellent promotions, compensatory leave, and so on, is the perfect way to attract motivated employees.Furthermore, recognition of tangible and moral compensation may help workers more satisfied with what they have done with their work assignment.

Limitations and Needs for Further Research

As a limitation, this study focused on the internal marketing to explore the employee satisfaction. The other internal marketing factors should be focused to upgrade this satisfaction. In order to investigate other internal marketing that can contribute to employee satisfaction and to find out the most appropriate internal marketing for them, more research need to be found. Moreover, it can be conducted more details for not only on employee satisfaction, but also on employee retention. Furthermore, it can be explored the impact of employee performance when the company is supported with internal marketing.

Acknowledgement

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The Effect of Organizational Culture on Employee Job Satisfaction in Telecommunication Companies

Aye Thu Htun[1]

Abstract

The objective of the study is to analyse the effect of organizational culture on employee job satisfaction in Telecommunication Companies, Myanmar. Quantitative research method is used in this study. Two-stage simple random sampling method is also employed as a sampling method. Both primary data and secondary data are utilized in this study. A sample of 150 employees are selected as a primary data to achieve the objective. Independent variables are organizational culture that includes Supportive culture, Innovative culture and Bureaucratic culture and dependent variable is job satisfaction of employees in this study. The study found that organizational culture is directly and significantly correlated with employee job satisfaction in Telecommunication Companies. The study also observed that Supportive culture and Innovative culture directly and significantly affect employee job satisfaction in Telecommunication Companies. Moreover, there is no significant effect of Bureaucratic culture on employee job satisfaction. Therefore, the management of Telecommunication Companies should put more efforts on adoption of strong Innovative culture and Supportive culture to increase the employee job satisfaction.

Keywords: organizational culture, employee job satisfaction, Innovative culture, Supportive culture, Bureaucratic culture, Telecommunication Companies

I. Introduction

In today’s competitive business environment, management of the organizations tends to recognize and employ organizational culture as a successful tool to achieve efficiency and effectiveness of their business operations. Therefore, organizations need to build and develop effective organizational culture to maintain and improve their current market position. Zakaria, Y. (1997) asserted that every organizations operate within a specific culture. Taneja (2015) also mentioned organizational culture that performs on an essential role in every organization and society because it is an organizational tool that can provide strengths for organization mission, depict values of the organization and affect organization strategy and decision making.

Moreover, management of organizations have to emphasize on employee job satisfaction as a key factor for the successful executing of the organizational strategy.

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Drucker (1964) stated employee job satisfaction that provides the value of knowledge for the competitiveness of any organization. Job satisfaction is the feelings of employees about the environmental factors (Kerego and Muthupha, 1997). Employee job satisfaction leads to productivity through increasing working competences of employees and through creating high motivation (Bhatti and Qureshi, 2007).

In Myanmar, Telecommunication plays an important role to collaborate and share information among organizations. It is also one of the important communication tools to get information because it can exchange the information over significant distances by using electronic channel. Before year 2013, Telecommunication Industry is monopolized by Myanmar Transport and Telecommunication. In 2013, the government of Myanmar liberalised its telecommunication sector. Now, there are four mobile operators such as Myanmar Posts and Telecommunications, Telenor Myanmar, Ooredoo Myanmar, and Mytel companies and they face an intense competition to get market share. Moreover, Telecommunication Companies in Myanmar struggle to achieve their organizational objectives.

For Telecommunication Companies, strong organizational culture can achieve competitiveness because it can impact individual and organizational performance through job satisfaction of employees, commitment, and employee relationship. Moreover, job satisfaction of employees plays a vital role to achieve the organizational objectives, and to be a competitiveness. Therefore, this study attempts to analyse how organizational culture affects employee job satisfaction in Telecommunication Companies, Myanmar.

Objective of the Study

The objective of the study is to analyse the effect of organizational culture on employee job satisfaction in Telecommunication Companies.

Scope and Method of the Study

This study mainly focuses on the effect of organizational culture on employee job satisfaction in Telecommunication Companies, Myanmar. Quantitative research is used in this study. Two – stage simple random sampling method is applied as the sampling method. According to the data from Ministry of Transport and Communications, it is certain that there are four Telecommunication Companies in Myanmar. Among them, 2 Telecommunication Companies (50% of population) are selected by using simple random sampling method as the first stage of sampling. In this study, two selected companies are Telenor Myanmar and

Ooredoo Myanmar companies and both companies are established in 2013. After selecting the companies, as a next stage, 75 employees who are working at head office from each selected company are drawn by simple random sampling method as the second stage of sampling. This study utilizes both primary data and secondary data. One fifty employees who are working at head offices of Telecommunication Companies are selected and then, interviews with structured questionnaire are conducted to get the primary data in this study. The secondary data are obtained from various sources including text books, journals, articles prepared by scholars, and theses from Library of Yangon University of Economics. Five-point Likert scale is employed to assess the organizational culture and employees job satisfaction in Telecommunication Companies. Statistical Package SPSS Version 20 is employed to carry out the analysis. This study utilized Mean, ANOVA, reliability test, regression and correlation analysis to analyse the effect of the current organizational culture on employee job satisfaction in Telecommunication Companies.

II. Literature Review

Organizational Culture

Griffin and Pustay (1999) stated culture that is a set of custom, behaviour, attitudes, beliefs, and values that characterize organizations and societies. Kuazaqui (1999) claimed culture as a group of beliefs, symbols, customs, and behaviours that are passed from one generation to next generation. Deshpande and Webster (1989) asserted that organizational culture helps its employees to understand the organization functions by sharing its rules and regulation, norms, philosophy, and values of organization. Wallach (1983) mentioned organizational culture that is a common recognizing of the philosophies of how work is done, values, beliefs, and norms of organization. He also stated that organizational culture is classified into three types. They are Supportive, Innovative and Bureaucratic cultures. Wallach (1983) pointed out that Supportive culture presents people-oriented and teamwork, and it also encourages trust building among employees and their superiors. Some dominant characteristics of Supportive culture are sociable, open, safe, harmonious, trusting, collaborative, fair, and humanistic. Innovative culture focuses on a result- oriented and it encourages creative working environment. It revealed being entrepreneurial ambitious, enthusiasm and risk- taking. Bureaucratic culture is organized, systematic and centred on high degree of power and control. It has clearly defined authority and responsibility. Bureaucratic culture organizations are task-oriented, structured, stable, hierarchical, procedural, regulated, and centralized and limited initiatives.

Job Satisfaction

Spector (1997) stated employee job satisfaction as the amount in which worker dislike (dissatisfy) or like (satisfy) their work. Finn (2001) mentioned that employee job satisfaction relates their current job and it depends on the extent of their desires and needs that are satisfied. Misener et al, (1996) also explained employees' job satisfaction that includes the employee feelings concerning intrinsic, extrinsic, and different job elements. It consists of specific satisfaction concerned with pay and salaries, benefits, promotion, relationships with supervisor, relationships with co-workers, and work conditions. According to Koustelios (1991), employees become more delighted or satisfied with the core parts of their job when they have a fit between their desired culture and present culture.

Organizational Culture and Job Satisfaction

Chang and Lee (2007) stated that if the employees of the organizations do not understand their organizational culture they will have more job dissatisfaction. Wallach (1983) also proved that a set of the features of organizational culture and the individual culture affect job satisfaction employees. Crispen Chipunza and Bulelwa Malo (2017) revealed that there is a significant direct effect of organizational culture on employee job satisfaction.

Basing on the above theories and concepts, this study developed the analytical framework shown in Figure (1).

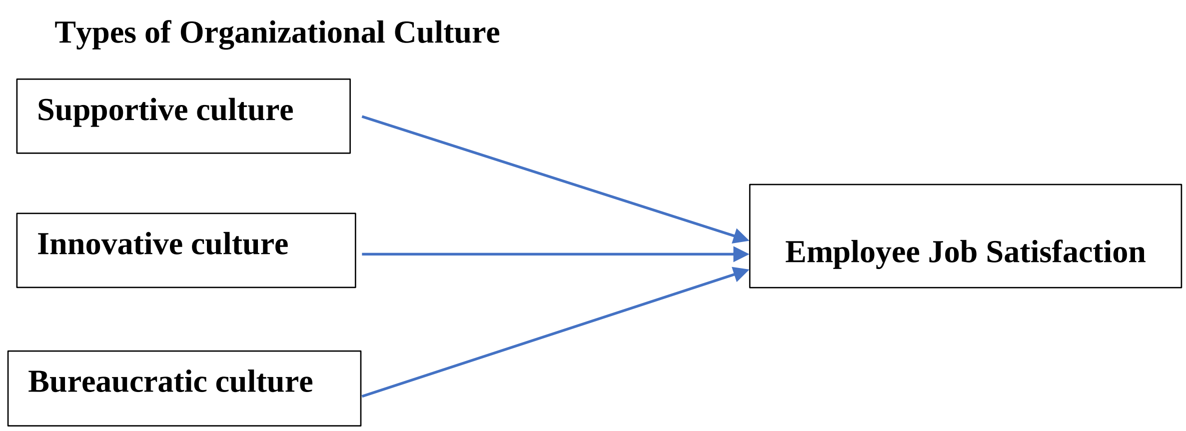

Figure (1): Analytical Framework of the Study

Source: Own Compilation (2019)

III. Analysis of the Study

Table (1) represents the demographic characteristics of respondents including gender, marital status, age, education level, position, and working experience of respondents.

Table (1): Demographic Characteristics of Respondents

Particular	No. of Respondents	Percentage
Gender of the Respondents		
Male	63	42
Female	87	58
Marital Status of the Respondents		
Single	69	46
Married	78	52
Divorced	3	2
Age of the Respondents		
Under 30 years	48	32
30 to 40 years	50	33
41 to 50 years	33	22
Over 50 years	19	13
Education Level of the Respondents		
Post Graduate	19	13
Graduate	131	87
Position of the Respondents		
Manager	98	65
Non-manger	52	35
Working Experience in Current Organization		
Less than 2 years	43	29
2 to 5 years	59	39
Over 5 years	48	32

Source: Survey Data (2019)

According to Table (1), 58% of respondents are female, and 52% of respondents are married. In addition, 33% of the respondents are at the age between 30 to 40 years. With respect to the education level of the respondents, majority of the respondents are graduate. Regarding the position of the respondents, majority of the respondents are manger level.

Moreover, 39% of the respondents has 2 to 5 year working experience in current Telecommunication Company.

Appendix (A) presents measurement scale of Supportive culture, Innovative culture, Bureaucratic culture and Job Satisfaction. In this study, Cronbach's Alpha Values are utilized to check the reliability of employee job satisfaction and organizational culture in Telecommunication Companies. Cronbach's Alpha Values of this study are shown in Table (2).

Table (2): Cronbach's Alpha Values

Particular	No. of items	Cronbach's Alpha
Supportive culture	6	0.823
Innovative culture	5	0.713
Bureaucratic culture	5	0.864
Job Satisfaction	5	0.721

Source: Survey Data (2019)

According to Table (2), since the Cronbach's Alpha values are above 0.7, it can be concluded that all items are good for this study. After checking the reliability, the study utilizes the correlation analysis to examine the correlation between organizational culture and employee job satisfaction in Telecommunication Companies. In this analysis, dependent variable is job satisfaction while the independent variables are Supportive culture, Innovative culture and Bureaucratic culture that represent the types of organizational culture. Table (3) presents the correlation matrix between organizational culture and job satisfaction among employees in Telecommunication Companies.

Table (3): Correlation Matrix between Organizational Culture and Job Satisfaction

Sr. No.	Particular	Coefficient of Pearson Correlation	P Value
1	Supportive culture	0.699***	0.001
2	Innovative culture	0.643***	0.000
3	Bureaucratic culture	0.621***	0.002

Source: Survey Data (2019)

*** Correlation is significant at 0.01 level

According to Table (3), it can be seen that Supportive culture, Innovative culture, and Bureaucratic culture are significantly and strongly related with job satisfaction at 0.01 level.

Particularly, among the three types of organizational culture, Supportive culture has the strongest relationship with job satisfaction among employees of Telecommunication Companies followed by Innovative culture and Bureaucratic culture with correlation coefficient 0.643 and 0.621 respectively. This study employed multiple regression model to analyse the effect of organizational culture on job satisfaction among employees in Telecommunication Companies. The effect of organizational culture on employee job satisfaction is presented in Table (4).

Table (4): Effect of Organizational Culture on Employee Job Satisfaction

Variable	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std Error	Beta		
Constant	.223	1.539		.145	.000
Supportive culture	.444***	.109	.427	4.068	.000
Innovative culture	.293***	.083	.389	3.590	.001
Bureaucratic culture	.029	.111	.028	.259	.017
R	0.745				
R^2	0.568				
Adjusted R^2	0.534				
F Value	13.935***				

Source: SPSS output (2019)

* * *represents the 0.01 level of significance

According to Table (4), adjusted R^2 value for the regression model is 0.534. This indicates that the variables included in this study can explain 53.4% of the variation in job satisfaction of Telecommunication Companies. Other variables which are not included in the model explained the rest (39.2%) of the variation in job satisfaction. It can be seen that good explanatory variables of job satisfaction are Supportive, Innovative and Bureaucratic cultures. And this study, F statistic’s value is less than 0.01. Therefore, it can be found that the model is significant statistically. In Table (4), Supportive culture is the most significant variable in explaining the variance in employee job satisfaction. This value is significant at 1% significance level. Moreover, Innovative culture has also an effect on job satisfaction with a standardized beta .389. The statistical results revealed that Bureaucratic culture does not affect job satisfaction of employees significantly.

IV. Findings and Suggestions

The statistical results proved that organizational culture is positively (directly) correlated with employee job satisfaction in Telecommunication Companies. Particularly, Supportive culture has the strongest connection with employee job satisfaction followed by Innovative culture and bureaucratic culture. Moreover, the statistical results also revealed that Innovative and Supportive cultures have significant positive effect on job satisfaction of employees whereas Bureaucratic culture has no significant effect on employee job satisfaction in Telecommunication Companies. The study also provides an evidence that Supportive culture has the strongest effect on employee job satisfaction. This study found innovative and Supportive cultures that can be used as the effective tools to predict and explain the employee job satisfaction in Telecommunication Companies. Therefore, the management of the companies should emphasize more effort to develop Supportive culture to increase job satisfaction by sharing their well-defined vision and mission statements with stakeholders including employees and customers, providing employee-focused leadership, and allowing their employees to ask the questions. In addition, management should consider the suggestions and advice of employees to improve the business operations. Moreover, management should invest in training and development programmes of their employees to improve their capabilities and competencies. To develop the organization with Innovative culture, the management should emphasize their employees to make the best use of their capabilities and competencies, should create learning and innovative environment, and should recognize and encourage their employees to develop new and improved ways for performing job. Moreover, management should encourage initiatives of employees and provide the opportunity to make decisions to improve the operations of business.

V. Conclusions and Implications of the Study

As a conclusion, this study aims to analyse the effect of organizational culture on employee job satisfaction in Telecommunication Companies. A sample of 150 employees who are working at Head Office of the companies was drawn from two Telecommunication Companies. The statistical results have revealed that Supportive culture as well as Innovative culture have significant direct effect on employee job satisfaction in Telecommunication Companies. Therefore, it can be concluded that if the management of the companies make more efforts to build and develop Supportive culture and Innovative culture, the employees of Telecommunication Companies will get more job satisfaction.

The result of this study provides a positive contribution to the literature relating organizational behaviour. This study provides the better understanding on organizational culture and its effect of employee job satisfaction and how organizational culture relates employee job satisfaction. Moreover, it may contribute empirical verifications for the effect of organizational culture on employee job satisfaction and the relationship between organizational culture and employee job satisfaction. Moreover, the finding can provide a vital implication for public organizations as well as private organizations. The organizations such as telecommunication companies can imply these results when they enhance the job satisfaction of their employees. The result indicated that Innovative culture and Supportive culture have positive and significant effect on job satisfaction of employees. Therefore, management of the organizations should build and encourage the Innovative and Supportive cultures to increase the job satisfaction of their employees.

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Appendix (A)

Measurement Scale of Supportive, Innovative, Bureaucratic Cultures and Job Satisfaction

Sr. No.	Measurement scale	Variable
1	My company provides the clear view of its mission and goals to understand the direction of the company.	Supportive culture
2	My company gives the right me to make important decisions.	
3	Management of my company allows me to ask the questions and gives the suggestions and advice to improve the operations of my work.	
4	My company provides training to improve the capabilities and competencies of its employees.	
5	My company provides career development programmes for its employees.	
6	My company persuades and encourages its employees to make the best use of their capabilities and competencies.	
7	My company encourages to develop new and improved ways for performing job.	Innovative culture
8	Management of my company supports learning, creating and innovation.	
9	My company permits to use my skills and abilities to the fullest in my workplace.	
10	My company culture improves my career development.	
11	My company promotes the culture of high performance and process improvement.	
12	My company does not consider my suggestions and opinions.	Bureaucratic culture
13	My company reduced my initiatives.	
14	I need to respect all requirements and instructions of the company.	
15	I do not get an opportunity to make decisions in my company.	
16	Top management highly controls decisions relating human resources and financial resources.	
17	My job is occasionally challenging.	Job Satisfaction
18	Working in this company is very enjoyable.	
19	I felt accomplished and proud by working in my company.	
20	I am satisfied with my current workplace.	
21	My co-workers are very friendly and I am on good terms with co-workers in the company.	

Source: Adapted from Vo Thi Quy (2018) and Singh, S. (1989)

The Impact of Organizational Culture on Knowledge Sharing of Selected Private Banks

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Abstract

This study endeavors to explore the critical success factors of knowledge sharing on selected private banks in Yangon and to analyze the impact of organizational culture on knowledge sharing of selected private banks in Yangon. The quantitative methodology was applied in this research. In this research, a total of 103 out of 129 managers are selected as a sample by using simple random sampling method, sample size represents 80% of population. Descriptive statistics was carried out in this research. The findings show that the most influential factor is the incentive system, the second most influential factor is collaboration, and the third most influential factor is information technology. The results of the study also show that these variables are important for the culture of promotion knowledge sharing in an organization. Moreover, the findings reveal that there was a strong and positive relationship between reward system, collaboration, information technology and the effectiveness of knowledge sharing.

Keywords: Leadership, Collaboration, Trust, Learning, Reward System, Information Technology, Knowledge Sharing

Introduction

The Myanmar COVID-19 pandemic is a component of the global coronavirus disease pandemic (COVID-19) caused by extreme acute respiratory syndrome, coronavirus 2 (SARS-CoV-2). On 23 March 2020, the virus was confirmed to have got into Myanmar (Hermesauto,2020). During the first wave of the coronavirus pandemic, the government rapidly adopted steps to eradicate the virus early in the outbreak, from late March to early August. After that, a major second wave reached the country in the middle of August.

There was a degree of disruption in the banking sector that would change all that had become the standard in financial services. The way financial firms do business has not only changed drastically, but also the way staff do their jobs and the way customers handle their finances. The COVID 19 pandemic has had a profound effect on consumer interaction and

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many companies have been pressured by the contact center to switch their agents to a work-from-home model.

Furthermore, the Covid-19 pandemic has brought uncertainties to not only individuals but also businesses globally. With its direct impact from the widespread lock downs, the pandemic has created different challenges for all of us to find new ways of lifestyle. As the businesses are developing and technology is developing in modern economy, they try to get many knowledgeable staff to go for customers oriented. To produce the new and quality products or services, organizations need to have the skillful and knowledgeable staff and leaders. These staff and leaders also need to have the sufficient and precious knowledge for their business. Therefore, knowledge is the most valuable intangible asset or strategically resource to become the successful businesses.

In 21st century, every organization realizes that knowledge is power for their businesses. Management of knowledge is basically about having the right knowledge at the right time to the right person. Organizations that are capable of generating new knowledge, sharing it, and applying it effectively will be successful at creating a competitive era. Therefore, knowledge sharing is one of the important things for managing knowledge (Ramirez, A., Coakes, E., Søndergaard, S., Kerr, M., & Clegg, C., 2007). As knowledge is an important resource, organization culture is the complementary resource for the success of business. Thus, organization culture is the precious intangible asset to give competitive advantage. Every business considers the right and flexible organization culture that make knowledge sharing practices.

Nowadays, both manufacturing and service organizations consider organization cultural factors which can influence employees' knowledge sharing to each other to gain competitive advantage and success. Organization culture is the collective programming of the mind which distinguishes the member of one group or category of people from another (Islam, M.Z, Ahmed, S.M & Hasan, I ,2011). Organization culture includes values, norms, language, beliefs, habits and practices. Organization culture is a critical to make knowledge sharing practices. Thus, the study for this research is to explore the critical success factors as leadership, collaboration, trust, learning, rewards system, information technology, and how these organization cultures can effect on knowledge sharing in selected private banks.

Rationale of the Study

Covid-19 pandemic is destroying global economies, but at an equivalent time its bringing different opportunities for organizations also. Organizations now have to think about how to make use of this opportunity, and in this case, organization are virtually going. Sharing knowledge may be a potential way to involve the staff in the current situation. This will allow companies to introduce creativity in services and products if employees share the information and organizations store it in database and imagine it via an artificial intelligence system. The banking business model has been changing over the Covid-19 era. The important transaction is the immediate full switch to digitalization. The banks allow the token system via telephone or apps, the transaction passes via apps and the internet, and the banks give their customers additional new banking services. At the same time, consumer behavior is changing and anything they would like to purchase goes through digital channels.

Thus, the transaction needs to do in virtual payments than cash on delivery. People use mobile wallet, mobile cash, and cashless payment. VISA introduced the virtual cards in developed countries; however, Myanmar Banking industry is on the go to use virtual card nowadays. In addition, banks will also need to make sure their self-service systems can do more by powering them with the knowledge and expertise. In order to address environmental developments and new challenges in the era of Covid-19, knowledge within organizations needs to be configured. Knowledge is increasingly exchanged with other organizations in the environment in this process. Bank managers are aware of networking with more successful competitors is a key activity for companies to share successes and communicate best practices as a way of identifying new collaboration opportunities which will occur to satisfy COVID-19 challenges and keep the very best standard of operation within the industry.

Therefore, banks try to improve their products or services. To give this unique products and services, banks need to get skillful and knowledgeable staff in their organization. In addition, knowledge is one of the precious resources to get more and more unique products and services. It is essential resource to improve the functions and operations of the organization. Around the world, service organizations like hospitals and banks use knowledge sharing among their staff because knowledgeable staff can treat their customers with more effective ways. Thus, organization culture and knowledge sharing are key factors for the survival of banks. Therefore, this study focused the impact of organizational culture on knowledge sharing of selected private banks in Yangon.

Objectives of the Study

The objectives of this study are as follows:

(1) To explore the critical success factors of knowledge sharing on selected private banks in Yangon

(2) To examine the impact of organizational culture on knowledge sharing of selected private banks in Yangon

Scope and Method of the Study

This research only focuses on the impact of organizational culture on knowledge sharing of selected private banks in Yangon of selected private banks. In Myanmar, there are 27 domestic private banks. Among them, three banks (KBZ, AYA and CB) which have largest assets of top ten banks are selected in this study. The quantitative methodology was applied in this research. In this research, a total of 103 out of 129 managers are selected as a sample by using simple random sampling method, sample size represents 80% of population. Descriptive statistics was conducted in this research. Multiple regression analysis was used to test the objectives. Secondary data is gathered from reference text books, previous research papers and annual report, and internet websites.

Literature Review

Knowledge Sharing

In today's knowledge economy, the capacity to manage knowledge is becoming more and more essential. The main purpose of knowledge management is an organization aware individually and collectively importance of its knowledge and forms itself so that it allows the most efficient and meaningful use of the knowledge. In order to generate value added opportunities for the organization, the emphasis of knowledge management is on how to share knowledge. Sharing knowledge is the behavior of dissemination and sharing useful knowledge gained with other members within one's organization (Ali, H. M., & Yusof, Z. M. ,2004). Today, large amount of information is being shared freely over the Internet and through subscriptions to databases and information repositories. It required face-to-face communication and, in most cases, it gets transferred through observation, imitation, practice, and interaction with environment. Effective sharing involves the actions of transmission and absorption by the sender and potential receiver respectively. If knowledge is received but not absorbed, and the knowledge transfer process in not considered complete. For knowledge transfer to take place, it has to be received, processed, and absorbed.

The critical outcome of knowledge sharing is the creation of new knowledge and innovation that will significantly improve organizational performance (Davenport & Prusak, 1998). Knowledge sharing can take place vertical (between superiors and subordinate) or horizontal (between peers). Knowledge sharing can also take place outside the organization- with customers, suppliers, regulators. There are several reasons why sharing of knowledge within an organization is important, such as organizational performance and its innovations. When sharing is limited, expertise and skills of employees are not exploited because organizations do not know what employees actually know. Subsequently, when individuals leave an organization, their knowledge will perish (Tan, N. L., Lye, Y. H., Ng, T. H., & Lim, Y. S. ,2010).

Organizational Culture and Knowledge Sharing

Organizational culture is defined typically in terms of the way people think, which features a direct influence on the ways during which they behave. Organizational culture provides employees a standard frame of reference for changes in a corporation (Ramirez, A.,2007). According to Gupta & Govindarajan (2000), organization culture consists of six categories: information systems, people, processes, leadership, reward system and organization structure. Therefore, this study focuses on organization culture based factors as leadership, collaboration, trust, learning, reward system and information technology that impact on knowledge sharing practices.

Leaders facilitate networks of the organization's experienced personnel and provide best practice in teamwork and collective practices. Leaders therefore play a critical role in the exchange of information since they promote the local development of the required knowledge by other members. With supportive leadership, employees' psychological safety responses can be influenced and a higher feeling of safety can be achieved, resulting in the employees' willingness to knowledge sharing (Edmondson, 1999). Therefore, Leadership also become a critical element that impact on knowledge sharing activities.

Organizational culture that has impact on the effectiveness of knowledge sharing is collaboration culture. Lopez, Peon & Ordas (2004) empirically identified that collaborative culture as a means to leverage knowledge through organizational learning. By increasing information sharing, a culture of cooperation helps in the development of knowledge. In fostering knowledge sharing, this form of collaboration is central.

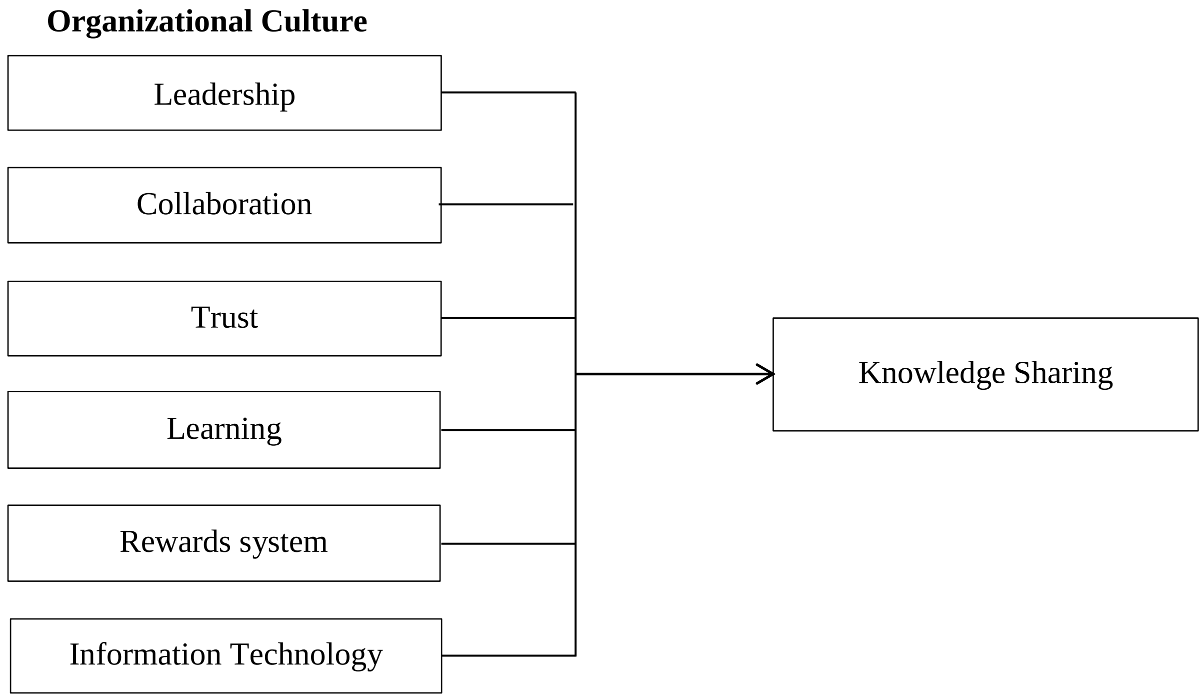
Interpersonal trust or trust between co-workers is an extremely essential attribute in organizational culture, which is believed to have a strong influence over knowledge sharing (Al-

Alawi, A. I., Al-Marzooqi, N. Y., & Mohammed, Y. F., 2007). Without trusting relationships between employees, participants would not share and transfer knowledge. An organization and a team group create a trusting relationship in order to achieve company's goals in an effective way. In organizational culture, trust between co-workers is an especially important trait that is believed to have a significant impact on the sharing of information. They are more likely to share useful knowledge when individuals trust each other. Formal and informal channels of communication are revealed by a learning culture (Al-Alawi et al., 2007). Strong learning culture of firms is linked to creation, acquisition, and sharing of knowledge (Hong, J. & Kuo, C., (1999). In essence, an organization can be said to learn when it improves its actions through better knowledge and understanding (Al-Alawi, A.I., 2005).

Rewards can be used to directly or indirectly affect individuals' behavior and performance to achieve organizational goals. Employees need a strong motivator in order to share knowledge (Al-Alawi et al., 2007). Every organization use two types of rewards as intrinsic and extrinsic rewards for their staff. Extrinsic rewards can be defined as the tangible rewards given to employees to motivate certain behavior. Rewards such as professional recognition, financial gain, and self-promotion to gain added reputation, job training and desirable work environments are effective rewards. Therefore, these motivational rewards are parts of organization culture.

Information technology is playing a bigger and increasingly significant role in the banking sectors in managing data and information before they are transformed into knowledge. Organizations use a variety of information technology (IT) platforms, such as intranets, extranets, wikis, and e-discussion systems, to provide guidance and improve know-how. However, these platforms were often built with a top-down model of information transfer; to take maximum advantage of knowledge assets, they need to exploit the more complex networks involved with knowledge sharing (Chen, S. S., Chuang, Y. W., & Chen, P. Y.,2012). The conceptual framework of the study is shown in Figure.

Figure: Conceptual Framework



Source: Adapted from Gupta & Govindarajan, (2000)

The conceptual framework illustrated that two kinds of research variables: organizational culture and knowledge sharing. This study uses leadership, collaboration, trust, learning, reward system and information technology to analyze the impact of organizational culture on knowledge sharing of selected private banks in Yangon.

Demographic Profile of Respondents

The profile of respondents was collected form 103 respondents including managers in selected private banks by using simple random sampling method with structured questionnaires. Demographic profile of respondents exhibited in Table (1).

Table (1) Demographic Profile of Respondents

1	Gender	No. of Respondents	%
	Female	37	35.92
	Male	66	64.08
	Total	103	100

2	**Age**	**No. of Respondents**	**%**
	25-35 years 35-45 years Above 45 years	36 55 12	34.95 53.40 11.65
	Total	103	100
3	**Qualification**	**No. of Respondents**	**%**
	Graduate Master	68 35	66.02 33.98
	Total	103	100
4	**Present Status**	**No. of Respondents**	**%**
	Senior Managers General Managers Branch Managers	38 43 22	36.89 41.75 21.36
	Total	103	100
5	**Department**	**No. of Respondents**	**%**
	Card Deposit IT Marketing HR	22 20 25 13 23	21.36 19.42 24.27 12.62 22.33
	Total	103	100
6	**Years in present job**	**No. of Respondents**	**%**
	1-5 years 5-10 years More than 10 years	29 41 33	28.16 39.80 32.04
	Total	103	100

Source: Survey data (2020)

Table (1) exhibits the gender composition of respondents, 64.08 % of respondents were males and 35.92% were females. The majority of respondents 53.4% were from age of 35 to 45 and minority 11.65% of total respondents was above 45 years old. The majority of respondents (66.02%) consisted of Bachelor Degree holders and minority (33.98%) comprised of Master

Degree holders. The majority of respondents (41.45%)were general managers and minority (21.36%) was branch managers. Furthermore, the majority of respondents were from IT department (24.27%) and minority (12.62%) were from marketing department. Concerning experience in jobs, the majority of respondents (39.8%) have 5 to 10 years and minority (28.16%) has 1 to 5 years.

Data Analysis

Before conducting main analysis, the descriptive statistics and reliabilities of each dependent and independent variables are presented in Table (2).

Table (2) Results of Descriptive Statistics and Reliabilities

Sr. No.	Factors	Mean	Standard Deviation	Reliability Cronbach's Alpha
1	Leadership	4.2843	0.34677	0.704
2	Collaboration	4.1495	0.34677	0.701
3	Trust	4.0757	0.44114	0.713
4	Learning	4.2039	0.48727	0.745
5	Reward System	4.1335	0.46812	0.729
6	Information Technology	4.1262	0.53954	0.863
7	Knowledge Sharing	4.0485	0.52634	0.785

Source: Survey data (2020)

According to the Table (2), Cronbach's Alpha reliability test method is used to measure the internal consistency of variables. Since the reliability coefficient (α) is above the recommended value of 0.7, the instruments can be considered sufficiently reliable. The variables used in this study were reliable, with alpha value of 0.704 for leadership, 0.701 for collaboration,0.713 for trust, 0.745 for learning, 0.729 for reward system,0.863 for information technology and 0.785 for knowledge sharing. Standard deviation shows the level of dispersion; it is found that the standard deviation of each variable is less than one; and this it can be concluded that the data set observations are closed to mean value.

Analysis on Effect of Organizational Culture on Knowledge Sharing

To determine whether critical success factors influence on knowledge sharing, multiple linear regression analysis was used**.** The effect of organizational culture on knowledge sharing is presented in Table (3).

Table (3) Effect of Organizational Culture on Knowledge Sharing

Dependent Variable: Knowledge Sharing	Unstandardized Coefficients		Standardized Coefficients	t	Sig	VIF
	B	Std. Error	Beta			
Constant	0.313	0.508		0.616	0.540	
Leadership	-0.196*	0.116	-0.129	-1.693	0.094	1.503
Collaboration	0.355***	0.100	0.287	3.556	0.001	1.685
Trust	-0.006	0.092	-0.005	-0.063	0.950	1.541
Learning	-0.080	0.100	-0.074	-0.798	0.427	2.205
Reward system	0.646***	0.119	0.575	5.439	0.000	2.892
Information Technology	0.191**	0 .091	0.196	2.105	0.038	2.251
R^2	0 .629					
R^2 (Adj.)	0.606					
F-test	27.179***					
Durbin Watson	1.524					

Source: Survey data (2020)

Statistical significance indicate*** at 1% level** at 5% level* at 10% level

Table (3) indicates the results of regression analysis of key success factors on the knowledge sharing. As indicated in the table, the value of the F- test, the overall significance of the model, is highly significant at 1% level. The adjusted R^2 value 0.606 indicates that 60.6% of variance in knowledge sharing is explained by the six key success factors and the remaining percentage 39.4 % due to other factors that are not included in this model. In addition, the coefficient of reward system and collaboration are 0.646 and 0.355 which are positive and highly significant at 1% level. The coefficient of information technology is 0.191 which is positive and significant at 5% level and the coefficient of leadership is - 0.196 which is negatively related to knowledge sharing and significant at 10% level.

Based on the table, standardized coefficient beta indicates the contribution of each variable to the study. From the results, reward system is the predictor variable that contributes the highest to the variation of dependent variable (knowledge sharing) because it is having the largest standardized coefficient beta value for this predictor value which is 0.575.

Collaboration is the second highest with 0.287 followed by information technology has 0.196 respectively.

Findings and Suggestions

This research is to explore the critical success factors as leadership, collaboration, trust, learning, reward system, information technology, and how these organization cultures can effect on knowledge sharing in selected private banks. The findings show that the most influential factor is the incentive system, the second most influential factor is collaboration, and the third most influential factor is information technology. The results of the study also show that these variables are important for the culture of promotion knowledge sharing in an organization. Moreover, the findings revealed that there was a strong and positive relationship between reward system, collaboration, information technology and the effectiveness of knowledge sharing.

The highest positive perception is reward system. Thus, banks practice the appropriate level of reward system based on their organizational setting. Because of these results, it can be conventionally inferred that the more productive the reward system, the greater the capacity of the banks to obtain knowledge-sharing activities. In addition, banks have been found to create a clear system of incentives, processes, rules and regulations that are visible, inclusive and equal to all employees. Staff should have a time to share their knowledge and knowledge sharing staff should be paid rewards. Moreover, the rewards should be encouraged the staff to have desire to share knowledge at any time. If banks make rewards for the staff, bank staff will make more knowledge sharing and can get more knowledge and become more skillful staff. In addition, banks need to provide successful incentives to reinforce knowledge sharing habits that take into account the differences in the needs and priorities of employees. In almost a century, the COVID-19 pandemic may be the foremost serious problem for financial institutions. Therefore, banks must engage personnel actively, raise their morale and improve good health practice and, where appropriate, provide them with access to medical professional during COVID-19 pandemic.

Besides, collaboration has impact on knowledge sharing. Banks usually encourage teamwork among employees between individuals and groups in order to help to facilitate knowledge sharing. Instead of a hierarchical system, teamwork plays a crucial role in having work finished. In order to simplify routine work and rebalance workloads across operating sites, banks may use IT development teams that will impact certain areas more than others in the COVID-19 pandemic. The culture of collaboration improves all knowledge sharing activities.

Likewise, information technology system has impact on knowledge sharing in selected private banks. In this study, it is discovered that every staff in the selected private banks have their own e-mail account which enable them to apply in knowledge sharing practice. IT can also assist in innovation by providing a variety of communication channels for the internal and external stakeholders. Thus, managers should consider IT not only as a support system but also as a facility to achieve improved knowledge sharing. To resolve IT infrastructure gaps relating to communication, training, security, networking, co-working, and remote working capabilities, banks need to explore technology solutions. Furthermore, banks need to collaborate with fin-tech companies to determine their digital capabilities and explore new methods to scale up in a short period. Therefore, these factors are essential for knowledge sharing activities.

In conclusion, the results showed that reward system, collaboration and information technology are considered as main critical success factors of knowledge sharing effectiveness. It is better to raise reward system depending on staff's knowledge sharing behavior. Banks can use teamwork with the aim to smooth collaboration of staff. The technology of today will help all banks' staff needs, such as connectivity, remote work, recruiting and onboarding, training, upskilling, enhancing, wellbeing, distributing resources and managing workloads. The results of the study provide the valuable knowledge to the banks to create knowledge sharing practices through its critical success factors.

Limitation and Need for Future Research

This section aims to illustrate the need for further studies and the limitations of the current analysis. First, this study focused only on the impact of organizational culture on the sharing of knowledge by selected private banks in Myanmar. The importance of these variables, covering all private banks, should therefore be examined by further studies in order to reveal the robustness of the results of the current research. Similar research may also be carried out in other industries, such as airlines, restaurants, manufacturing, the university and health industries, construction, in order to predict how organizational factors, impact the sharing of knowledge.

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A Study on the Role of Business Associations for Horticulture Industry in Southern Shan State (Case Study of Taunggyi District)

Cho Myat Nwe Tun[1] and Cho Cho Thein[2]

Abstract

Horticulture business associations play a key role in promoting safe and high-quality products and working at different levels to increase the production of small-scale producers. The study aims to identify the roles and functions of business associations in the horticulture industry by analyzing the services, achievements, and the membership's opinions on the performance of avocado, coffee, mango, and tea business associations in Taunggyi District, Southern Shan State. Based on the primary and secondary data, descriptive statistics are used. The study shows that associations' performance in providing consultancy services, technology, training, information, access to financial services, and policy advocacy has an average score of 3 out of 5. Regular membership participation in workshops, trainings, and meetings ranges between 35 and 52 percent, but only 25 percent always attend social events. Among 161 respondents, over 100 members have the most significant benefits in increasing knowledge, technology, product quality, and market prices. The business associations, government, and donors or development partners are advised to strengthen their vertical and horizontal links with other institutions, to support the market coordination activities of the associations, and to consider strengthening their capacities and enhancing their participation.

Introduction

Business association, as the middleman or the mediator, is very important in every trading and business activity and becomes as a natural requirement of common interest. A business association is defined as a membership organization that is engaged in and supportive of the promotion of the business interests of their members. Helping business owners to overcome the challenges and obstacles which are unable to address alone is the essence of a business association. Beyond benefiting member business, there is a key multiplier effect on improving the commercial, governmental, and economic institutions of a given country (Barkan, 2016).

In Myanmar, the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI) is a leading organization of the business associations and also affiliated

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by trade and services associations in Myanmar. Regarding the horticultural products, Southern Shan State largely grows avocado, coffee, mango and tea products, and number of business clusters or associations have been established. Even though there are potential of horticulture products export to Europe and neighboring countries, producing safe, high-quality products and market coordination are the big challenges for producers due to the lack of access to business development services. Generally, horticulture business associations play key role to address these big challenges by working with the stakeholders from different levels.

The study aims to identify the roles and functions of business associations in horticulture industry by analyzing their services, achievements and the memberships' opinions on the performance of avocado, coffee, mango and tea business associations in Taunggyi District, Southern Shan State. Descriptive method is used based on the primary and secondary data.

Business Associations in Myanmar

In Myanmar, there are many organizations and associations set up by the government and most are formed for non-profit purposes. There are no legal descriptions on the types of associations. Generally, the types of association/organization in Myanmar can be classified into three categories- 1) Political and Socio-Political Organization 2) Social and Socio-Economic Organization, and 3) Social, Religious and Philanthropic Organization. All types of associations might be funded by government or other sources of funding and work for either profit or non-profit purposes. Regarding the formation of associations, there are varieties of laws for registration of association to be legal entity. The two common association registration laws are the Association Registration Law (ARL) 2014 and the Myanmar Companies Law (MCL) 2017. In order to be a legal entity, business association or local/international organization shall voluntarily have registered as per two registration laws. Apart from that, other registration laws: the Political Parties Registration Law (PPRL)-2010, Cooperative Society Law (CSL)-1992, the Labour Organization Law (LOL)-2011 are enacted specifically for political parties, business co-operatives associations and labor unions. Even though association registration is not mandatory as per regulations, there are some benefits of being a legalized association especially on dispute settlement, opening official association bank account and application of tax exemptions on social works. Below table 1 describes the overview of association registration based on the type of associations.

Table 1: Quick Overview of Association Registration in Myanmar

Types of Association	MCL	ARL	PPRL	CSL	LOL
Political and Socio-Political Organization		✓	✓		✓
Social and Socio-Economic Organization	✓	✓		✓	
Social, Religious and Philanthropic Organization		✓			

Source: Own Analysis

While association registration laws are existing in Myanmar, the Unlawful Associations Act (1908) is also existence and the president has the power to declare an association unlawful.

Under the Myanmar Companies Law, 214 business associations registered as of January 2018, and apart from that 185 are the local business associations. There are about 78 business associations under the umbrella of UMFCCI, with a long tradition of representing the interests of their businesses in the respective sectors. It can be classified as three categories: 16 States & Regions Chamber of Commerce and Industry, 9 Border Trade Associations and 51 Trade and Services Associations. While UMFCCI branch offices are performing for the effective federation works in regional and states, border trade Chambers of Commerce are also supporting for the trade promotion via border areas.

Basically, the functions of trade and commerce associations are similar. As the associations are formed for interest-based, protection on the groups' interest is the typical function of business associations in Myanmar. In addition to that, the common functions of associations are facilitating collective action on information provision, memberships' capacity development, networking for market development, and advocating to government for the policy formulation. Sample activities of business associations are: involvement of Myanmar Garment Manufacture Association (MGMA) on the Labor Laws reform including Settlement of Dispute Law, Myanmar Tourism Business Law (2016) by Myanmar Hoteliers Association, providing capacity development training courses on International Transport and Logistics United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) by Myanmar International Freight Forwarders' Association, etc.

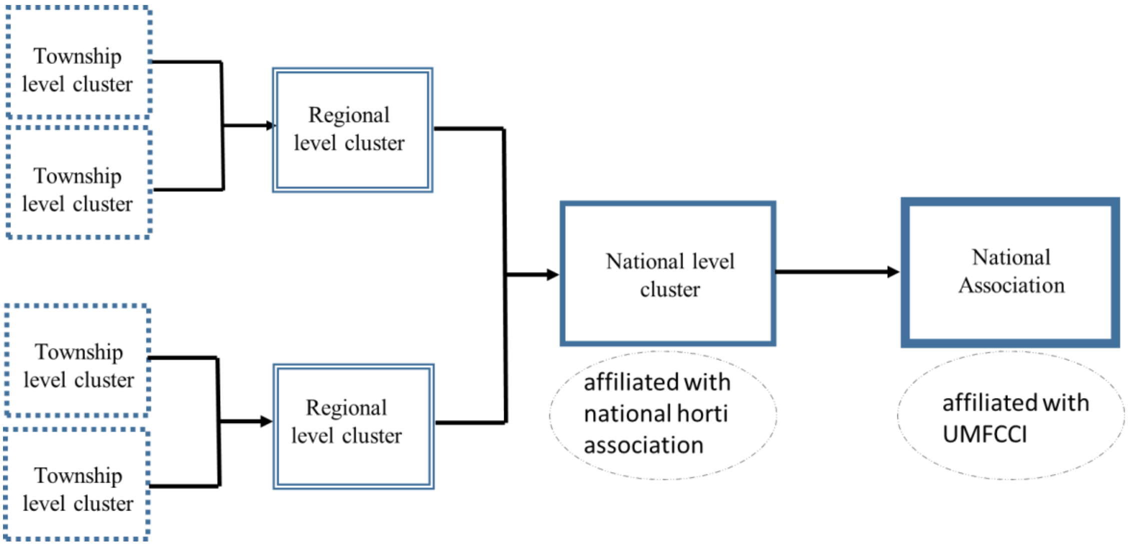
Horticulture Sector Business Associations in Myanmar

With the general objective of producing safety and quality products and improving the horticulture industries, stakeholders through horticulture value chain are established the business associations on each particular product. According to the DICA, registered nine associations are relating with the horticulture sector, however, among them, only Myanmar Fruit, Flower, Vegetable Producers' and Exporters' Association (MFVP) is affiliated with the UMFCCI. The registered business associations are established based on the specific products or specific regions, e.g., Palaung Tea Association, Lweje Fruit Association.

In general, MFVP is working for the overall horticulture sector development and also coordinating with other horticulture associations and clusters in union, states/regions and townships levels. MFVP was established in 2006 and organized to do the functions such as Intermediary between government departments/agencies and private sector, Advocacy and trade negotiation, Promotion, standards and quality development, Capacity building program for members through organizing and providing of seminar, symposium, workshop and trainings, Exhibition, fair, market (e.g. farmer market and 105 miles trade center) and other information provision, including business-matching, Overcoming logistical difficulties, Dispute settlement (mediation and arbitration), and Market research.

The establishment of horticulture related associations is obviously different with the formation of other industries' associations. The townships level product clusters were started the collective activities in the regions, then the clusters gathered and cooperated as a national level cluster under the MFVP. The linkages between sectoral clusters and MFVP are shown in below figure.

Figure 1: Linkages between Sectoral Clusters and MFVP



Source: own analysis

Southern Shan State Fruit, Flowers, Vegetables Producer's and Exporters' Association (SSSFVP) was established in 1 April 2007 and affiliated with Southern Shan State Chamber of Commerce and Industry (SSSCCI). The core objectives of SSSFVP are to improve the living conditions of producers/farmers by producing high quality horticulture products and accessing foreign and domestic markets to obtain the good market price. Avocado, mango, tea, coffee, potato, flowers, vegetables, tomato and cabbage clusters are currently established in Southern Shan State and which are affiliated with SSSFVP. Since some union level active clusters such as tea, mango, avocado, watermelon, muskmelon and pomelo are officially registering as the union level association, the relevant product clusters of Southern Shan State will also be upgraded their organizational structure to be in line with the union level soon.

Business Associations for the Avocado, Coffee, Mango and Tea

MFVP is likely the federation of the horticulture industry. Product clusters are affiliated under the MFVP and the national level clusters are upgraded to the national associations when the clusters are mature, however still closely cooperating with the MFVP. Some sample associations are recently transformed to the national level associations and the overview of sample associations are in table (2).

Avocado, Coffee, Mango and Tea Clusters/Associations in Southern Shan State

Shan State basically grows the avocado, coffee, tea and mango and which are quite popular in Myanmar. According to the data from Shan State Department of Agriculture, the average yield per acre of the studied crops in Southern Shan State is higher than the other sub-regions.

In Southern Shan State, Taunggyi, Loi Lin and Linkhae districts are consisted and among that, Taunggyi district has the largest number of cultivation land and highest yield per acre for the selected studied crops. Since Taunggyi township is the capital city of Shan State and the parliament and regional government offices are located there, the participation and movement of business associations are strong enough in the 13 townships under the Taunggyi district. Mango clusters are the most functioning among other clusters and seven township clusters are organized and established the Southern Shan State level cluster. There are seven mango clusters in Southern Shan State and located in Yat Sauk, Taunggyi, Pindaya, Hopone, Nyaung Shwe, Inn Taw and See Sine townships. Mango cluster from Yat Sauk is the leading cluster among other township and it has 240 members whereas Taunggyi has 215, Nyaung

Shwe and Hopone have 70 each, Inn Taw and Pindaya have 50 each and See Sine has only 5 active members.

Southern Shan State Avocado Cluster was recently transformed to the Shan State Avocado Producers' and Exporters' Association (SSAPEA) which is affiliated with the Myanmar Avocado Producers' and Exporters' Association (MAPEA), established in 2017 according to the Myanmar Companies Law. The MAPEA has regional associations in Shan State, Mandalay and Chin State. The Shan State Avocado Association is providing the services in the whole Southern Shan State, but could cover the few townships of Northern Shan State such as Kyauk Mae, Nyaung Cho, Kutkhine and Theini townships. Coffee is the popular product of Ywar Ngan township whereas Pindaya could produce the quality tea products. However, both tea and coffee clusters from Ywar Ngan township are the most functioning and the role model of coffee clusters as well.

Table 2: Summary of the Profile of Business Associations for the Avocado, Coffee, Mango and Tea

Description	Myanmar Avocado Producers and Exporters' Association	Myanmar Coffee Producers and Exporters' Association	Myanmar Tea Producers and Exporters' Association	Myanmar Mango Producers and Exporters' Association
Year established	2014	2014	2016	2018
Registered	1 February 2019	19 February 2016	26 June 2018	Not registered yet
Objectives	To further accelerate the process of gaining market access to China, to gain market access approval from AQSIQ	To increase income for coffee farmers and to upgrade their living quality by means of annual increase in productivity and innovation.	To contribute and support for development of Myanmar tea sector	To produce the internationally recognized mangoes for contributing to the improvement of livelihoods by mango farmers.
Number of memberships	About 400	About 350	About 300	About 250
Membership	Producers, retailers, exporters	Producer, retailers, exporters	Producer, retailers, exporters	Producer, retailers, exporters
Budget	Membership Fees	Membership Fees	Membership Fees	Membership Fees
Branch offices/ Sub-regional associations/ clusters	South-Shan, Pyin Oo Lwin, South-Chin	South-Shan, Pyin Oo Lwin, Kayin, Bago, South-Chin	Shan (North - South), Yangon, Mandalay	Yangon, Mandalay, Sagaing, South-Shan, Bago, Rakhine
International Cooperation Partner & Scope of work	Winrock International, Dana Facility • Training for production high quality products and post-harvest management, disease control • Market coordination • Staff capacity development	Winrock International • Technical supports on producing, processing marketing of high value specialty coffees	GIZ, HELVETAS Myanmar • Technical support on tea value chain development • Organizational and staff capacity development • Partnerships for sustainable tea production	GIZ • Technical support on mango value chain development • Facilitation for the market linkages • Organizational development

Domestic Partnership	Affiliated with UMFCCI, MFVP, regional/township clusters. Member of California Avocado Association and World Avocado Group	Affiliated with UMFCCI, MFVP, regional/township clusters	Affiliated with UMFCCI, MFVP, regional/township clusters	Affiliated with UMFCCI, MFVP, regional/township clusters
Services	Provide technical trainings, local and international market linkages, access to financial assistance, information resources, industry representation and advocacy, industry standards and certifications, coordination for international assistance			
Description	**Myanmar Avocado Producers and Exporters' Association**	**Myanmar Coffee Producers and Exporters' Association**	**Myanmar Tea Producers and Exporters' Association**	**Myanmar Mango Producers and Exporters' Association**
Successful activities	Myanmar Avocado 2017 & 2018, Study paper on the Myanmar Avocado verities, Avocado for Myanmar GAP, Standardization of Myanmar Avocado, Harvesting technology trainings, Market linkages for foreign and domestic markets	4th Myanmar Coffee Cupping Competition in 2018, Myanmar Specialty Coffee Show, 2016	Tea tasting event in Southern Shan State, Tea Export to Germany	Mango Festivals 2015, 2016, 2017, 2018, 2019, Mango value chain workshops

Source: Myanmar Avocado Producers and Exporters' Association, Myanmar Coffee Producers and Exporters' Association,

Myanmar Mango Producers and Exporters' Association, Myanmar Tea Producers and Exporters' Association, 2

Survey Analysis

Ywar Ngan, Pindaya, Hopong and Yat Sauk townships from Taunggyi district are selected for this study. Ywar Ngan and Pindaya townships are part of the Danu Self-administered zone. Hopone township falls into the Pa-O Self-administered zone and Yat Sauk township is under the administration of the Shan State's government.

Mango cluster from Yat Sauk is the leading cluster among other mango clusters and it has 240 members. As per the organizational development and maturity, Hopone cluster is the leading cluster of avocado products in Southern Shan State. The Ywar Ngan Coffee Cluster was established in 2012 and currently 400 producers are being membership. The Ywar Ngan Tea Cluster has about 500 members and it started established in 2015. The Pindaya tea cluster was established in 2015 and it has about 100 members. Due to the common cultivation, production of high-quality products and the well-functioning of associations, the four townships were selected for this study.

The primary data are collected from the sample 161 members of the avocado, coffee, mango and tea cluster are randomly selected for this study. Self-administered questionnaires were constructed with the mixture of open-ended and closed ended questions. There are three major parts of the questions such as the general information about the respondents, difficulties faced by business enterprises and the participation into the business associations. The memberships' opinions on the role of business associations for the horticulture sector were studied based on the key functions of associations such as business development services, advocacy and representation, social support services and association management system.

Among the sampled 161 members who are doing business for at least one product of avocado, coffee, mango or tea, 30 respondents are from the 6 villages of Hopone township, 12 respondents from 2 villages of Pindaya township, 53 respondents from 4 villages of Yat Sauk township and 48 respondents from 5 villages of Ywar Ngan township. In addition, 18 respondents from Mandalay, Taunggyi, and Yangon are also included in this study because their business are situated in the studied areas and they are also the membership of the business associations in Southern Shan State. In each township, at least two business clusters are currently operating, example: mango and coffee clusters in Yat Sauk, coffee and tea clusters in Ywar Ngan, and mango and avocado clusters in Hopone. Tea cluster from Pindaya township is well known in Southern Shan State.

Respondents are the members of at least two business clusters/associations in the survey areas. The respondents from tea sector is the highest number and it has 31 percent, whereas 25 percent from mango, 14 percent each from avocado and coffee sectors. 16 percent of total respondents are also the members of other clusters/associations such as bamboo cluster, farmer cluster, vegetables cluster, tourism association, retailer association, etc., From the respondents, the earliest enterprises of the respondents were begun in 1928, but some business was just started in 2018. The information of respondents' businesses describe by table 3.

Table 3: Business Information of Respondents

Description	Avocado	Coffee	Mango	Tea	Others
No. of Grower	63	57	65	75	72
Planation Acres	0.2 - 50	0.5 - 1.5	5 - 20	1 - 6	1 - 30
No. of employees needed	2 - 1500	5 - 72	1 - 1500	2-172	-
Type of Business					
No. of people do production	63	57	65	75	72
No. of people do processing	3	30	-	3	3
No. of people do trading	6	-	-	9	6
No. of people do retail/ wholesale	6	3	-	12	9
Market					
No. of people sell 100% production to domestic market	36	-	24	21	72
No. of people sell 100% production to foreign market	3	-	-	-	-
No. of people sell to both domestic and foreign market	24	57	41	54	-
% of export sales in 2018	1 - 50	1-80	30-80	1-4.6	-

Source: Survey Data, May 2019

Difficulties Faced by Enterprises

The common objective of the business associations is to create an enabling business environment and to reduce the difficulties with their collective action. Some challenge situations of the enterprises are also included in this study and respondents selected the three common challenges of business enterprises. Table 4 describes the difficult situations currently faced by enterprises.

According to the data, the three common challenges faced by enterprises are relating with the access to market, access to capital and access to technology. The rate of respondents on these three challenges is significant comparing with the other issues.

Table 4: Difficulties of Enterprises for the Business Development

Difficulties of Enterprises for the Business Development	No. of Respondents (n=161)
Cannot find markets, too much competition, poor marketing ability	134
Cannot find suitable employees or labor	26
Difficult accessing raw materials and inputs	24
Difficulty in accessing appropriate technology and machinery	81
Lack of capital/ access to capital	129
Lack of information	12
Lack of land, office space, factory space	27
Policies, procedures are difficult and complicated	35

Source: Survey Data, May 2019

In order to analyze deeply on the challenges of enterprises, experience of respondents on the five issues were focused in the survey. The rate of respondents' experience on the specific five issues is shown in table 5.

Table 5: Experience of Respondents on the Five Business Development Issues

Five Business Development Issues	No. of respondents (n=161)	
	Yes	No
Does enterprise have difficulty in accessing information?	108	53
Does the enterprise have difficulty in accessing and developing markets?	150	11
Has the enterprise had any difficulty accessing credit?	128	33
Does the enterprise have any difficulty accessing suitable training services?	108	53
Does the enterprise have any difficulty accessing suitable consulting services?	125	36

Source: Survey Data, May 2019

After analyzing the respondents' experience and the common issues of business environment, the finding is that the difficulty on accessing and developing markets is the most challenging situation for the business enterprises. Since these common issues are too general, specific difficulties for each issue are being analyzed in table 6.

The respondents selected maximum three difficulties on each common issues and highest numbers for each issue are highlighted in table 6. The finding is that enterprises do not have knowledge about the financial institution especially with the bank for accessing the loan and access to information, consulting service, training for new technology is necessary for them. Information, consulting and training services on marketing and systematic business management are being lacked by the enterprises as well

Table 6: Specific Difficulties of Five Common Business Development Issues

<table>
<tr><th colspan="3">Does the enterprise have difficulty in accessing and developing markets?</th></tr>
<tr><td>Looking for information and forecast on export markets</td><td>26%</td><td rowspan="3">61%</td></tr>
<tr><td>Marketing and advertising</td><td>19%</td></tr>
<tr><td>Conducting market surveys</td><td>16%</td></tr>
<tr><td>Acquiring sub-contract from large enterprises/ contractors</td><td>14%</td><td rowspan="3">39%</td></tr>
<tr><td>Participating in domestic and abroad fairs, exhibitions</td><td>13%</td></tr>
<tr><td>Participating in workshop, accessing customers and partners</td><td>12%</td></tr>
<tr><th colspan="3">Does the enterprise have any difficulty in accessing credit?</th></tr>
<tr><td>Finding a source of equipment lease finance</td><td>21%</td><td rowspan="4">80%</td></tr>
<tr><td>Finding a credit guarantee</td><td>21%</td></tr>
<tr><td>Finding to access the source of credit</td><td>19%</td></tr>
<tr><td>Creating a suitable business/investment plan to access capital/loans</td><td>19%</td></tr>
<tr><td>Negotiating a loan with banks</td><td>11%</td><td rowspan="2">20%</td></tr>
<tr><td>Lack of knowledge on loan application procedure</td><td>9%</td></tr>
<tr><th colspan="3">Does the enterprise have any difficulty in accessing suitable consulting services?</th></tr>
<tr><td>Marketing</td><td>23%</td><td rowspan="3">63%</td></tr>
<tr><td>Business/investment planning</td><td>22%</td></tr>
<tr><td>Technology</td><td>18%</td></tr>
<tr><td>Quality management (ISO 9000)</td><td>14%</td><td rowspan="3">37%</td></tr>
<tr><td>Legal advice</td><td>13%</td></tr>
<tr><td>Patents and trademarks</td><td>10%</td></tr>
<tr><th colspan="3">Does the enterprise have difficulty in accessing information?</th></tr>
<tr><td>Information on sources of capital and financial services</td><td>26%</td><td></td></tr>
</table>

Information on markets, prices, suppliers, customers	25%	71%
Information on technology and machinery	20%	
Information on policies and legal issues	15%	29%
Experience of other companies/best practices	11%	
Industry-specific information	3%	
Does the enterprise have any difficulty in accessing suitable training services?		
Quality management	23%	67%
Application of new technology	22%	
Sales and marketing skills	22%	
Vocational training for employees	19%	33%
Accounting and financial management	14%	

Source: Survey Data, May 2019.

Participation of Membership in Business Associations

In the survey areas, one farmer usually grows more than one crop and respective product clusters are also established in village level. The frequency of respondents' registration at the associations by number and year are shown in table 7.

Table 7: Frequency of Respondents' Registration at the Associations

Number of Associations Registered by Respondents (n=161)	
No. of Associations	**No. of Respondents**
One Association	83
Two Association	48
Three Association	24
Four Association	3
Five Association	3
Year of Respondents' Registration at the Associations	
Years of Registration	**No. of Respondents**
2005-2006	6
2010-2014	68
2015-2018	204

Source: Survey Data, May 2019

The survey found that clusters/associations are becoming popular among farmers in 2000s. Even though maximum number of registrations for one person at the associations is five, most of the people are being registered up to two associations.

Among respondents, one-third (54 people) have been taken the leadership or management role at their clusters or associations. The position of respondents at their associations are quite mixture. Some people are chairmen, and some are secretaries. Some are taking as treasuries position while some are sales managers, factory managers, quality controllers and group leaders of the village. The below table 8 explains the frequency of membership participation on the associations' movements.

Table 8: Frequency of Membership Participation in the Associations' Movements

Participation of Membership	n=161				
	Always	Frequ ently	Some time	Rarely	Never
Do you attend the regular meetings of associations?	52	32	16	-	-
Do you attend the training courses providing by associations?	50	26	20	4	-
Do you attend the workshops/ special meetings of associations?	35	26	35	2	2
Do you participate in social events/ humanitarian efforts organized by associations?	25	24	38	9	4

Source: Survey Data, May 2019

The findings of the study are that the participation of the membership at the association is quite good especially in attending the regular meetings and training courses provided by the associations. According to the nature of organization and limitation of seat, the rate membership's participation on the workshops/special meetings is low. Moreover, members seem less interest on the social events of the association.

The members' decision on joining to the association is depending on how well the performance of associations and what they expect to obtain from the associations. The survey also studied the memberships' expectations on joining to the associations, the table below illustrates the main reason of joining to the associations.

Table 9: Reasons of Memberships on Joining to the Associations

Reasons for Joining to the Association	Percentage of Respondents
Want assistance with information, training, consulting, etc...	23
Want to network, expand network of business partners	22
Want to participate in social events/ humanitarian efforts	10
Want to expand market by collective selling	10
Want to have rights/ interests protected	10
Want to assist other companies in association	9
Want to be able to contribute opinions to policy/ legal dialogue	7
Participation will increase company's prestige/ image	7

Source: Survey Data, May 2019

The survey found that the main reasons of membership on joining to the associations are due to the business development services provided by associations such as information, training, consulting services, business networking and market expansion.

Performance of Associations on the Business Development Services

Providing business development services is the key function of the business associations and it includes the information provision, market coordination, capacity development, consultation and networking. Opinions of memberships on the business development services of associations are shown in table 10.

The study found that business development services of associations are quite well because average response mean score rate of each service has 3 and above from out of 5 score. However, market coordination activities of association such as accessing export markets, networking opportunities for domestic markets are the weak services of associations because it only has (2.5) and (2.4) mean score.

Table 10: Opinions of Memberships on the Business Development Services of Associations

Provision of Information and Technology	n=161						
	Don't know	Not at all	Not too bad	Good	Very Good	Excellent	Mean Score
	0	1	2	3	4	5	
Provide information on policies and legal issues	15	30	24	47	18	27	2.6
Provide information on markets and prices	6	-	42	56	27	30	3.2
Provide information on technology	3	-	9	45	66	38	3.8
Provide short-term training courses	-	3	9	27	54	68	4.1
Provide consulting/ technical assistance services to members	3	21	6	48	41	42	3.4
Market Coordination and Capital support							
Provide assistance in accessing export markets	3	57	24	27	35	15	2.5
Provide networking opportunities for domestic markets	6	57	15	42	29	12	2.4
Provide assistance in accessing capital/ loans	12	33	6	42	32	36	3.0
Provide assistance in accessing land/ factory space	18	33	18	30	41	21	2.7

Source: Survey data, May 2019

<u>Performance of Associations on the Advocacy and Representation</u>

Members also consider the services of associations on advocating with government on policy, legal issues, and representation of the associations for the specific industry. Total 24 percent (10%, 7%, 7%) of the respondents expected to have rights or interest protection from the association, want to have ability to contribute opinions to policy and legal dialogue and to increase their companies' prestige or image. As per survey analysis, the memberships' opinions on the advocacy and interest representation of the association are shown in table 11.

The study found that the associations are also performing very well on policy advocacy and interest representation, and members are also satisfied since each service has 3 mean score in average from out of 5.

Table 11: Opinions of Memberships on the Advocacy and Representation

Advocacy and Representation	n=161						Mean Score
	Don't know	Not at all	Not too bad	Good	Very Good	Excel lent	
	0	1	2	3	4	5	
Represent and protect the interests of members	9	12	24	53	18	45	3.2
Make policy/ legal recommendation on behalf of members	9	39	27	33	41	12	2.6
Develop relationship/ access funding from international organizations	9	6	18	60	44	24	3.2

Source: Survey Data, May 2019

Performance of Associations on the Social Support Services and Association Management System

Similar with the other types of associations, the business associations also perform some social related activities. According to the culture and traditions, business associations in Shan State involve many traditional events. However, the reason of registering at a business association for 10 percent of the respondents is to participate in social events or humanitarian efforts organized by the associations. The table 12 is the response of memberships on the social support services of the associations.

Table 12: Opinions of Memberships on the Social Support Services of Associations

Social Support	n=161						Mean Score
	Don't know	Not at all	Not too bad	Go od	Very Good	Exce llent	
	0	1	2	3	4	5	
Social support to members	18	18	30	42	32	21	2.7
Social assistance for local community	9	27	24	51	41	9	2.7

Source: Survey Data, May 2019

Associations allocate some amount of funding for the social support activities. The funding comes from the membership fees and some profit income from collective selling of the associations. In order to share the benefits of associations to the local communities, they also provide some social supports to the non-membership. Members are very pleased on the social support activities of the associations because it has (2.7) mean score each from out of 5.

The systematic management system leads to be a successful association. In the survey areas, the associations are formed as voluntary basis and the leaders are spending their time as a volunteer. Each association has full organizational management structure and they tried to document everything. With the technical support of international organizations, the associations could develop the complete set of documentations such as organizational structure, vision, mission, future activities plan, financial management, etc.,. The association management system was also studied in this survey and table 13 is the memberships' response on the associations' management system.

Table 13: Opinions of Memberships on the Association Management System

Association Management	n=161						Mean Score
	Don't know	Not at all	Not too bad	Good	Very Good	Excellent	
	0	1	2	3	4	5	
Provide networking opportunities between members	9	6	18	66	50	12	3.1
Assist in conflict mediation between members	21	12	9	69	41	9	2.8
Setting association's plan for future sustainability	9	-	18	75	47	12	3.2
Documentations of data, statistics and financial management	6	6	18	69	50	12	3.2

Source: Survey Data, May 2019

Since the average mean score has above (3) from out of (5), the survey found that the associations' management system is also satisfied by members. During the observation visit, the associations management teams show the relevant organizational, financial and other activities documents. It is proven that they could able to manage the whole system even though it is a bit burden for the voluntary services. Relationship between members and associations' management team is also studied and the table-14 shows how members communicated closely with the associations.

As per table 14, the information provision of associations about the business-related information is quite good. However, there are some weaknesses on the regular information dissemination system such as distribution of newspapers or magazines in regular basis as shown in table 14.

The survey found that the relationship between members and associations are good because members could provide their recommendations to the associations and they could also ask specific supports from the associations. However, associations should provide more networking opportunities among members and develop the communication channels for regular information dissemination.

Table 14: Relationship of Associations with their Memberships

Relationship with the Associations	**No. of Respondents (n=161)**	
	No	**Yes**
Have you ever cooperated in business with another member of an association of which you are member?	84	77
Do you ever receive a periodical bulletin/magazine/ newspaper from associations?	79	82
Have you ever asked for specific assistance from an association?	67	94
Have you ever made a recommendation to an association to improve its activities?	37	124

Source: Survey Data, May 2019

Benefits for Being a Membership of Associations

After analyzing the services of associations, benefits of membership were also studied in this survey. All respondents answered that they have somehow benefits after registering at the associations. Table 15 describes the benefits of members after registering at the associations.

Table 15: Benefits of Membership after Registering at the Associations

Benefits	No. of Respondents (n=161)
Increase knowledge on technology	158
Increase the product quality	140
Getting market prices	131
Increase local market	36
Learning the international experience	27
Access to social support	27
Larger business networking	24
Access to foreign market	18
Participate in social, religious movement	18
Increase awareness on policy and legal	9

Source: Survey Data, May 2019

The finding is that benefits of members on the business development related are very significant. Apart from memberships' opinions on each function of association, overall satisfaction of the memberships on the associations' performance are also studied. According to the respondents, services of associations are neither excellent nor the worst because nobody rated on excellent "5" and not at all "1". 78 percent of the members' satisfaction is beyond the medium and the services are very good for them. Apart from that 13 percent of people assumed that the services are also good or medium whereas 9 percent of the people have very few satisfactions on the services. Since significant numbers of people are satisfied very much on the services of the associations, it can conclude that the current services of associations are already good for the members. However, the associations should improve more on their services until reaching to the scores 5 (excellent services).

Findings

According to the data analysis, the functions of business associations can be classified into three main categories such as 1) providing business development services, 2) advocacy and interest representation, and 3) the social supports and other activities. Clusters/associations in Southern Shan State are being popular in 2000s and the membership rate is significantly increasing since 2010. Even though maximum number of registrations by members is five, most of the people are being registered at one association. There is good participation of membership in the association because nearly 50 percent of members always attend the regular meetings, trainings, workshops and involve in the social movements. However, only 25 percent of members always participate at the social events organized by the associations and they have less interest on that. The three common challenges faced by enterprises are relating with the access to market, access to capital and access to technology since the rate of respondents on these three challenges are significant than the other issues. Based on the analysis of respondents' experience and the common issues of business environment, the difficulty on accessing and developing markets is the most challenging situation for the business enterprises.

The services of associations are really matched with the needs of enterprises and their performances are also satisfied by the members. 64 percent of the respondents answered that obtaining the business development services from the associations is the main reason of being a membership. The performance of associations on the business development services are quite good because average response mean score rate of each service has 3 and above from out of 5 score. Most of the members over satisfied especially on the provision of technology such as trainings, consulting services, technical assistance and information provision on policies, legal issues, markets, prices and technology. However, the market coordination of the associations did not reach the average satisfaction level of members even though the capital supports of associations are performing very well e.g. constructing mango packaging house, tea factories and SME loans from the private banks. Accessing export markets, networking opportunities for domestic markets are the weak services of associations because it only has (2.5) and (2.4) mean score.

Only 24 percent of the respondents expected to have rights or interest protection from the association, having ability to contribute opinions to policy and legal dialogue when they considered to register at the associations. However, the associations could make the policy and legal recommendations on behalf of members and protect the memberships' interests as well. In addition to that, association could build the strong relationship with the international organizations or donors for accessing the funding. The performance of associations on the interest representation and policy advocacy are very well. The mean score on the performances has (3) score in average.

Even though, 10 percent of the respondents intended to participate in social events or humanitarian efforts organized by the associations, most of the members answered as "good" for the social supports of associations such as financial supports to members and non-members for funeral, health care, children's education and organize the religious events in the local areas. Each social support services have (2.7) mean score. The systematic management leads to be a successful association; therefore, the management system of associations was also studied in this survey. There is a good performance of associations on providing the networking opportunities (3.1 mean score) and conflict mediation between members (2.8 mean score), setting plan for future sustainability (3.1 mean score), and the documentations (3.1 mean score). The associations' management team able to manage the whole organization system even though it is a bit burden for the voluntary services.

The most significant benefits of membership are increasing knowledge and technology, increasing the product's quality and the getting market prices. The social supports services were weak, and the lowest number of respondents has benefits on increasing awareness of policy and legal. Moreover, members benefited on accessing to the local market rather than to the foreign market. Among respondents, 78 percent rated as very good on the overall performance of associations, but associations should improve more on their services until reaching to the scores 5 (excellent services).

Suggestions

According to the findings of study, the suggestions for improving the role of business associations in the horticulture industry of Southern Shan State are going to the three stakeholders: Business Associations, Government and the Donors or Development Partners.

<u>Business Associations</u>

In Southern Shan State, most of the business associations are functioning at the township level and there are still lack of connection with the regional level and union level. Ideally, SSSFVP was established as a federation of the horticulture associations in Southern Shan State. However, the association does not have enough capacities to support the affiliated horticulture associations and mostly relied on the MFVP especially on the donor coordination, technical assistance and market coordination. Therefore, systematic re-establishment of the regional association is strongly recommended, and the following implementations are needed for improving the role of business associations in the horticulture industry in Southern Shan State.

- Upgrading the association management system by transforming from voluntary performance to appointing the full-time administrative staff, so that data, statistics, documentation and financial management will be more systematic.
- Getting more linkages with the regional and union level horticulture associations so that collective actions and bargaining power will be more effective.

- Obtaining the involvement of Government on the associations' activities such as negotiation with the international market, protection of the memberships' interest, accessing the loans and accessing with the international development assistance.
- Strengthening the capacities of the management team with regards to the dealing with international donors for the sustainability of the development cooperation.
- Maintaining the success of current training programs, communication with the members
- Enhancing the information dissemination system as a regular basis such as publications, newsletters, etc.,

Government

The coverage of agriculture extension supports from the Government especially from the Department of Agriculture is still limited because of the lack of technical staff, budget and other limitations. During the survey, members complained on the insufficient supports of the Government and in some cases, the regulations and procedures created inconvenience situations for the associations. Since there are good relationship between the regional Government and the associations, Government should maintain this situation by organizing the public-private dialogues and finding out the possible solutions on the challenges of the horticulture industry together with the business associations. The strong involvement and supports of Government for the market coordination activities of associations are also suggested especially on the border trade to China and Thailand. In addition, Government should coordinate and use the best strengths of the union and regional business associations for accessing more international market and accessing more international supports on the Southern Shan State.

Donors or Development Partners

According to the report of the Department of Planning in 2018, 69 INGOs are implementing in Shan State and 20 INGOs are based in Southern Shan. Since agriculture is the top potential of the Shan State, many INGOs are supporting for the agriculture sector development. The development of the business associations for Avocado, Coffee, Mango and Tea are somehow related with the supports of INGOs such as Winrock International, German Cooperation (GIZ), Dana Facility, etc., The sustainable approach on the implementations of the INGOs are important so that associations and communities can carry forward the best practices in the future independently. Supports for capacity development and organizational development are necessary to include for every cooperation and use the Do No Harm approach among ethnics. In addition, the selection of the implementation areas and cooperation agreement should be made not only with union level, but also with the regional level and business associations.

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Patterns and Determinants of Household Cooking Fuel Choice in Myanmar

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Abstract

Access to modern energy resources plays a crucial role in improving the lives of many people in developing countries. In Myanmar, most rural and poor urban households depend on solid fuels to meet their cooking needs, and the adverse effects of solid fuels on health and environmental sustainability have been found. This study investigated the determinants of household cooking fuel choice in Myanmar. The Myanmar Demographic and Health Survey (MDHS) data on household cooking fuel are used and presented as descriptive and inferential statistics. Pearson Chi-square test and a binary logistic regression model are applied. The findings of the study show that 59% of households have access to electricity, whereas 79% of households rely on biomass for cooking (coal/lignite, charcoal, and wood). Results from binary logistic regression analysis showed that age, sex, and education of household heads, household size, access to electricity, wealth quintiles, states and regions, and residence are determinants of household cooking fuel used in Myanmar. These results are essential for indoor air pollution, human health problems, and environmental sustainability. Furthermore, the government should implement strategies to reduce household air pollution.

Keywords: Household cooking fuel choice, indoor air pollution, clean fuel, and environmental sustainability

1. Introduction

Energy supply is needed for human survival and is an important part of environmental sustainability. Access to reasonable and effective energy has become a challenge for most households with low and middle-income in developing countries (Kimemia and Annegarn, 2012). This is a cause for concern among international organizations in the areas of human health and environmental sustainability.

Globally, about 3 billion people need biofuels to meet their basic energy requirements and be dependent on solid fuels such as coal and animal waste (Reddy et al., 1996). In developing countries, including Myanmar, more than 90% of the population depends on biofuels for

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cooking, and the burning of household fuels in inefficient cooking stoves is a major source of indoor air pollution (WHO, 2014). These fuels are burned in inefficient furnaces that emit toxic gases and incomplete combustion products.

Pope et al. (2002) found that an increase in morbidity and mortality has been related to the continuing use of solid fuels. Increased carbon dioxide and methane in the atmosphere are caused by the growth of the combustion of fossil fuels and the indiscriminate destruction of forests, which results in reduced carbon dioxide emissions. Biofuels are the largest source of gas in the atmosphere worldwide (Bond et al., 2004).

Carbon monoxide causes death or illness in humans and animals. Akpalu, et al. (2011) found that in rural households of developing countries, cooking with biofuels in furnaces or coal fuel stoves can have a devastating effect on human health, especially in children. Miah et al. (2010) stated that there have been high air pollution levels from cooking with traditional fuels, which are severely high. Additional kinds of health risks can be posed by charcoal fuel, which has negative impacts on the forest. One study found that breathing noxious gases and carbon monoxide poisoning caused negative health impacts (Akpalu et al., 2011; Zulu and Richardson, 2013).

The World Health Organization estimates that 4.3 million people die annually due to indoor air pollution (WHO, 2014). Indoor air pollution can lead to severe and chronic respiratory diseases, and it is associated with many health effects (Gordon et al., 2014). The number one killer of children under the age of five is considered an acute respiratory infection (Naeher, et al., 2007; Titcombe et al., 2011). Due to indoor air pollution, over 3.8 million people suffering from cardiovascular diseases, chronic obstructive pulmonary disease, heart diseases, strokes, and cancer die every year in the world (GIZ, 2013).

Globally, about 1.4 billion people do not have access to electricity (GEA, 2012). According to the 2014 Myanmar Population and Housing Census, less than 40% of households have access to grid electricity, and only urban areas have access to electricity for cooking. The maps of cooking fuel used by township based on the 2014 census results are shown in Figure 1. It can be seen that firewood is the main fuel for cooking in almost all rural areas of Myanmar. The use of charcoal is many times less than that of firewood. According to the 2014 Population and Housing Census, the amount of kerosene or other liquid fuels used for cooking was less than 2%.

Makonese et al. (2011) stated that the amount of free basic electricity provided to poor households was insufficient to cover basic necessities and improve quality of life. The government implemented the free basic electricity policy after realizing that, due to a variety of socio-economic variables, increasing electrification would not immediately result in meaningful levels of power use by impoverished households (Mapako and Prasad, 2004).

Heltberg (2003) stated that urban areas are better prospects for modern fuels to combat indoor air pollution than rural areas. The author found that income levels of households, level of education, and place of residence play an important role in household fuel choices in countries. Ekholm et al. (2010) studied whether geographical location, wealth, and household preferences vary in household cooking fuel choices.

A number of studies on household cooking fuel choice and its determinants in developing and less developed countries were reviewed in the study. Based on the literature review, this study was conducted to analyze the patterns of household cooking fuel choice and its determinants in Myanmar. Consequently, Myanmar Demographic and Health Survey (MDHS) data is employed to analyze household cooking fuel choice in Myanmar.

The following research questions are formulated to meet the main aim of the study. These research questions for this study are shown below.

- What is the distribution of household cooking fuel choice and access to electricity in Myanmar?
- Is there any statistically significant relationship between socioeconomic and demographic characteristics and household cooking fuel choice in Myanmar?
- What factors influence household cooking fuel choice in Myanmar?

2. Objectives of the Study

Regarding these research questions, the objectives of the study are:

- To describe the patterns of household cooking fuel choice in Myanmar,
- To investigate the association between socioeconomic and demographic characteristics and household cooking fuel choice in Myanmar and
- To explore the influencing factors of cooking fuel choice among households in Myanmar.

3. Data and Methods

The Myanmar Demographic and Health Survey (MDHS) data was used in the study. A Chi-square test and a binary logistic regression model are applied. This study considered 12,500 households and focused on the types of household cooking fuel choices. The 83 households are excluded from the analysis because there is no cooking in these households. Therefore, only 12417 households are included in the study.

In this study, the household cooking fuel types are grouped into two categories: "clean fuels," including electricity, liquid petroleum gas (LPG), natural gas, and biogas; and "polluting fuels," including coal, lignite, charcoal, wood, straw, shrubs, grass, agricultural crops, animal dung, and other. This study mainly emphasized household energy use in Myanmar as well as socioeconomic and demographic characteristics that include age, sex, marital status, and education of household heads; household size; access to electricity; wealth quintiles; states/regions; and place of residence. The description and categorization of dependent and independent variables are shown in Appendix Table 1.

4. Results

Descriptive Statistics

The types of cooking fuel choices and socioeconomic and demographic characteristics of the sample households are described in Appendix Table 2. According to the types of cooking fuel choice, firewood is the most commonly used (61.9%), followed by electricity (20.17%), and charcoal (15.17%). About 1% of households used agricultural crops and less than 1% of households used liquefied petroleum gas (LPG), natural gas, biogas, coal, straw, shrubs, grass, and animal dung. It can be seen that 79.05% of households rely on polluting fuels to meet their basic energy needs and only 20.95% of households use clean fuels. It is found that polluting fuels like firewood and charcoal are the most commonly used in Myanmar households for cooking and heating.

Regarding socioeconomic and demographic characteristics, most of the household heads are 60 years of age or older. As regards the sex of household heads, 77.08% are male and 22.92% are female. 4.17% of household heads are single and 95.78% are married. Regarding the education level of household heads, 41.07% of household heads attained primary level of school, followed by middle level of school (27.4%), higher level of school (4.86%) and no education (26.66%).

Concerning household size, 56.43% of households have 1–4 members, and 43.57% have 5 or more members. Only 59.18% of households have access to electricity, while 40.82% have no access to electricity. Concerning wealth quintiles, 20.81%, 21.01%, 20.24%, 19.67%, and 18.27% of households have the poorest, poorer, middle, richer, and richest wealth quintiles, respectively. Most household heads live in the Yangon Region, Sagaing Region, Bago Region, Magway Region, Ayeyarwaddy Region, and Mandalay Region, respectively. 72.93% of household heads live in rural areas and 27.07% in urban areas.

Regarding the most common use of household clean fuels, 23.44% of household heads are female, 32.63% of household heads are single, and 72.29% of household heads have achieved a higher level of education. In addition, having a smaller family size (22.78%), access to electricity (35.15%), possessing the richest wealth quintile in households (70.43%) and residing in urban areas (52.1%), Yangon Region (56.35%), Nay Pyi Taw (35.58%) and Mandalay Region (33.6%) are used as clean fuel.

Bivariate Statistics

The relationship between socioeconomic and demographic characteristics and household cooking fuel choice is analyzed using the Chi-square test. The results of Chi-square test are shown in Appendix Table 3. It is found that socioeconomic and demographic characteristics, which include age, sex, marital status, and education of household heads, household size, access to electricity, wealth quintiles, states/regions, and residence, are significantly related to the household cooking fuel choice at the 0.01 level.

Multivariate Statistics

A binary logistic regression analysis is performed to explore the influencing factors of the household cooking fuel choice. According to the model evaluation criteria (Pseudo R^2=0.5132), 51.32% of the variation in household cooking fuel choice can be explained by socioeconomic and demographic characteristics. LR Chi–square test of model coefficients shows that the addition of the independent variables improved the predictive power of the model. Regarding the LR Chi–square test of model coefficients, it has been found that the model is significant (Chi–square=6540.47, df=30, p–value=0.000 < 0.01). The Hosmer and Lemeshow statistics show that there is no evidence of a lack of fit in the model (Chi–square =5.11, df = 8, p–value = 0.745 > 0.01).

The results of the binary logistic regression model are shown in Appendix Table 4. It can be seen that age, sex, and education of household heads, household size, access to electricity, wealth quintile, states/regions, and place of residence are the influencing factors of household cooking fuel choice.

Concerning the sex of household heads, female-headed households are about 1.17 times more likely to use clean fuel compared with male-headed households. Regarding education, household heads who have attained primary, secondary, and higher levels of education are about 1.27, 1.48, and 2.52 times more likely to use clean fuels compared with those who have attained no education. Households with access to electricity are about 58.84 times more likely to use clean fuels compared with households without access to electricity. Household heads from poorer, middle, richer, and richest households are about 6.14, 19.89, 63.33, and 223.25 times more likely to use clean fuels compared with household heads from the poorest households.

Conversely, household heads' age groups of 30–39 years, 40–49 years, 50–59 years, and 60 years and above are about 0.37, 0.54, 0.56, and 0.58 times less likely to use clean fuels compared to those age groups below 30 years. As regards household size, those with 5 or more members who live in a household are about 0.29 times less likely to use clean fuels compared with those with 1–4 members. Household heads from Kachin, Kayah, Kayin, Chin, Sagaing, Taninthayi, Bago, Magway, Mon, Rakhine, Shan, and Ayeyarwaddy are about 0.87, 0.54, 0.7, 0.86, 0.32, 0.92, 0.61, 0.31, 0.54, 0.86, 0.66, and 0.74 times less likely to use clean fuels compared with household heads from Yangon. Household heads from rural areas are about 0.41 times less likely to use clean fuels compared with household heads from urban areas.

5. Conclusion

This study focused on the pattern of household cooking fuel choice and its determinants in Myanmar. The study is observed that most households in the states and regions use firewood as cooking fuel. The majority of households in Myanmar, both urban and rural areas, continue to rely on polluting fuels (such as solid fuels, firewood, kerosene, etc.). In rural areas, firewood is mostly used because there is no alternative fuel or electricity. It is found that the age, sex, marital status, and education level of household heads, household size, access to electricity, wealth quintile, states/regions, and place of residence are related to household cooking fuel choice in Myanmar.

In addition, the household heads' age, sex, education, household size, access to electricity, wealth quintile, states/regions, and place of residence are the major determinants of household cooking fuel choice. It is found that female-headed households, achieving higher education, accessing electricity, and rich households are more likely to use clean cooking fuels. With the addition of older household heads, people residing in rural areas and larger family sizes are less likely to use clean cooking fuels.

Myanmar's rural and low-income urban areas need to be the focus of health-awareness campaigns about the dangers of household air pollution. Therefore, the local officer should notice health problems associated with indoor air pollution to residents in rural and sub-urban areas. Changes in energy technologies, such as switching to cleaner fuels (LPG/natural gas, biogas, and electricity) are the main focus of interventions relating to the household air population. However, clean fuels are an unaffordable option for many poor families in Myanmar. The government should implement a new policy to promote clean fuels used and should provide access to electricity in rural areas of Myanmar.

6. Discussion

The study aims to observe the relationship between socioeconomic and demographic characteristics and the household cooking fuel used in Myanmar. The results of this study show that the age of the household head is significantly related to household cooking fuel used. The younger age of a household head is more likely to use clean fuels (electricity and LPG) than the older age of a household head. Therefore, the younger the household head is, the cook has a greater willingness to accept modern technologies. The results of this study are consistent with the findings of Lewis and Pattananyak (2012) and Pope et al. (2018).

The household's wealth quintile is the most important predictor of household cooking fuel used. Rich households are more likely to use clean fuels (electricity and LPG) than poor households. Therefore, the results of this study are consistent with the findings of Makonese et al. (2017) and Pope et al. (2018).

The availability of electricity influences the type of household cooking fuel used. Access to electricity in a household increases clean fuel use (electricity and LPG) compared to a household without electricity. The findings of the study are consistent with the results of Makonese et al. (2017).

Place of residence is a significant factor in the amount of household cooking fuel used. It can be seen that rural people are less likely to use clean fuels (electricity and LPG) compared to urban people. The findings of the study are consistent with the results of Makonese et al. (2017).

The household head's education level is the most influencing factor on the amount of household cooking fuel used. The results show that household heads who have achieved primary, secondary, and higher levels of education are more likely to use clean fuels than those with no education. Therefore, achieving a better education for household heads increases the chances of choosing clean fuels (electricity and LPG). The findings of the study are consistent with the results of Mekonnen and Köhlin (2008), Makonese et al. (2017) and Pope et al. (2018). Education is an essential way to address the growing problems of the human environment. Having a better education will become understanding of the benefits of clean fuels and the drawbacks of biofuels. Awareness campaigns and public education can play an important role in reducing the amount of polluted cooking fuel used.

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Appendix

Appendix Table (1) Description and Classification for Dependent and Independent Variables

Dependent variable	Independent variables	
Y= Types of cooking fuel = 1 if clean fuels = 0 if polluting fuels	X_1= Age = 1 if below 30 years = 2 if 30–39 years = 3 if 40–49 years = 4 if 50–59 years = 5 if 60 years and above X_2= Sex = 1 if male = 2 if female X_3= Marital status = 1 if single = 2 if married X_4= Education = 1 if no education = 2 if primary = 3 if secondary = 4 if higher X_5 = Household size = 1 if 1–4 = 2 if 5 and above X_6=Access to electricity = 1 if no = 2 if yes	X_7 = Wealth quintile = 1 if poorest = 2 if poorer = 3 if middle = 4 if richer = 5 if richest X_8 = Residence = 1 if urban = 2 if rural X_9= States/Regions = 1 if Yangon = 2 if Kachin = 3 if Kayah = 4 if Kayin = 5 if Chin = 6 if Sagaing = 7 if Taninthayi = 8 if Bago = 9 if Magway = 10 if Mandalay = 11 if Mon = 12 if Rakhine = 13 if Shan = 14 if Ayeyarwaddy = 15 if Nay Pyi Taw

Appendix Table (2) Percent Distribution of Household Cooking Fuel Choice and Socioeconomic and Demographic Characteristics in Myanmar

Independent variables	Classification	Household cooking fuel used (%)		Number	Percent
		Polluting fuel	Clean fuel		
Age*	Below 30	82.19	17.81	741	5.97
	30–39	81.09	18.91	2226	17.93
	40–49	79.2	20.8	2923	23.54
	50–59	77.37	22.63	3097	24.94
	60 and above	78.44	21.56	3427	27.6
Sex of household head	Male	79.79	20.21	9571	77.08
	Female	76.56	23.44	2846	22.92
Marital Status*	Single	67.37	32.63	518	4.17
	Married	79.55	20.45	11893	95.78
Education	No education	89.97	10.03	3311	26.67
	Primary	85.39	14.61	5105	41.11
	Secondary	67.96	32.04	3402	27.4
	Higher	27.71	72.29	599	4.82
Household size	1–4	77.22	22.78	7007	56.43
	5 and above	81.42	18.58	5410	43.57
Access to electricity	No	99.78	0.22	5069	40.82
	Yes	64.75	35.25	7348	59.18
Wealth quintiles	Poorest	99.85	0.15	2584	20.81
	Poorer	98.12	1.88	2609	21.01
	Middle	91.44	8.56	2513	20.24
	Richer	69.9	30.1	2442	19.67
	Richest	29.57	70.43	2269	18.27
Residence	Urban	47.9	52.1	3361	27.07
	Rural	90.61	9.39	9056	72.93
States/Regions	Yangon	43.65	56.35	937	7.55
	Kachin	85.87	14.13	743	5.98
	Kayah	75.8	24.2	752	6.06
	Kayin	82.07	17.93	792	6.38
	Chin	92.49	7.51	759	6.11
	Sagaing	78.87	21.13	918	7.39
	Taninthayi	92.27	7.73	750	6.04
	Bago	80.79	19.21	916	7.38
	Magway	83.76	16.24	893	7.19
	Mandalay	66.4	33.6	872	7.02
	Mon	75.48	24.52	783	6.31
	Rakhine	94.76	5.24	821	6.61
	Shan	80.89	19.11	806	6.49
	Ayeyarwaddy	93.14	6.86	919	7.40
	Nay Pyi Taw	64.42	35.58	756	6.09
	Total			12417	

Note: * Missing data on household heads' age for 3 cases and marital status for 6 cases.

Source: MDHS (2017)

Appendix Table (3) Results of the Relationship between Household Fuel Choice and Socioeconomic and Demographic Characteristics in Myanmar

Independent variables	Classification	Chi-square	P-value
Age	Below 30	16.11***	0.000
	30–39		
	40–49		
	50–59		
	60 and above		
Sex of household head	Male	13.82***	0.000
	Female		
Marital Status	Single	44.43***	0.000
	Married		
Education	No education	1600***	0.000
	Primary		
	Secondary		
	Higher		
Household size	1–4	32.53***	0.000
	5 and above		
Access to electricity	No	2200***	0.000
	Yes		
Wealth quintiles	Poorest	5000***	0.000
	Poorer		
	Middle		
	Richer		
	Richest		
Residence	Urban	2700***	0.000
	Rural		
States/Regions	Yangon	1300***	0.000
	Kachin		
	Kayah		
	Kayin		
	Chin		
	Sagaing		
	Taninthayi		
	Bago		
	Magway		
	Mandalay		
	Mon		
	Rakhine		
	Shan		
	Ayeyarwaddy		
	Nay Pyi Taw		

Note: ***, **, * statistically significant at 1%, 5% and 10% level.

Source: MDHS (2017)

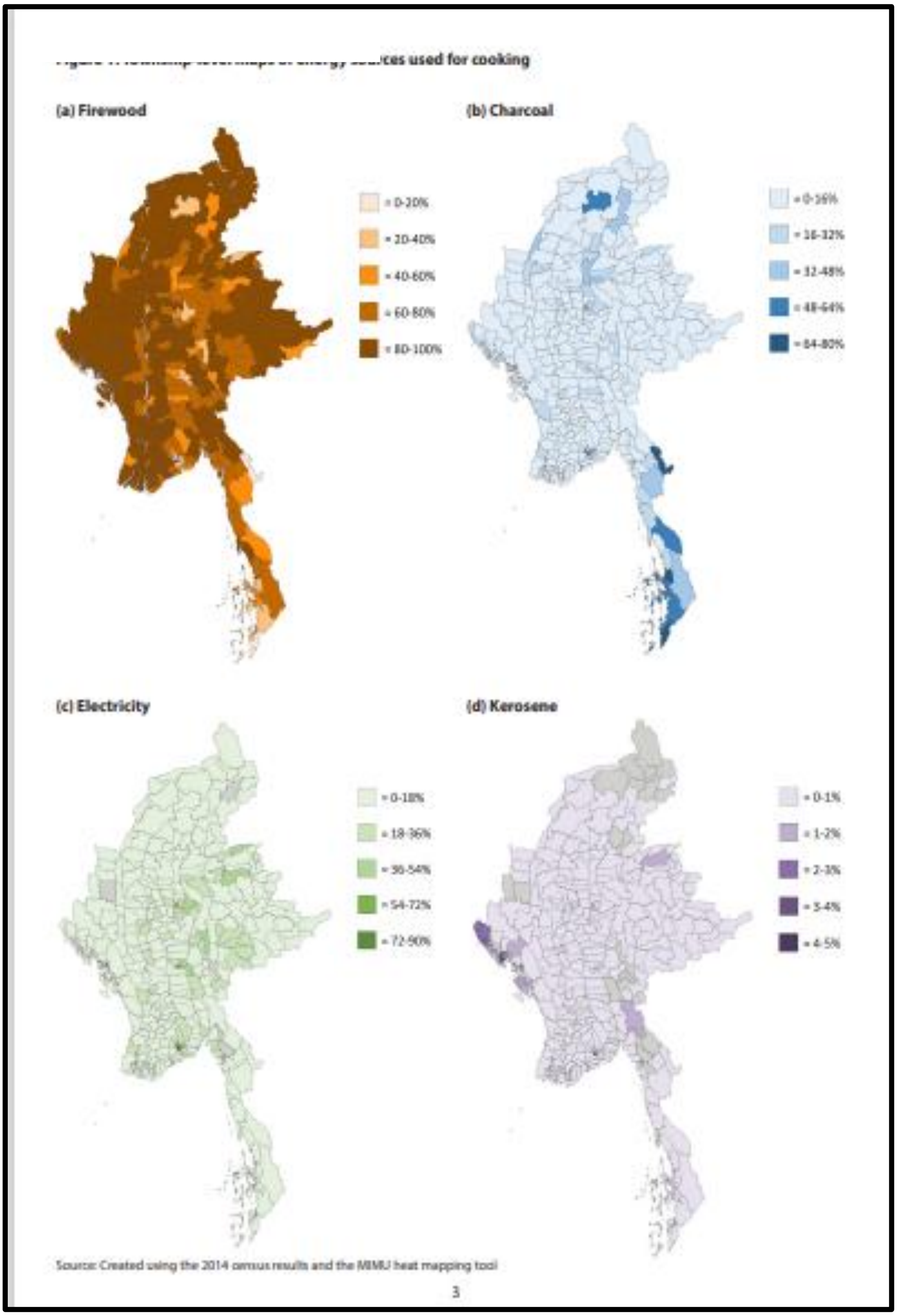
Appendix Table (4) Parameter Estimates of Binary Logistic Regression Model for Household Cooking Fuel Choice in Myanmar

Independent variables	Classification	Coefficient	Odds Ratio	Std. Err.	P-value	95% C.I Lower	Upper
Constant		–7.12	0.0008	0.0005	0.000	0.0002	0.003
Age	Below 30 (ref)						
	30–39	–0.47***	0.63	0.11	0.007	0.45	0.88
	40–49	–0.77***	0.46	0.08	0.000	0.33	0.64
	50–59	–0.81***	0.44	0.07	0.000	0.32	0.61
	60 and above	–0.87***	0.42	0.07	0.000	0.30	0.58
Sex of household head	Male (ref)						
	Female	0.15*	1.17	0.09	0.053	1.00	1.36
Marital Status	Single (ref)						
	Married	0.05	1.06	0.17	0.730	0.78	1.43
Education	No education (ref)						
	Primary	0.24**	1.27	0.12	0.011	1.06	1.54
	Secondary	0.39***	1.48	0.15	0.000	1.22	1.81
	Higher	0.92***	2.52	0.38	0.000	1.87	3.39
Household size	1–4 (ref)						
	5 and above	–0.35***	0.71	0.05	0.000	0.62	0.81
Access to electricity	No (ref)						
	Yes	4.07***	58.84	18.18	0.000	32.11	107.83
Wealth quintiles	Poorest (ref)						
	Poorer	1.82***	6.14	3.23	0.001	2.19	17.22
	Middle	2.99***	19.89	10.17	0.000	7.30	54.16
	Richer	4.15***	63.33	32.25	0.000	23.34	171.82
	Richest	5.41***	223.25	114.31	0.000	81.84	609.00
Residence	Urban (ref)						
	Rural	–0.52***	0.59	0.04	0.000	0.52	0.68
States/Regions	Yangon (ref)						
	Kachin	–2.04***	0.13	0.02	0.000	0.10	0.18
	Kayah	–0.81***	0.45	0.06	0.000	0.34	0.59
	Kayin	–1.21***	0.30	0.04	0.000	0.22	0.40
	Chin	–1.99***	0.14	0.03	0.000	0.09	0.20
	Sagaing	–0.37***	0.69	0.10	0.010	0.52	0.91
	Taninthayi	–2.48***	0.08	0.02	0.000	0.06	0.12
	Bago	–0.93***	0.40	0.06	0.000	0.30	0.53
	Magway	–0.37***	0.69	0.12	0.027	0.50	0.96
	Mandalay	–0.03***	0.97	0.14	0.830	0.73	1.29
	Mon	–0.77***	0.46	0.07	0.000	0.35	0.61
	Rakhine	–1.92***	0.15	0.03	0.000	0.10	0.22
	Shan	–1.05***	0.35	0.05	0.000	0.26	0.47
	Ayeyarwaddy	–1.35***	0.26	0.05	0.000	0.18	0.38
	Nay Pyi Taw	0.23***	1.26	0.19	0.134	0.93	1.70

Note: ***, **, * statistically significant at 1%, 5% and 10% level.

Source: MDHS (2017)

Figure (1) The Maps of Cooking Fuel Used by Township



Estimation of Willingness to Pay for Entrance Fee of the U Bein Bridge in Amarapura

Yin Myo Oo[1]

ABSTRACT

This study aims to estimate the willingness to pay visitors for the entrance fee of the U. Bein Bridge in Amarapura. Visitors' willingness to pay an entrance fee as a payment mechanism for conservation was calculated using the contingent valuation method (CVM). To determine willingness to pay, a single-bounded dichotomous choice contingent valuation approach was used with four bids for entrance fees: 500Ks, 600Ks, 1000Ks, and 1500Ks for local visitors, and below 1 US dollar, 1 US dollar, 2 US dollars, and 3 US dollars for foreigners. The majority of tourists are willing to contribute to conservation efforts in the Bridge area. According to the results of the binary logistic regression analysis, visitors' mean willingness to pay an entrance fee for the U Bein Bridge is 908 Kyats per person. The aggregate monetary value of visitors' recreation at the cultural service in 2018- 2019 was 109.78 million Kyats. Age, education level, monthly income, visit time, and attitudes have positive and significant impacts. On the other hand, the bid amount has a negative impact on willingness to pay. This means that the higher the bid amount, the less likely visitors are to be willing to pay towards conservation.

Keywords: willingness to pay, entrance fee, Binary logistic regression analysis, contingent valuation method

I. INTRODUCTION

Amarapura Township is home to the Taung Thaman Lake, situated in Mandalay City's southern part in Myanmar's upper reaches. Mandalay City was the historical capital of Myanmar during the Konbaung Dynasty periods of 1783–1821 and 1842–1859. Agriculture, weaving, and tourism are the main economic sectors in Amarapura. In addition, the well-known Taung Thaman Lake and the beautiful and historic U Bein Bridge serve as major attractions for local and foreign visitors worldwide.

The Taung Thaman Lake is the largest freshwater lake located in Amarapura Township. The lake is a popular tourist day-trip destination from Mandalay, and the historic U Bein Bridge spans it. U Bein Bridge, built in the mid-nineteenth century, is home to the

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world-famous 1.2km (0.75 miles) wooden bridge that crosses the lake. Its construction began when the capital of the Ava Kingdom moved to Amarapura. The bridge has 1086 pillars and four rest areas and has become a well-known recreation center. It is generally utilized as an essential passageway by local people and has become one of the region's most famous and photographed tourist destinations.

Taung Thaman Lake and U Bein Bridge are well-known for their structure and their importance to the local community. It supports the livelihoods of local farmers, vendors, and other tourism-based businesses. Tourists usually come here to watch the beautiful sunset, walk along the central passageway, or sightsee the iconic view from boats on the lake. The best time to visit Taung Thaman Lake and the U Bein Bridge is in November and May. The bridge's massive pillars rise above the water and serve as a pathway for all during the dry months of March and April. However, the lake's water level frequently floods the top of the U Bein Bridge due to monsoon rainfall throughout August and September. The majority of visitors to U Bein Bridge come during and after the summer, particularly during festival seasons. Many visitors were from Yangon, Bago, Nay Pyi Taw, the USA, Italy, Korea, Japan, and worldwide. Consequently, the beauty of the lake and the wooden bridge has become one of the best places to view a natural sunset. Moreover, both the lake and the bridge are still beautiful and popular places among the natural beauties of Myanmar.

However, floods, droughts, waste disposal, and pollution are wreaking havoc on the U Bein Bridge. The lake is now highly polluted, and the bridge is deteriorating due to the government's and the local population's carelessness. The lake water and nature have recently destroyed several pillars and floors of the bridge. Some pillars were replaced with concrete, but many old floors remained. As a result of the pollution caused by garbage, plastic, and other things, the sides of Taung Thaman Lake near the U Bein Bridge have degraded. Therefore, all of these waste disposal and pollution issues pose serious challenges and concerns for the lake and bridge, resulting in a negative impact on the lake ecosystem, a decrease in water quality, and the surrounding area.

Consequently, pollution and environmental degradation have become increasingly significant. As a result, the U Bein Bridge conservation area's long-term survival and preservation are crucial. Furthermore, conservation of cultural heritage is essential for recreation on this bridge. Therefore, it is necessary to promote attitudes, knowledge, and awareness, collect funds, and collaborate to implement conservation measures. This necessitates the cooperation of the local government and the understanding and value placed by the residents who rely on the lake area. Currently, the public is unwilling to pay for the bridge's preservation.

Therefore, the awareness and knowledge gaps must be measured. In addition, this study is required to investigate the monetary values of the bridge and people's attitudes toward these values to contribute to some of the expected positive outcomes of the U Bein Bridge and its surrounding area. Therefore, the objectives are to analyze the visitors' mean willingness to pay an entrance fee for the U Bein Bridge and the aggregate value of their recreational activities.

II. METHODOLOGY

2.1 Data Sources

This study examines the contingent valuation method (CVM) to estimate the value of cultural services for recreation using a non-market-based approach. The willingness to pay (WTP) of visitors to protect the U Bein Bridge in Amarapura Township, Mandalay Region, is included in the valuation (direct and indirect use values). The study period was between 2018 and 2019. The study applies a quantitative approach based on primary and secondary data. Primary survey data was used with the contingent valuation method and binary logistic regression. The study area mainly focuses on Amarapura Township, where a visitor survey was conducted. Information from visitors is collected using a systematic sampling method. A binary logistic regression analysis was conducted to identify the factors that affect visitors' willingness to pay. [2]

A total of 400 visitors were selected using a questionnaire. Visitors that were interviewed included 300 locals and 100 foreigners. Local visitors include undergraduate university students, government servants, merchants, and restaurant owners at Yadanabon University, as well as households in the townships of Maha Aungmye, Patheingyi, Aungmyethazan, Myothit, Chanmyathazi, Chanayethazan, and Pyigyidagun, and civil society organizations from Mandalay Region, Yangon, Bago, Nay Pyi Taw, Sagaing Region, Kachin, and the Shan States. Foreigners interviewed came from the United States, Italy, Korea, Austria, Poland, Norway, Japan, Argentina, Russia, the United Kingdom, Hong Kong, France, and other countries. In addition, weekend and holiday visitors were investigated because tourism is more intense during those periods.

The secondary data was collected from the General Administrative Department, Ward and Village Tract Administration Office, and the Mandalay City Development Committee (MCDC).

2.2. Data Collection Techniques

The Contingent Valuation Method estimated willingness to pay for the U Bein Bridge entrance fee. The CVM method has been widely used to value various environmental goods and services in developed and developing countries. CVM has been effectively applied to a wide range of water-related challenges, including water supply and tourism. The contingent value survey must be well-designed, pre-tested, and implemented to obtain relevant data and meaningful results.

The CVM method is composed of five steps. The first step is to identify the valuation issue. The next step is to make preliminary decisions about the survey. The third step is the survey, which is created using multiple processes. The fourth step is survey implementation, with the initial task being to select the survey sample. The final stage is to compile, evaluate, and report the results. The CV approach begins with initial interviews and focuses group discussions (FGDs) with the General Administration Department, Ward and Village Tract Administrative Office, tourists, and community leaders. In addition, individuals will be interviewed about their willingness to pay the conservation program entry fee for the U Bein Bridge. A single-bounded dichotomous choice contingent valuation method was used using thirty bids in this survey to answer the willingness to pay questions. The thirty bids are offered in the range of 100 to 3000Ks. The draft questionnaire was created to collect thirty bids and was based on information from the General Administrative Department, Ward, and Village-Tract Administrative Office. Visitors can also hold a conversation to explain the CV scenario, environmental conservation program, payment mechanism, and draft questionnaire. Face-to-face interviews with respondents were undertaken during that period. For the first time, a draft questionnaire was distributed to 50 visitors during the pre-test. Some interviewees responded to concerns about conservation and entry fees by stating that they could only pay once. Based on the frequency of the pre-test, four bids for entrance fees were chosen: 500Ks, 600Ks, 1000Ks, and 1500Ks for local visitors; and below 1 USD, 1 USD, 2 USD, and 3 USD for foreigners. Some people responded negatively to the proposed bid, asking for their preferred amount.

The survey questionnaire was divided into three sections: Section I contains socioeconomic data; Section II includes visitors' perception and travel information about the

U. Bein Bridge, and Section III consists of information about a U. Bein Bridge conservation program. In addition, these sections have a technique for eliciting respondents' preferences, along with a follow-up question.

III. RESULTS AND FINDING

The results and findings are presented in this section. The findings involve investigating factors that affected the conservation of the bridge area.

3.1. The Socioeconomic Characteristics of Visitors

The average age of visitors is over 38 years old. In terms of marital status, 279 respondents (69.7%) are single, while 121 visitors (30.3%) are married. In terms of education, 364 (91.0%) of total visitors have a bachelor's degree or higher, while 36 (9.0%) do not. The average household size has 4 to 5 people. According to the livelihood/occupation survey findings, 326 respondents (81.5%) are workers, while 74 visitors (18.5%) are dependents. In terms of monthly earnings, 130 visitors (32.5%) earn more than 600,000 kyats, while 114 (28.5%) earn between 400,001 and 600,000 kyats. Only 97 (24.3%) of all respondents earned between 200,001 and 400,000 kyats each month.

3.2 Perception and Travel Information on the U Bein Bridge

According to the findings, 389 (97.3%) visitors identified the U Bein Bridge as a heritage site. More than half of respondents said they came back frequently. The average number of visits to the lake area per year is two to three for many locals. Only 175 (43.7%) tourists are unaware of the lake's environmental status. Most visitors preferred the lake area's peacefulness, scenic beauty, picnics, and bird watching. More than half of the visitors recognized the value of the bridge and lake site. Among the inconveniences, 106 (54.1%) of 196 tourists highlighted dryness and pollution at the lake site. Only 154 (38.5%) of respondents visited the lake and bridge with friends, while 113 (28.3%) traveled with family and friends. The average number of family and friends is three to four. Around 211 (52.8%) of total respondents indicated they arrived to enjoy the beauty of the bridge and lake. Visitors to the U. Bein Bridge spend 2 to 3 hours photographing, cycling, walking for pleasure, and sightseeing. The majority of tourists expressed a desire to visit again.

3.3 A Conservation Program for the U Bein Bridge Area (Willingness to Pay)

It is assumed that there is no WTP for conservation programs, and the factors influencing this negative aspect of the WTP are examined. The investigation is based on the willingness of visitors to pay an entrance fee for the U Bein Bridge. Only 313 tourists (78.3%) are willing to pay the U Bein Bridge entrance fee, whereas 87 (21.7%) are unwilling to pay. As a result, most respondents were found to be willing to support the Bridge conservation program.

Different perceptions emerge in the U Bein Bridge area conservation program about respondents' willingness to conserve and their willingness to pay. The four characteristics: to protect the Lake environment, to prevent encroachment of humans and businesses, to preserve cultural heritage sites in the Bridge, and to manage sustainable development in the Bridge environment of the conservation program of the U Bein Bridge area regarding WTP are derived from this information. And four factors are investigated: it is primarily the government's responsibility, this activity wastes money, the project cannot be adequately implemented due to inefficiencies in the public sector, and poverty alleviation is more critical than bridge conservation of unwillingness to pay.

The highest proportion of visitors willing to preserve cultural heritage sites in the Bridge was shown to be 39%, followed by 21% willing to manage sustainable development in the Lake environment and another 21% who were willing to prevent human and business encroachment. It is the government's main responsibility, more than half of all respondents said. Only 33.3% of visitors stated that the project could not be properly implemented due to the inefficiency in the public sector. (3.5%) of visitors believe that poverty alleviation is more important than bridge conservation. The majority of visitors (58.3 %) were also satisfied with paying for the WTP for conservation programs. As a result, the average ratio of 50% of the total number of visits was calculated using the results of the follow-up certainty percentage of "yes" responses.

3.4 Binary Logistic Regression Analysis

Based on the literature, the following relationship examines visitor attitudes, knowledge, and awareness towards conservation. The study was established with three structural equations.

(1) (MWTP) Mean Willingness to Pay = β_0/β_1

where: β_0 is a constant number that serves as a dependent variable coefficient (WTP), and β_1 is an independent variable coefficient (bid amount). The bid variable was the single determinant factor in this function.

(2) (Aggregate WTP) Aggregate Willingness to Pay

= M (WTP) ×% HHPV × NHH

where: M (WTP)=expected to mean willingness to pay, % HHPV= % of responders who rated themselves positively or said 'yes,' NHH=total number of respondents.

The following empirical binary logistic model can describe the willingness to pay for a change in environmental quality in this study. In addition, binary logistic regression analysis is performed to determine the regression coefficient, and a P-value is also determined.

When comparing the means of two groups, this technique is appropriate. One group is a dependent variable in this study, whereas the other is an independent variable. Using SPSS Statistical Software, binary logistic regression is performed between the dependent variable (WTP) and eleven independent factors.

(3) Willingness to Pay for Entrance Fees of Visitors

$$\text{Log}\left(\frac{\Pr(WTP=1)}{1-\Pr(WTP=1)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8$$

$$+\beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \varepsilon_i$$

where: WTP = The dependent variable, 1 corresponds to a "yes" response, and respondents' willingness to pay for a conservation program.

X_1 = Bid Amount, X_2 = Age, X_3 = Marital Status, X_4 = Education Level, X_5 = Household Size, X_6 = Main Occupation, X_7 = Income, X_8 = Distance/Visit Time, X_9 = Attitude concerning government future plan, X_{10}=Attitude concerning public awareness, and X_{11} = Perception of Conservation program are the independent variables. ε_i is error term.

3.5 Results of Binary Logistic Regression

(1) Estimation of Visitors' Mean Willingness to Pay an Entrance Fee

The regression results with only the bid price are shown in Appendix-1. The bid variable was significant at 5% and with a negative coefficient.

The formula calculates its mean WTP as a constant (β_0) divided by the bid amount (β_1).

Visitors' MWTP = β_0/β_1 = .908/.001 = 908 Kyats

This means that the visitors' mean willingness to pay for an entrance fee to U Bein Bridge is 908 Kyats per person.

(2) Estimation of Visitors' Aggregate Willingness to Pay an Entrance Fee

The aggregate WTP, or the value of recreation of U Bein Bridge visitors, is calculated from the mean (WTP). Regarding the results of the follow-up, a certain percentage of "yes" responses are used, with an average ratio of 50% of the total number of respondents in each. Taung Thaman Lake receives approximately 123,000 international visitors per year, according to the Ward and Village-Tract Administration Office (2018–2019). (Ei Myat Mon, 2019).

Aggregate Willingness to Pay of visitors=Mean WTP × % of the total number of visitors who answered 'yes'(NV).

Aggregate WTP = MWTP × % NV

AWTP of Visitors = 908Ks × 50% of (118,800+123,000)

= 908Ks × 120,900

= 109,777,200 million Kyats per year

= (109.78) million Kyats per year

As a result, the aggregate monetary value of the recreation of visitors to the U Bein Bridge in 2018–2019 was 109.78 million Kyats.

(3) Factors Influencing Visitors' Willingness to Pay

The results of the binary logistic model's socioeconomic, location, and attitudinal characteristics and the bid amount of willingness to pay among visitors are shown in Appendix-2.

The results indicated that the bid amount has a negative effect on the willingness to pay among visitors. This implies that the higher the bid amount, the lower the visitors' willingness to pay for conservation is expected to be. The coefficients of age, education level, monthly income, visit time, and attitudes (government future plans, public awareness, and perception of conservation programs; to preserve cultural heritage sites in bridge environments; and to manage sustainable development in bridge environments) have positive and statistically significant effects on willingness to pay. Household size, main occupation, and marital status did not influence visitors' willingness to pay.

IV. CONCLUSION

According to the study, most visitors are willing to pay an entry fee for the U Bein Bridge to support the proposed Bridge area conservation program. According to Binary Logistic Regression results, the mean WTP of visitors to the U Bein Bridge entry fee was 908 Kyats/person, and the aggregate WTP for visitors was 109.78 million Kyats/year. At various significance levels (1%, 5%, and 10%), only 8 out of the 11 hypothesized explanatory variables were statistically significant in explaining the WTP. The Binary Logistic Regression study found that the bid amount has a negative coefficient and is a crucial factor influencing willingness to pay. Age, education level, monthly income, visit time, and attitudes (government future plans, public awareness, and perception of conservation programs) are significant in affecting willingness to pay with positive impacts. Based on these findings, it is possible to conclude that the surrounding communities significantly contributed to the economic value of the Bridge environment. Household size, main occupation, and material status were insignificant and irrelevant in affecting visitors' willingness to pay.

Using CVM, this study determined how much money stakeholders are willing to pay for the cultural heritage site in the bridge environment. CVM approaches have been shown to provide more benefits than evaluating different attributes of environmental goods. Another aspect of the study is the careful design of the payment vehicle, which should capture the respondents' contributions to decrease the number of non-responses. As a result, site-specific investigations are still needed throughout the region. This is to provide information to policymakers while considering various conservation alternatives. Locals hold the lake in high regard, and U Bein Bridge considers it part of Myanmar's national heritage. The environment around the Bridge and Lake must be preserved and conserved for that reason alone.

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Appendix-1 Variables in the Equation for Visitors

	B	S.E.	Wald	Sig.	Exp(B)
Bid amount	- .001**	.000	5.662	.017	.999
Constant	.908	.187	23.653	.000	2.479

Source: Survey Data (2018-2019)

Appendix-2 Results of Logistic Regression of Visitors' Willingness to Pay

	B	S.E.	Wald	Sig.	Exp(B)
Constant	-9.011	1.997	20.363	0.000	0.000
Bid amount					
500-1000 (ref)					
Above 1000	-2.396***	0.767	9.749	0.002	0.091
No	0.627	0.707	0.787	0.375	1.872
Age					
30 and below (ref)					
30-40	3.714***	0.818	20.622	0.000	41.005
40-50	2.868***	0.834	11.834	0.001	17.609
50-60	2.677***	0.978	7.497	0.006	14.540
60 and above	4.296***	1.329	10.457	0.001	73.442
Marital status					
Single (ref)					
Married	0.004	0.654	0.000	0.995	1.004
Education level					
Nongraduate (ref)					
Graduate	1.840**	0.894	4.240	0.039	6.296
Household size					
1-3 (ref)					
4-6	0.837	0.678	1.526	0.217	2.310
7 and above	0.339	0.900	0.142	0.707	1.404
Occupation					
Dependent (ref)					
working	-0.517	0.882	0.343	0.558	0.596
Income					
200000 and below (ref)					
200001-400000	2.498***	0.738	11.467	0.001	12.159

Appendix-2 Continued

400001-600000	5.287***	0.956	30.606	0.000	197.781
Above 600000	5.358***	0.986	29.497	0.000	212.222
Visit time					
1 (ref)					
2	1.270*	0.734	2.990	0.084	3.560
3 and above	1.199*	0.719	2.783	0.095	3.318
Attitudes concerning government future plan					
Low (ref)					
High	1.331**	0.555	5.746	0.017	3.786
Attitudes concerning public awareness					
Low (ref)					
High	1.006*	0.579	3.023	0.082	2.734
Perception of conservation program					
To protect lake environment (ref)					
To prevent encroachment of human & businesses	0.945	0.768	1.514	0.218	2.574
To preserve cultural heritage site in the Bridge	2.334***	0.734	10.119	0.001	10.318
To manage sustainable development in Bridge environment	2.150**	0.936	5.275	0.022	8.584

***, **, * Statistically significant at 1%, 5%, and 10% level
Source: Survey Data (2018-2019)

A Study on the Effects of Tourism on Cultural Heritage Sites in Bagan: A Qualitative Approach

Sandar[1]

Abstract

When tourism is being developed in Bagan, both positive and negative effects on the socio-economics, culture, and environment are observed. The objectives of the study are to analyze the growth of international tourism arrivals in Bagan and to examine the effects of tourism development in terms of economic effects, social effects, cultural effects, and environmental effects on Bagan's cultural heritage sites. This research used a descriptive method and was based on primary and secondary data. Key informant interviews (KII) were used to collect primary data via a convenience sampling (non-probability sampling method). According to the KII interview, tourism-related businesses in Bagan gain local residents and their traditional and hand-crafted Myanmar businesses. A part of earnings from tourism-related businesses go to fund for both cultural heritage conservation activities and development programs. But, over the commercialization of the growth of tourism-related businesses can harm the cultural heritage sites. As a result, it should exercise control for exploitation of tourism sector. Moreover, as tourism develops, Myanmar's cultural identities, such as culture and customs, language, literature, food, and clothing, can become well-known throughout the world. In terms of environmental impact, the government should keep a careful watch on cultural environment in Bagan. Local visitors and tourists should be aware of the importance of respecting the Bagan region's national and world heritage.

Keywords: Economics of Tourism, Effects of tourism development, Economic effects, Cultural effects, and Environmental effects.

I. Introduction

Tourism is an important sector for economic activities in many developed and developing countries, with a wide range of positive and negative effects on other aspects of their economies, culture, and environment. Because of culture, art, geography, wildlife, and climate, tourism is growing towards developing and least developed countries at a faster rate than in the developed world, which accounts for about half of all worldwide tourist arrivals (UNWTO, 2013). The tourism industry is economically significant and is a constantly and dynamically developing field. Tourism, the world's third-largest sector, accounts for 10% of

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global GDP and accounts for 5% of global carbon dioxide emissions (Migale et al., 2019). The growth of the tourism industry has had an undeniable, but significant impact on the economic development of developing countries, primarily through unskilled jobs and small businesses industries such as accommodation, transportation, and recreation (Tosun and Jenkins, 1996). Tourism has become an important tool for regional economic growth and development in many countries, but the desired effects are not distributed equitably.

Rationale of the Study

Because of its major economic, livelihood, and socio-cultural consequences, tourism has grown to be a large business in both developed and developing countries. According to Telfer (2003), many developing countries have attempted to exploit the tourism industry for economic stimulation by attracting foreign investment, capital, and currency exchange surpluses. Due to a succession of political, economic, and social reforms as well as inflows of infrastructure investment, the number of tourists visiting Myanmar has increased dramatically since 2011. Although tourism growth benefits the local community living in cultural heritage sites, it may also lead to the appearance of possible threats, especially economic, cultural, and environmental effects, on Bagan Cultural Heritage Sites. Significantly, the tourism industry's rapid growth will transform tourist destination areas; nevertheless, unplanned and uncontrolled tourism development could ultimately lead to environmental degradation along with socioeconomic and cultural imbalances among the local population. Thus, this research aims to analyze the costs and benefits of cultural heritage sites by identifying the perceptions of government officials, pagoda trustees, a member of Heritage Trust, and members of the tourism federation and local community toward the effects of tourism development in Bagan.

Objectives of the Study

The objectives of the study are to analyze the growth of international tourism arrival in Bagan and to examine the effects of tourism development in terms of economic effects, social effects, cultural effects and environmental effects on Bagan Cultural Heritage Sites.

Method of the Study

This research used a descriptive method and was based on primary and secondary data. Key Informant Interviews were used to collect primary data via a convenience sampling (non-probability sampling method). The methods were based on face-to-face interviews with six government officials from the “Department of Archaeology” (Bagan Branch) under the Ministry of Culture, the "Directorate of Hotels and Tourism" (Bagan Branch) under the Ministry of Hotels and Tourism, and the "General Administrative Department" (Bagan) and seven from the Bagan Tourism Federation, one member of the Heritage Trust, one ward administrator from Naung Oo township, and two Pagoda Trustees in Bagan. Secondary data are taken the various sources from “Ministry of Hotels and Tourism”, township data from Nyaung Oo “General Administrative Department”, Central Statistical Organization, newspapers and journals.

Scope and Limitation of the Study

This study mainly focuses on the growth of international tourists’ arrival from 2008 to 2018 and the effects of tourism development in terms of economic, social and cultural and environmental effects on cultural heritage sites in Bagan. Key Informants Interview were made with 20 participants from mainly government officials, tourism federation, cultural heritage sector, pagoda trustees and local. But this study excludes the visitors’ perception on tourism development in Bagan.

II. Literature Review

The fundamental goal of tourism promotion in poor countries has been to generate foreign exchange. The next step is to search for job opportunities via marketing tourism. It also serves as a powerful tool for eradicating poverty, ending unemployment, promoting inter-civilizational dialogue, and providing channels through which streams of different cultures can fulfill and socialize, thus effecting a unique ethic-scope on which a fair, just, humanitarian, and enlightened order for the entire human race can be built. Most countries around the world rely heavily on tourism for their economic and social development. It is the largest employment, with services ranging from travel, accommodation, catering, and the preservation of culture and traditions, particularly in the handcraft industry, as well as environmental conservation.

Impacts of Tourism

Tourists may not be sensitive to local cultures, traditions, and standards, so interactions between tourists and the host community can be one of the factors that might affect a community. The impact on the host community can be favorable or unpleasant (Mathieson & Wall, 1982). Local peoples can mixture with people from various backgrounds with diverse lifestyles which through 'demonstration effect' may lead to the development of better-quality lifestyles and practices from the tourists' examples; There can be an upgrading in local life through well local facilities and infrastructure (developed to sustain tourism) which could lead to improved education, health care, employment opportunities and income; More cultural and social events, such as entertainment and exhibitions, are available to local residents.

Moreover, improved sports and leisure facilities for tourists that locals can use, particularly beyond the tourist season; Preservation and rebirth of an area's local cultural heritage, encompassing crafts, architectural traditions, and ancestral heritage; Urban regions that may be in decline can be revitalized, and the migration of people from rural to urban areas for employment can be reversed since jobs in the tourism industry will be available; Increased participation in youth exchange programs, village tourism, home swap programs, and global volunteer activities.

The main economic benefit of tourism for a region or country is that it creates jobs and generates income at the international, national, regional, and local levels. Tourism may also boost regional and local economies by injecting money into urban and rural areas, stimulating new business ventures and promoting a more positive image of the place (Cooper et al., 1993). One of the major economic attributes of the tourism industry is that income earned in places of residence is spent in places "visited" (Holloway & Robinson, 1995). Tourism is a tool used to transfer large amounts of money from "income-generating" countries to "income-receiving" countries.

Tourism is critical to the country's position as a result of its balance of payment problem, as well as an important source of foreign exchange earnings. When compared to the export of manufactured goods, it is the most convenient way of earning foreign exchange. Another significant direct economic consequence of tourism is job creation (Inskeep, 1991). Tourism is a high-labor-intensive service business that provides a vital source of employment. Tourism benefits a variety of businesses, including hotels, motels, restaurants, transportation companies, travel brokers, tour operators, gift shops, car and rickshaw drivers, guides, and so on. It employs a significant number of people and offers a wider range of employment, ranging from low-wage to highly specialized. Tourism is one of Europe's and America's most important export sectors. It has the ability to decrease any country's trade deficits. The contribution of travel and tourism to infrastructure development demonstrates the economic importance of tourism in the national economy (Mathieson & Wall, 1982).

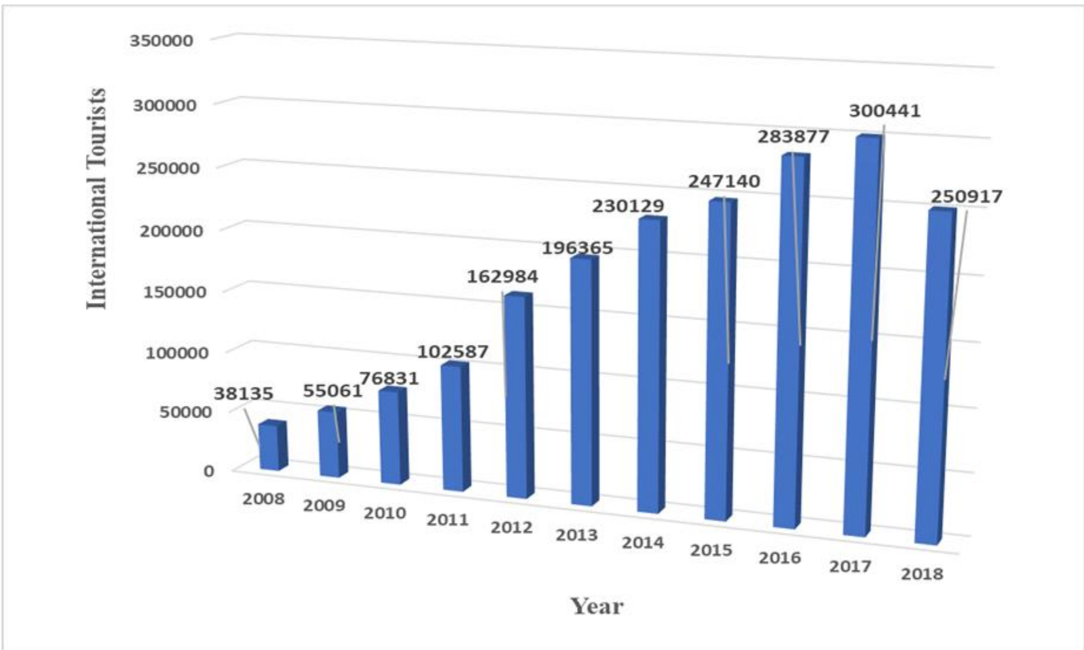
Arrivals of tourists in a country increase the effective demand for infrastructure facilities. The government must encourage private sector participation in tourist infrastructure. Tourism activities can help to alleviate poverty by increasing national income, creating jobs, earning foreign currency, developing regions, promoting local handicrafts, and many other things (Mill & Morrison, 1992).

Tourism is one of the world's largest and fastest-growing industries, with substantial good and negative environmental, cultural, social, and economic consequences. Tourism can be a powerful tool for economic development, but it can also be harmful to biodiversity and virgin habitats, resulting in the overuse of natural resources such as freshwater, forests, and marine life if not properly planned. Tourism expansion has resulted in severe water shortages in a number of locations, affecting both local populations and industry, as well as forest depletion and coral reef degradation. The tourism industry has an impact on water quality through the construction and maintenance of tourism facilities, recreational boating, and certain cruise industry activities. The majority of tourism-related air pollution is caused by automobiles (Andereck, 1993, p. 27). Automobiles emit the most carbon monoxide of any mode of transportation. The majority of tourism-related air pollution is caused by automobiles (Andereck, 1993, p. 27). Waste disposal is a serious problem in areas with high concentrations of tourist activities and appealing natural attractions, and improper disposal can be a major disadvantage to the natural environment, rivers, scenic areas, and roadside.

III. Growth of International Tourism Arrivals in Bagan

Bagan, World Cultural Heritage Sites, is the most popular tourist destination within Myanmar (Henderson, 2003) as one of Southeast Asia’s richest archaeological sites (UNWTO, 2013). Nowadays Bagan consists of three major settlements: Nyaung Oo, Old Bagan and New Bagan. Bagan is a cultural heritage tourist destination to attract many tourists including domestic and international visitors for tourism development in Myanmar. It is the country's biggest tourist attraction and the temples of Bagan are recognized as one of the Southeast Asia's major historical landmarks. The following figure (1) shows international tourists’ arrivals in Nyaung Oo Township during the study period (2008 to 2018).

Figure (1) Internation



al

Tourist Arrival in Bagan (2008 to 2018)

Source: MOHT, Bagan Branch Statistics (2018)

According to the above figure (1), 38135 visitors entered Nyaung Oo Township in 2008. The Saffron Revolution took place in Myanmar in August 2007. Furthermore, on May 2, 2008, a natural disaster, Cyclone Nargis, destroyed various areas of the country, most notably the Ayeyarwady Delta Region. It took until 2009 for the tourism industry to recover from that situation. The number of international visitors reached a high of 300,441 (6 percent growth rate) in 2017 compared to 2016. But, the number of international visitor's arrival decreased to 250,917 because the northern part of Rakhine in Myanmar happened Rohingya conflicts throughout 2018 (Myint Maung Soe, 2018).

Myanmar's democracy movement also eased its call for a tourism boycott in 2010, resulting in a substantial increase in tourism to the nation (Thett, 2012; Tourism Concern, n.d.). The number of international visitors to the township has been steadily increasing over time. Because Myanmar witnessed a series of political and economic reforms in 2011, including market liberalization and inflows of infrastructure investment, the tourism industry flourished and attained potential advantages over the research period. Myanmar was also the host country for the 2013 Southeast Asian Games, which took place from December 11 to 22. Furthermore, as a result of the liberalization of air services and the adoption of the ASEAN open skies agreement, Myanmar's connectivity has strengthened (Myanmar Tourism Master

Plan, 2013-2020). As a result of that and other international events, such as AEC and AFTA in 2015, which were highly advantageous and fantastic possibilities for individuals in the hotel and tourism sector, it was anticipated to result in an increase in the number of visitors.

In response to this development, Myanmar's government has enacted a Tourism Master Plan (2013-2020). This plan's vision emphasizes the government's "commitment to developing a responsible tourism industry." This entails using tourism to "make Myanmar a better place to live" by creating "more jobs and greater business opportunities" and "conserving" the country's "natural and cultural heritage" (Ministry of Hotels and Tourism, 2013b, p. 23).

According to MOHT (Bagan Branch) statistics, between 43 and 68 percent of international tourists arrived from West Europe, 20 percent to 41 percent of international tourists arrived from Asia, and 7 percent to 13 percent of total international tourists arrived from North America (from 2001 to 2018).

From 2001 to 2018, West Europe had the highest number of international tourist arrivals in Myanmar, Asia had the second highest number of tourist arrivals, and West Europe had the third highest number of tourist arrivals among the regions. The proportion of international tourists from other regions, such as East Europe, the Middle East, and Oceania, ranged between 0.7 and 3 percent.

IV. Feedback from Key Informants Interview (KII)

Various stakeholders from different organizations involved in the tourism related sectors were invited to participate to deliberate on their perception of the effects of tourism development on the nation's cultural heritage assets using the qualitative technique.

Participants in KII

Key Informants Interviews were performed with 17 participants, including six government officials from Department of Archaeology" (Bagan Branch) under the "Ministry of Culture", the "Directorate of Hotel and Tourism" (Bagan Branch) under the "Ministry of Hotels and Tourism", and the "General Administrative Department" (Bagan) and seven from the Bagan Tourism Federation, including two from the Bagan Hoteliers Association, two from the Bagan Tourists Guides Association, one from Bagan Tourist Transportation Association, one from Bagan Souvenir Entrepreneurs Association and one from Bagan Restaurants Association; one member of Heritage Trust; one ward administrator from Naung Oo township and two Pagodas Trustees in Bagan.

Key Informants Interview were made based on the attitude of government officials, pagoda trustees, one member from Heritage Trust, local tourist guides, an owner of handicraft enterprise, a hotel manager and owner of tour taxi were interviewed for the effects of tourism in Bgan. The questionnaire involves two parts; part one is tourism in Bagan and the other is the effects of tourism in Bagan: economic effects, social effects, culture effects and environmental effects.

Questionnaire for KII

When discussing the above two areas with stakeholders at various levels, 18 questions were developed to cover the above areas. All of these interviews were conducted between May and November of 2018. This discussion focused on the "effects of tourism development," Table 1 shows the contents of questionnaire.

Table (1) Contents of Questionnaire

Part	Contents	Items
One	**Socio-demographic data**	5
	Age	
	Gender	
	Status of Occupation	
	Organization	
	Types of Organization	
	Interview date	1
Two	**Feed Back from the KII interview**	
	Tourism in Bagan	6
	Benefit and cost of impacts of tourism development	6
	Why Bagan is popular tourists' destination?	3
	Rules and guide-line for visitors whether follow or not	3
	Total	**24**

Source: Survey Data (2018)

This research focused on the effects of tourism, such as economic effects, cultural effects, social effects, and environmental effects in Bagan. To begin, the questionnaire addresses tourism in Bagan: the causes of Bagan's fame, carrying capacity, and the implications of tourism development and then the effects of tourism consists of the benefits and costs of economic effects, social effects, cultural effects, and environmental effects.

Tourism in Bagan

According to a local tourist guide, *"Bagan comprises more than 3500 surviving stupas, temples, monasteries, fortifications, and other sites, placed in a large terrain that also features archaeological deposits and a remaining old water-management system,"*

One respondent said that *"I believe that having a good tourism means having a good historical and heritage site"* and another respondent agreed that *"The key reason for increasing the number of people going to Bagan is the highest value of the bequest in Bagan."*

A ward administrator recommended that *"Because of the natural beauty of Bagan, improved communications and transportation facilities, tourism infrastructure, and the media, the number of local and foreign visitors has increased year after year*. Furthermore, "*foreign visitors come to Bagan for a variety of reasons, including relaxation, regional and handicraft knowledge, business, and academic studies".*

According to a government staff officer from the Department of Archaeology (Bagan Branch), "*Bagan is a valuable heritage and a Buddhist site, so tourism should have positive consequences on the Bagan heritage area rather than negative effects."*

A government staff officer from the Department of Archaeology (Bagan Branch) remarked that *"From my perspective, Bagan is a valuable legacy and a Buddhist site; hence, tourism should have beneficial implications on the Bagan heritage region, not negative impacts,"*

One respondent remarked that *"Carrying capacity in Bagan, I believe the number of tourists visiting Bagan is lower than the appropriate capacity to be balanced between the tourism developments and the preservation of Bagan's cultural heritage".*

The following are the findings of the Key Informant Interview response: In Bagan's cultural heritage zones, "natural heritage and cultural heritage" rudiments may be found. Furthermore, the existing "great universal value" of religious sites, as well as the growth of the hospitality industry in Bagan and its surrounding areas, have resulted in a considerable boom of the tourism industry in those locations.

Economic Effects of Tourism Development

The majority of the survey questions were about **the benefits and costs of "tourism development"** in Bagan. In Bagan, tourism also has both beneficial and harmful consequences. One respondent agreed that *"The tourist sector is critical for the development of the local population in Bagan, as it offers local people a source of income. Tourism growth benefited local people's livelihoods like handicrafts and agricultural products, traditional lacquer ware manufacturing, traditional painting, silver ware, and construction crafts like masonry works and carpentry, sand painting, and soybean cultivation, according to the statement."*

One of the tourist guides in Bagan agreed that *"I believe local related-businesses have improved because visitors buy local goods and souvenirs, and local residents in Bagan tend to depend on businesses such as accommodations, guesthouses, other accommodations, restaurants, cane enterprises, and handicraft businesses supporting Bagan, for example, cooperating in the rehabilitation process after the earthquake (2016) and building lampposts in the areas,"* one respondent said.

Another tourist guide recommended that *"In Bagan, income and job opportunities have been gained through the tourism industry, involving working in hotels, restaurants, as tour guides, sand painting art, taxi driving, e-bike renting, brick baking, and etc."*

"Donations from local and international tourists in the Bagan-Nyaung Oo region are also funding for the pagodas conservation," said one Pagoda Trustee. According to another Pagoda Trustee, *"as a result, donations from local businesses can be beneficial to heritage conservation."*

According to one respondent, *"the tax revenue from entrance fees, museum fees and charges on the businesses (hotels, restaurants, shops…etc) increases in line with the growth of tourism sector in the Bagan-Nyaung Oo region. As a result, these earnings could be used to fund conservation and regional development"*.

Another respondent stated, *"There will be more tourists visiting Bagan due to tourism development, and Bagan already has World Cultural Heritage Status, so there will be more tourism infrastructure such as transportation, communication, and marketing access to accommodate tourists, and it will indirectly support the local community."*

Tourism-related businesses in Bagan gain local residents and their traditional and hand - crafted Myanmar businesses. It leads to prolonged conservation in Bagan. Earnings from tourism-related businesses should be used to fund both "cultural heritage conservation" activities and development programs. As a result, it should exercise control over the commercialization of the growth of tourism-related businesses while ensuring that "cultural heritage assets" are not harmed.

Social and Cultural Effects of Tourism Development

"Although Bagan has around 3000 pagodas, only 17 of the most frequented have administration teams called Pagoda Trustee," one pagoda trustee noted. *"As a result of the lack of Pagodas Trustees and security in the Bagan Archaeological Area, numerous drinkers, both local and foreigners, can be found.* "Thus, responsible persons need to take care of the pagodas without trustees.

Moreover, according to one local tour guide, "the Pagodas Trustees have a responsibility not to grant permission to visitors who are dressed inappropriately". Because *"Few local young people do not respect their own customs and culture,"* one respondent said, *"seeking to copy other cultures, especially clothes and living style."*

According to one respondent, *"exchanging local culture and culture from different nationalities enables local residents better understand their own cultural standards and values."* One respondent stated that *"As more tourists arrive in Bagan, the locals have more opportunities to display cultural activities and identities to others* "Another respondent stated, *"Tourism enriches social knowledge, and the unique existence of cultural heritage can be known in Bagan."*

"Different people with diverse cultural backgrounds enters the country, and they can have a negative impact on social, cultural, traditional, and religious monuments, as well as different social interactions entering Myanmar culture," one respondent said. As a result, "*the cultural values of the community are endangered."*

In terms of socio-cultural effects, people all around the world are concentrated on Myanmar cultural, customary practices, religious activities, and festivals. Myanmar cultural identities such as culture and custom, language, literature, food, and clothing of ethnic people can become well-known throughout the world as tourism develops. In addition, the local population can learn about the culture and customs of tourists from all over the world. As a result, the more positive rather than negative effects related to socio-cultural effects in Bagan.

Furthermore, pagoda trustees and the local populace should protect cultural heritage assets by installing adequate pagoda police security in thousands of Bagan pagodas.

Environmental Effects of Tourism Development

Tourism related stakeholders cited their expertise in dealing with some tourism-related issues in Bagan. The majority of respondents mentioned the negative environmental effects on Bagan's "cultural heritage sites."

"A large influx of tourists can also have a negative impact on Myanmar's heritage; while there are some restrictions on climbing the pagodas and viewing the sunrise and sunset, international tourists like to do the prohibited activities." "Climbing on monuments is too unsafe for visitors since the pagodas' bricks are very old, causing vibrations and instability in Bagan's pagodas."

"The negative implications of tourism in Bagan are more garbage and rubbish, as well as in disciplined waste management". "It is unavoidable to encounter traffic jams for highway express buses and unsystematic car parking during in the holiday seasons in Bagan." "Furthermore, the ancient pagodas and temples may be severely damaged when huge tour buses keep driving near and around that area".

"Having allowed stalls and vendors near pagodas and temples has a negative impact on the visual environment, making worshipers uncomfortable, and thus the relevant authorities should control stalls and vendors near temples in a systematic manner so that tourists and worshippers are not disturbed."

"There are greater physical repercussions where tourism development has occurred: graffiti, vandalism, and rubbish, thus there should be pre-planned laws for those sites." "Some issues, such as going on picnics in cultural areas and shooting pre-wedding photos and commercial videos, can have an impact on the image of the sites." "It is now a lack of review that is preventing heritage sites from being preserved." And one interviewee stated, *"Actions against cultural image, such as pre-wedding photography, should be prohibited."*

"Installing air conditioners in ALo-Taw-Pyae pagoda as a tourist attraction can harm environments." Bagan's cultural heritage site is located in a dry zone that cannot withstand moisture and is in a harmonious condition of brick and mud. "The authenticity and integrity of ancient temples and pagodas can be lost when they are renovated." Modern designs should not be permitted when inactive monuments are preserved in order to become living ones"

As a result, the regulation should be monitored, and the public and private sectors should work together to safeguard the environment. Tourism management plans, integrated management frameworks, and action plans are used to facilitate tourism development. The state must allow worldwide participation and also the involvement of the local community such as conservation of environment must be encouraged by concerned organizations. Bagan will receive technical assistance, financial aid, and international corporation once it has been recognized by UNESCO.

In terms of environmental impact, the government should keep a careful watch of hotel zones in Bagan. The tourism-related transportation committee must establish the official distance between monuments and the high-speed tourism bus driving lane. To prevent littering in those areas, the residents of the area should put up signs and notices prohibiting littering in those areas. Local visitors and tourists should be aware of the importance of respecting the Bagan region's national and world heritage.

The economic effects of tourism development are significant in the remaining two sectors, such as social and cultural effects and environmental effects, because of the contribution of the tourism sector in Bagan, which promotes the well-being of the local community and also supports the tax revenue through air-port taxes, entrance fees, museum fees, and charges on businesses for the national economy. However, the government must be cautious about the commercialization of tourism development and develop a well-thought-out plan for sustainable tourism development.

IV. Conclusion

When tourism has been increasing year after year, it could have both positive and negative effects on the local community and environment. The development of tourism supported the livelihoods of the local community and also tourism-related businesses have improved because of the fact that visitors buy local goods and souvenirs in Bagan. Donations from local and international tourists in the Bagan-Nyaung Oo region also provide funding for the pagoda's conservation. Exchanging local culture and culture with different nationalities enables local residents to better understand their own cultural standards and values. When different people with diverse cultural backgrounds enter the country, they can have a negative impact on social, cultural, traditional, and religious monuments, as well as different social interactions within Myanmar culture. The negative implications of tourism in Bagan include more rubbish, as well as a lack of disciplined waste management. It is unavoidable to encounter traffic jams for highway express buses and unsystematic car parking during the holiday seasons in Bagan. Tourism management plans, and action plans are used to facilitate tourism development. The state must allow worldwide and local community involvement in cultural heritage conservation in Bagan.

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Factors Influencing Male Involvement in Family Planning in Myanmar: An Analysis of Myanmar Demographic and Health Survey (2015-2016)

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Abstract

This study examines the factors that influence male participation in family planning in Myanmar. The purpose of this study is to analyze the socio-economic and demographic factors that influence on male who discuss their partners about the use of contraceptive methods. This study explores that male involvement in family planning is about 39 percent of the married men aged 15-49 used from Myanmar Demographic and Health Survey data conducted in 2015-2016. The Chi-square test suggests that men's age, place of residence, education level, wealth index, currently working status, age of wife, number of living children, fertility preference and test for HIV are significantly associated with male involvement in family planning. Logistic regression reveals that men with higher education level are more interested in family planning than men without education level. Married men who have one to four children are more discussing with their partners about family planning. Men who have ever been tested for HIV are more likely to influence in male involvement in family planning. However, men's knowledge of family planning was un responsive attitude to family planning, spousal communication and media exposure. This paper concludes that government and non-government organization should support to married men about the knowledge of family planning.

Keywords: Family Planning, Male involvement, Myanmar.

Introduction

A country's population growth is one of the major sources of the economic growth and development. It is one of the main burdens of the world, especially in developing and underdeveloped countries. In fact, researchers have found a link between population growth and economic growth, that population growth includes a board impact on society and people's lives. Population growth rate has been argued that increasing fertility rates in the short term can have a negative effect on the economy, and in the long run the opposite relationship is true. The major source of population growth could also lead to increased demand food, because food insecurity is particularly difficult for some developing countries, which have

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high population growth rate and low technological change in agriculture (Mellor, 1982). In addition, rapid population growth tends to impact the interactions between human beings and their environments. An increasing number of people lead to pressures on land resources, which limit the amount of arable agricultural land and tend to worsen the situation of food supply and human reproduction (Shaw, 1976). In addition, a high rate of population growth is likely to increase population density in some geographic areas, especially urban areas. As a result, overpopulation, unemployment, and poverty are likely to lead to social problems in some areas (Sibly and Hone, 2002). Therefore, an effective and acceptable family planning program can play an important role in healthcare, social sectors and economic development of a country. Population growth rates depend on an effective family planning program and how people respond to family planning practices.

Family planning (FP) means "the ability of individuals and couples to anticipate and the spacing and timing of their birth" (WHO, 2015). The purpose of family planning provides to protect women from any health risk that may occur during or after childbirth including high blood pressure, gestational diabetes, infections, miscarriage and stillbirth.

Concerning family planning seems to achieve the Sustainable Development Goals (SDGs), including reducing maternal mortality, the participation of men and women in reproductive health issues, and contraception. The SDGs set for 2030 will need to ensure that sexual and reproductive health services are widely used. Substantial progress was made, globally on achieving the Millennium Development Goals (MDGs) in which, maternal mortality decline by almost 44 % worldwide from 385 deaths to 216 deaths per 100,000 live births over the period 1990 to 2015 (WHO, 2015). The Government of Myanmar has made a strong commitment to achieve the MDGs, and is also committed to the SDGs and other international development goals and targets. The 2014 Myanmar census reported a maternal mortality ratio (MMR) of 282 per 100,000 live births, this compares with levels of 140 in the Southeast Asian 230 for developing countries and 216 worldwide.

In Myanmar, contraception is legal and there are still many cultural restrictions for women. The contraceptive prevalence rate for modern method was only 38.4%, the unmet need for family planning was estimated at 24.2% and nearly 5% of all pregnancies ended in abortion and abortion constitutes for almost 10% of maternal death (Fertility and Reproductive Health Survey: FHRS, 2007). According to Myanmar Demographic and Health Survey (MDHS) 2015-2016, knowledge of contraceptive methods is almost universal in Myanmar with 97% of all women and 95% of all men knowing at least one method of contraception. Giving women access to voluntary family planning is one of the most effective ways to combat maternal death. When women can access contraceptives, they can avoid unintended pregnancy and related risks including unsafe abortion, Therefore, contraception has direct health benefits on maternal and child health. While family planning programmes have traditionally been intended at women, there is growing awareness that reproductive wellbeing is the responsibility of men and women. Previous research has also illustrated that male non-involvement in family planning leads to a high incidence of contraceptive discontinuation among women. Now, many developing countries study to male participation in contraceptive use improves women's uptake and continuity of family planning by increasing spousal coordination and decreasing opposition. In order to study the contraceptive use of male involvement in Myanmar, it is necessary to understand what knowledge of family planning methods, socio-economic and demographic factors influence on contraceptive use there. Therefore, this study intends to investigate the factors affecting male involvement in contraception among currently married men in Myanmar.

Literature Review

In this study, some of the related articles studied on factors affecting male involvement in family planning in developing countries which implemented in the country as part of the worldwide Demographic and Health Surveys (DHS) Program.

Mohammad Mostufa Kamal, et al. (2013) examined the determinants of male involvement in family planning and reproductive health in Bangladesh. This study revealed that male involvement in family planning is high about 63.2% in the area, used from Bangladesh DHS data conducted in 2011. Chi-squared tests and binary logistic regression analysis were applied to determine the probability of male involvement in family planning and reproductive health. The findings from this analysis described that age of husband, age of women, number of living children, women’s education level, women’s occupation status, husband’s education level, husband occupation status, knowledge on contraceptive methods and STDs (Sexual Transmitted Diseases), social network and inter-spouse communication were statistically significant. The result of logistic regression analysis found that males were more likely to participate in family planning and reproductive health whose wives of them were educated, engaged in skilled works, acquainted with high knowledge on contraception use, soundly interconnected with social network about family planning and reproductive health, favorable spousal communication, husbands and wives had high age. The researcher concluded that family planning programme should be strengthen on male involvement status of family planning and reproductive health services in Bangladesh.

Dian Kristiani Irawaty, et al. (2019) studied the socio-demographic characteristics of male contraceptive use in Indonesia. This study analyzed the association between socio-demographic factors and men's contraceptive use in Indonesia by utilizing the 2012 Indonesia DHS. Bivariate analysis was conducted by performing a chi-squared test of independence to analyze the relationship between selected socio-demographic factors and the dependent variable. A binary logistic regression model was considered to identify the effects of covariates that place of residence, husbands' approval on family planning, husbands and wives knew family planning from newspaper and magazine, and the perception that contraception is woman's business were significant predictors. In conclusion, programs related to gender-sensitive campaign about family planning and gender-sensitive curricula in schools are needed for encouraging men to use contraception.

Bernard Kiprotich (2020) attempted the role of men in reproductive health; An examination of determinants of male involvement in family planning in Kenya. The data source was a nationally representative 2014 Kenya DHS of men aged 15-54 years. The analysis was restricted to 44% married men and those who were living together with partner. Findings from bivariate analysis indicated that husband's age, wife/partner's age, religion, husband's occupation, level of education, exposure to family planning messages, number of living children and knowledge on contraception were significantly associated with male involvement. Results of logistic regression showed that men who had higher education level, exposed to family planning messages, discussed family planning with health provider had high likelihood of being involved in family planning issues. The level of male involvement in family planning in Kenya is still low despite interventions by both the government and other nongovernmental organizations.

Objectives of the Study

The main objectives of the study are

- To explore the specific information of men's knowledge in family planning method
- To investigate the socio-economic and demographic factors that influence on contraceptive use among currently married men aged 15-49 in Myanmar

Data Source

This study uses the secondary data obtained from the 2015-16 Myanmar Demographic and Health Survey (MDHS) which is the first Demographic and Health Survey (DHS) to be conducted in Myanmar. It was implemented by the Ministry of Health and Sports (MOHS). The MDHS included information on 12500 households, 12885 women, and 4737 men, across 15 Regions and States, the urban and rural areas in Myanmar. All men aged 15-49 who were usual residents of the selected households or who slept in the households the night before the survey were eligible for the male survey. The study used 2916 currently married men between the ages of 15-49 to use male involvement in family planning program related to contraceptive use in that survey.

Methods

In order to investigate some socio-economic and demographic factors that influence on contraceptive use of currently married men in Myanmar, two approaches were used in the data analysis. Descriptive methods were used to study knowledge of family planning use among currently married men aged 15-49 in MDHS. Data were analyzed that Chi-square test and binary logistic regression were used to present the association between dependent variable and independent variables.

Logistic Regression Model

Logistic regression sometimes called the logistic model or logit model, analyzes the relationship between multiple independent variables and a categorical dependent variable, and estimates the probability of occurrence of an event fitting data to a logistic curve. There are two models of logistic regression, binary logistic regression and multinomial logistic regression. Since logistic regression calculates the probability of an event occurring over the probability of an event not occurring, the impact of independent variables is usually explained in term of odds. With logistic regression model the natural log odds as a linear function of the explanatory variable (Peng, Lee & Ingersoll, 2002). The model is expressed in the following logit function below.

$$Logit\ (y) = \ln(odds) = \ln\frac{p}{(1-p)} = \alpha + \beta x \qquad (1)$$

Where p is the probability of interested outcome and x is the explanatory variable. The parameters of logistic regression are α and β. Taking the antilog of equation (1) on both side, one can derive an equation for the prediction of the probability of an event occurrence of interested outcomes as;

$$p = P\ (Y = \textit{interested outcome}/\ X = x, \textit{a specified value}) = \frac{e^{\alpha+\beta x}}{1+e^{\alpha+\beta x}}$$

Extending the logic of logistic regression to multiple predictors, one may construct a complex logistic regression as

$$\textit{Logit}\ (y) = \ln \frac{p}{(1-p)} = \alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$$

Therefore, $p = P\ (Y = \textit{interested outcome}/\ X = x_1, \dots, x_k)$

$$P(y) = \frac{\exp\ \{\alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k\}}{1 + \exp\ \{\alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k\}}$$

exp = exponential value

Contraceptive is used under dichotomous outcome in this study; hence the use of binary logistic regression, which is the most used model in analyzing the probability of an event to occur. *y* is dichotomous dependent variable defined as;

$$y \begin{cases} 0 = \textit{no use of contraceptive} \\ 1 = \textit{use of contraceptive} \end{cases}$$

The subdivision of the independent variables is shown in the following table (1).

Table (1) Independent Variables of Study Population

Variables	**Categories**
Age of Respondents	1= 15-19 age group, 20-24 age group, 25-29 age group, 30-34 age group, 35-39 age group, 40-44 age group and 45-49 age group.
Place of Residence	1= urban areas and 2= rural areas
Education Level	0= no education, 1= primary education, 2= secondary education and 3= higher education
Wealth Index	1= poorest households, 2= poor households, 3= middle households, 4= richer households and 5= richest households
Currently Working	0= not working and 1=working
Age of Wife	1= under 30 age, 2= 30-39 age group and 3= 40 age and over
Number of Living Children	0= no child, 1= one child, 2= two children, 3= three children, 4= four children and 5= five children and above
Sex of Household Head	1= male and 2= female
Household Size	1= small household size is one to four members, 2= median household size is five to eight members and 3= big household size is nine members and above
Son at Home	0= no one, 1= one to two persons and 2= three to five persons
Daughter at Home	0= no one, 1= one to two persons and 2= three to four persons

Fertility Preference	1= have another, 2= undecided, 3= no more, 4= sterilized of respondents or partners and 5= declared infecund of respondents or partners
Tested for HIV	0= no and 1= yes

Sources: The Myanmar Demographic and Health Survey 2015-2016

Descriptive statistics for various type of family planning method

The various types of family planning method by the couples among the respondents in Myanmar show in the following table (2) and figure (1).

According to the Table (2), more than half (61.3%) of men have never discussed family planning with their partner, and one-third (38.7%) of men used family planning methods among all respondents in this study. Of 1129 men who used FP method, 53.6% used injections as family planning is highest because it has more than half of men who have used contraceptive method of the couples, 28.3% used pill and 8.0% used female sterilization, 3.6% used IUD, 2.4% used withdrawal, 1.9% used implants or Norplant, 0.8% used Periodic abstinence, 0.7% used male sterilization, 0.4% used other modern method, 0.3% used other traditional methods, 0.2% used female condom as family planning, respectively.

Table (2) Type of family planning method used by the couples among the respondents

Contraceptive Method	No. of respondents	(%)
Yes (contraceptive use)	1129	(38.7)
- Pill	319	(28.3)
- IUD	41	(3.6)
- Injections	605	(53.6)
- Female sterilization	90	(8.0)
- Male sterilization	8	(0.7)
- Periodic abstinence	9	(0.8)
- Withdrawal	27	(2.4)
- Implants/ Norplant	21	(1.9)
- Female condom	2	(0.2)
- Other modern methods	4	(0.4)
- Other traditional methods	3	(0.3)
No (not contraceptive use)	1789	(61.3)
Total married men	2916	(100)

Sources: The Myanmar Demographic and Health Survey 2015-2016

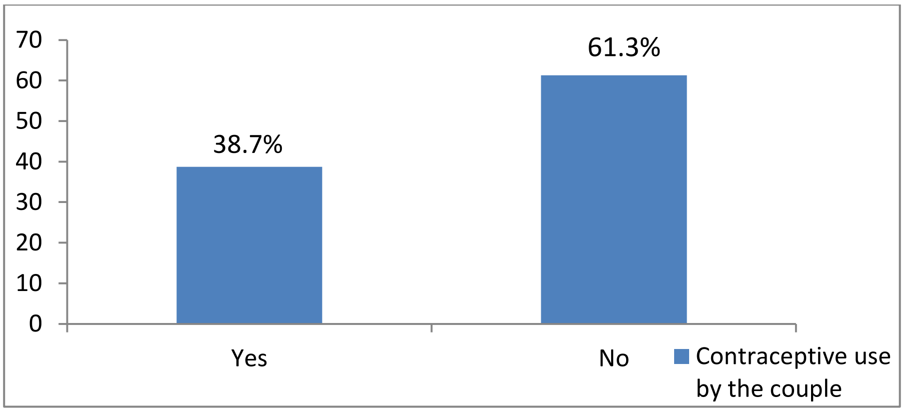

Figure (1): contraceptive method by the couples of their family planning

Men's Knowledge of Family Planning Method

This study assessed the knowledge of male involvement in family planning and the necessary factors influencing male involvement in family planning in the following table (2).

Table (3) shows that a total of 2916 married men were administered to the respondents in this study. About 89% of married men who know source for contraceptive use, most of all participants had good knowledge of family planning. As the knowledge of social media, those are very low information at 15.7% of ratio, 23.8% of TV, 21.9% of newspaper, 12.6% of internet, and 35.5% of billboard advertisement about family planning. Most of the respondents were to know the sources of contraceptive use in which government hospital, government health centre, government health post and other relative health centres such as village health worker, public mobile clinic, private mobile clinic, private fieldworker, Myanmar Red Cross Society, other NGOs and relative friends (2015-2016 MDHS). Discussed family planning with health worker is very low of married men in Myanmar. Although 52.9% of men did not agree to use contraceptive method with their business partners to prevent pregnant, men who refuse to use contraceptive are low (8.6%). Most of the married men who ever heard a sexually transmitted infection in family planning method were 93.7%.

Table (3) Men's Knowledge of Family Planning Methods

Men's Knowledge of Family Planning Methods	No. of respondents (%) n =2916
Knows source for contraceptive use	
- Yes	2587 (88.7)
- No	329 (11.3)
On ratio heard about family planning	
- Yes	458 (15.7)
- No	2458 (84.3)
On TV watch about family planning	
- Yes	694 (23.8)
- No	2222 (76.2)
In newspaper read about family planning	
- Yes	640 (21.9)
- No	2276 (78.1)
Seen or read about family planning on the internet	
- Yes	366 (12.6)
- No	2550 (87.4)
Read about family planning in Billboard.	
- Yes	1035 (35.5)
- No	1881 (64.5)
Discussed family planning with health worker in the last month.	
- Yes	191 (6.6)
- No	2725 (93.4)
Contraceptive is women's business, man should not worry	
- Disagree	1543 (52.9)
- Agree	1125 (38.6)
- Don't know	248 (8.5)
Beating justified: refuses to use contraceptive	
- Yes	251 (8.6)
- No	2559 (87.8)
- Don't know	106 (3.6)
Ever heard a sexually transmitted infection (STI)	
- Yes	2731 (93.7)
- No	185 (6.3)

Sources: The Myanmar Demographic and Health Survey 2015-2016

Relationship between Socio-economic, demographic characteristics and family planning of respondents

The relationship of socio-economic and demographic characteristics of male involvement in family planning of their couples is shown in the following table (4).

Table (4) Socio-economic and demographic characteristics of the respondents to male involvement in family planning

Variables	Currently Contraceptive Use		Test of Independent
	No =1787 (%)	Yes =1129 (%)	
Age of Respondents			
15-19	22 (1.2)	10 (0.9)	
20-24	115 (6.4)	99 (8.8)	χ^2 = 56.512***
25-29	248 (13.9)	193 (17.1)	df = 6
35-34	299 (16.7)	234 (20.7)	p- value = 0.000
35-39	338 (18.9)	244 (21.6)	
40-44	385 (21.5)	216 (19.1)	
45-49	380 (21.3)	133 (11.8)	
Place of Residence			χ^2 = 13.361***
Urban	417 (23.3)	322 (29.4)	df = 1
Rural	1370 (76.7)	797 (70.6)	p- value = 0.000
Education Level			
No education	317 (17.7)	104 (9.2)	χ^2 = 56.640***
Primary	762 (42.6)	449 (39.8)	df = 3
Secondary	612 (34.2)	498 (44.1)	p- value = 0.000
Higher	96 (5.4)	78 (6.9)	
Wealth Index			
Poorest	428 (24.0)	209 (18.5)	χ^2 = 22.267***
Poorer	396 (22.2)	216 (19.1)	df = 4
Middle	353 (19.8)	249 (22.1)	p- value = 0.000
Richer	338 (18.9)	239 (21.2)	
Richest	272 (15.2)	216 (19.1)	
Currently Working			χ^2 = 5.397**
No	87 (4.9)	35 (3.1)	df = 1
Yes	1700 (95.1)	1094 (96.9)	p- value = 0.022

Age of Wife [a]			
Under 30 year	530 (29.7)	399 (35.3)	χ^2 = 69.210***
30 – 39 year	637 (35.7)	501 (44.4)	df = 2
40 year and over	618 (34.6)	229 (20.3)	p- value = 0.000
Number of Children			
0	269 (15.1)	94 (8.3)	
1	401 (22.4)	328 (29.1)	χ^2 = 92.518***
2	403 (22.6)	345 (30.6)	df = 5
3	717 (17.6)	217 (19.2)	p- value = 0.000
4	278 (11.0)	85 (7.5)	
5 and above	204 (11.4)	60 (5.3)	
Sex of Household Head			χ^2 = 0.588
Male	1619 (90.6)	1101 (90.0)	df = 1
Female	89 (9.4)	28 (10.0)	p- value = 0.607
Household Size			
small	758 (42.4)	512 (45.3)	χ^2 = 4.207
median	869 (48.6)	536 (53.6)	df = 2
big	160 (9.0)	81 (7.2)	p- value = 0.122
Son at Home			
0	659 (36.9)	402 (35.6)	χ^2 = 13.753***
1-2	984 (55.1)	673 (59.6)	df = 2
3-4	144 (8.1)	54 (4.8)	p- value = 0.001
Daughter at Home			
0	757 (42.4)	422 (37.4)	χ^2 = 19.499***
1-2	897 (49.2)	643 (57.0)	df = 2
3-4	151 (8.4)	64 (5.7)	p- value = 0.000
Fertility Preference [b]			
Have another	841 (47.1)	554 (49.1)	
Undecided	70 (3.9)	43 (3.8)	χ^2 = 78.220***
No more	757 (42.4)	480 (42.5)	df = 4
Sterilized (with partner)	10 (0.6)	40 (3.5)	p- value = 0.000
Declared infecund (with partner)	108 (6.0)	12 (1.1)	
Tested for HIV [b]			χ^2 = 15.744***
No	1373 (76.8)	793 (70.2)	df = 1
Yes	414 (23.2)	336 (29.8)	p- value = 0.000

Source: The 2015-2016 Myanmar DHS, χ^2 = Chi-Square value, df= Degree of freedom, [a] is 2 missing value and [b] is 1 missing value, (*,**, and *** are represent by 10%, 5% and 1% significance level)

Table (4) shows the socio-economic and demographic variables and their relationship to use of family planning method in Myanmar.

Age of Respondents: Age of men is associated with male involvement in family planning. About 10% male participate in family planning whose age groups are 15-19 years and 20-24 years (under 25 years of age) and the highest contraceptive use of male is about 43% whose age group belongs to 30-34 years and 35-39 years (between 30 and 40 years of age). The Chi-square test also shows the association between age of married men and their involvement in family planning is strongly significant.

Place of Residence: In urban areas, the couples with no contraceptive use in family planning method were 23.3% and those with contraceptive use were 29.9%. In rural areas, the couples with no contraceptive use in family planning method were 76.7% and those with contraceptive use were 70.6%. Therefore, urban areas are more likely to use contraceptive than rural areas. Test of independence, type of place of residence and male involvement in family planning are associated at 1% significance level.

Education Level: Men's education is associated with male involvement in family planning. It shows that 9.2 % of no education, 39.8% of primary education, 44.1% of secondary education and 6.9% of higher education in family planning respectively. The study reveals that male involvement in family planning increases among couples where the level of secondary education. It shows that the association between men's education level and their family planning used is strongly significant.

Wealth Index: About 19% of poorest household whose use contraceptive method is lowest and 24% of poorest household whose do not use contraceptive is highest. The association between wealth index of household and their family planning used is statistically significant.

Currently Working: There are 3.1% of no-working persons and 56.9% of working persons in family planning used. Thus, Woking persons of this planning are more used of contraceptive than those no-working persons. Chi-square test also shows the association between current working status and their involvement in family planning is 10% level of significant.

Age of Wife: About 45% of male involvement in family planning whose contraceptive used of women age group 30-39 years (over 30 years of age) is high. It shows the association between age of wife and their family planning used is strongly significant.

Number of Children: The number of current living children is an important factor for male involvement in family planning. Male participation is very low (5.3%) among the couples who have 5 children and above. And then, the male involvement in family planning rate among couples are 8.3% of no child, 29.1% of one child, 30.6% of two children, 19.2% of third children, and 18.2% of four children, respectively. It is found that the association between the number of living children in a family and male involvement in family planning method is strongly significant.

Sex of Household Head: People of Myanmar's tradition, most of male household head are male, and 90% of male household use contraception. But then, there are insignificant association between sex of household head and family planning method.

Household Size: The results show that male involvement in family planning rate is higher among couples who have the median of household size. Chi-square test is also insignificant association between household size and male involvement in family planning.

Son at Home: There are 35.6%, 59.6% and 4.8% of no son, one to two sons and three to four sons of these families, respectively. Three to four sons of male involvement in family planning are lowest to contraceptive use, the number of sons in a family and family planning method were significantly associated at 5% level.

Daughter at Home: There are also 37.4%, 57.0% and 5.7% of no daughter, one to two daughters and three to four daughters of these families, respectively. Three to four daughters of male involvement in family planning are lowest to contraceptive use. Like son at home, there is a significant association between the number of daughters in a family and family planning method at the 1% level.

Fertility Preference: The demand for children, which may have a direct bearing on the demand for contraception, is higher (49.1%) among the couples who want to have another child. It shows a statistically significant association between the fertility preference and male involvement in family planning at the 1% level.

Tested for HIV: The total of 2196 married men were only 34% of men who have ever been tested for HIV. the result shows 29.8% of men who have ever tested for HIV and 70.2% of men who have not tested for HIV to be involved in family planning method. The association between men who have ever been tested for HIV and male involvement in family planning method is strongly significant.

Analysis of factors of socio-economic and demographic in family planning in Myanmar

The analysis of this study provides information on male involvement status in family planning method use in the following table (5). Logistics regression model analyzes that all the explanatory variables have significant effects on family planning Chi-squared test. However, this table does not show that the independent variables have insignificant effect on family planning method.

Table (5) Analysis of factors of socio-economic and demographic in family planning method

Variables	B	S.E	df	OR [Exp (B)]	95% CI. for Exp (B)
Education Level					
No education (ref.)					
Primary	0.460	0.134	1	1.583***	1.218 – 2.059
Secondary	0.655	0.141	1	1.926***	1.461 – 2.538
Higher	0.542	0.220	1	1.720**	1.118 – 2.646
Wealth Index					
Poorest (ref.)					
Poor	-0.014	0.126	1	0.986	0.770 – 1.263
Middle	0.282	0.129	1	1.326**	1.030 – 1.705
Richer	0.174	0.136	1	1.191	0.912 – 1.554
Richest	0.143	0.164	1	1.153	0.836 – 1.591
Age of Wife					
Under 30 years (ref.)					
30-39 years	0.070	0.124	1	1.073	0.841 – 1.368
40 years and over	-0.565	0.169	1	0.568***	0.408 – 0.791
Number of Children					
0 (ref.)					
1	0.862	0.179	1	2.368***	1.666 – 3.365
2	1.043	0.216	1	2.837***	1.856 – 4.335
3	0.960	0.251	1	2.612***	1.596 – 4.276
4	0.590	0.289	1	1.805**	1.024 – 3.182
5 and above	0.436	0.345	1	1.546	0.786 – 3.039
Fertility Preference					
Have another (ref.)					
Undecided	-0.021	0.209	1	0.979	0.650 – 1.473
No more	0.304	0.103	1	1.355***	1.107 – 1.658

Sterilized (with partner)	2.158	0.380	1	8.651***	4.110 – 18.210
Declared infecund (with partner)	-1.129	0.323	1	0.323**	0.172 – 0.609
Tested for HIV					
No (ref.)					
Yes	0.200	0.098	1	1.222**	1.008 – 1.480

Source: The 2015-2016 Myanmar DHS, B= Coefficient, df= Degree of freedom, OR= odd ratio, 95% CI= confidence interval, ref.= reference category (Note: *,**, and *** are represent by 10%, 5% and 1% significance level)

Table (5) shows the results of analysis of socio-economic, demographic variables of male involvement in family planning method in Myanmar.

Education level: Men's level of education was positively associated with male involvement in family planning. Men who attended primary education were approximately 2 times (OR= 1.58, 95% CI= 1.22 – 2.06) more likely to be involved in family planning as compared to men who have no education level. Similarly, men who have secondary education and higher education had 2 times (OR= 1.93, 95% CI= 1.46 – 2.54) and 2 times (OR= 1.72, 95% CI= 1.11 – 2.65) more likely to be involvement in family planning than those men who have no education.

Wealth Index: Couples whose have middle household of wealth are 1.33 times (OR= 1.33, 95% CI=1.01 – 1.03) more likely to participate in family planning and those couples are the poorest household in any wealth index.

Age of Wife: Men whose wives of 40 years of age and above are 0.57 times (OR=0.57, 95% CI= 0.41 – 0,79) less likely to participate in family planning than those ages less than 30 years while other independent variables remain fixed.

Number of Children: Men who have from one child to four children have 2.4 times (OR=2.36, 95% CI= 1.67 – 3.36), 2.8 times (OR=2.84, 95% CI= 1.86 – 4.34), 2.6 times (OR=2.61, 95% CI= 1.59 – 4.28) and 1.8 times (OR= 1.81, 95% CI= 1.02 – 3.18) more likely to be involved in family planning as compare to men who have no children. Number of living children is also statistically significant to effect of male involvement in family planning.

Fertility Preference: Men who don't want more children, and men who had sterilized were 1.3 times (OR=1.36, 95% CI= 1.11 – 1.66) and 8.6 times (OR=8.65, 95% CI=4.11 – 18.21) more likely in family planning than the couples who want to have another child. Men who had declared infecund of couples was less likely to be involved in family planning.

Tested for HIV: Men who have ever been tested for HIV are 1.2 times (OR=1.22, 95% CI= 1.01 – 1.48) more likely to participate in family planning among married men who does not test for HIV and it is positively significant to effect on family planning.

Discussion and Conclusion

The study examines the factors that are being considered as male involvement in family planning in Myanmar. The source found only 39% of currently married men which is reported by the 2015-2016 MDHS data. These data were analyzed by Chi-square tests and logistic regression. Descriptive statistics shows the percent distribution of the type of contraceptive method and men's knowledge on family planning. The variables of men's knowledge on family planning had not included in this analysis because these variables were insignificantly associated with male involvement in family planning.

This is comparable to the previous studies which express the factors influencing contraceptive use among currently married women in Myanmar (Khin Myat Noe Wai, 2019). The data analysis was done using a sample of 57% of currently married women 15-49 years from the 2015-2016 MDHS data. In socio-economic factors, women with a higher educational level are more likely to have contraceptive method than women without educational level and the educated women were more likely to determine their relationship between bodies and life. Husbands with a higher level of education are more likely to use contraceptives than husbands who do not have an education. In Myanmar, highly educated men were found to be more likely to use contraception in their families. Women in rich and middle-class households, the condition of wealth index have more likely to chance of using contraceptive methods than those poor households. In wealth index of men, the middle class of men is more likely to use family planning method than the poor man. The finding in this case, the wealth of households depends on whether or not there was use of family planning method. Women without children and one child do not use family methods, but women with more than three children are more likely to use birth control pills. Similarly, men with children are more likely to use birth control pills than without children. Therefore, families in Myanmar tend to prefer with family life. Although men have high knowledge on contraception, but the actual practice of male ever using contraceptive is low. Men's knowledge of social network about contraceptive methods is having low influence on male participation in family planning. However, men's knowledge of ever heard a sexually transmitted infection (STI) are highly related to wed couples in Myanmar. Therefore, men's education level and working status were found to have a significant impact on male participations in family planning. This study reveals that the fertility preference and ever been tested for HIV of men are statistically significant with male involvement in family planning methods.

In this study, the specified age groups of men do not have significant effect on family planning to compare 15-19 age group of men, whereas ages of men are associated with male involvement in family planning. The study reveals the low of male information for related health because lack of information, inaccessibility to services and some of the main reasons against male involvement in family planning services utilization, attitudes, spousal communication, and media exposure were poor responses in family planning. Male involvement is not limited to the use of family planning methods by itself rather supportive attitude that males have towards their spouse to use contraceptive methods and motivation in sharing responsibility. In fact, governmental and nongovernmental organizations of family planning programs should incorporate the responsibility and role of males in the practice of family planning in which materials are the motivating factor for access to use the services.

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Effect of Characteristics of Businesses on Financial Performance of Purified Drinking Water Manufacturing Businesses in Yangon

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Abstract

This study aims to analyze the effect of business characteristics on financial performance of purified drinking water manufacturing businesses in Yangon. Business characteristics considered in this study are size, ownership form and age of businesses. Financial performance is measured with two criteria: sales revenue and profit. In this research, the simple random sampling method is applied by doing survey on 84 businesses which are located in Yangon. To collect primary data, personal interview method is applied by using structured questionnaire. Data are collected during 2017 and 2018. To reach research objectives, dummy variable regression analysis is applied. According to the findings, business size has a positive influence on the financial performance of businesses. This means the larger the business the higher the financial performance. The study also explore that company businesses has a positive influence on the financial performance. However, there is no significant difference between performance of sole proprietorship and partnership. Company businesses gain higher financial performance than sole proprietorship and partnership businesses. In addition, the study pointed out the business's age does not have significant effect on financial performance. Based on the findings, small businesses should also consider mergers or become subsidiaries to larger organizations as an option to ensure survival and good financial performance. The businesses should pay more attention to transform from sole proprietorship and partnership businesses into private companies. However, purified drinking water manufacturing businesses should not take into account their age or their operating years to increase their financial performance.

Key words: Business Characteristics, Financial Performance

1. Introduction

Purified drinking water market is growing significantly in the local market; however, some existing brands evaporate without knowing because they cannot survive in the world of rapidly changing customer's attitude, behavior. Business financial performance is considered to be the most imperative concern for all businesses. A business's performance is an appropriate key to making the right decisions to support business activities in the economy.

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Business practitioners consider it as vital indicators for effectiveness and efficiency and in return it represents an implicit measure for the company survival (Naser & Mokhtar,2004). With the increased global competitiveness and challenges, countries have become more interested in improving financial performance gives the participation ability in global economy, encourage direct foreign investments and maintain sustainable economic growth.

Defining and measuring financial performance is a challenging issue, because it differs depending on the type of organization or its objectives. There are many ways to measure financial performance. Line items, such as revenue from operations, operating income, or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. https://www.investopedia.com/terms/f/ financial performance. asp. The study uses both sales revenue and profits for measuring financial performance.

Business financial performance can be affected by internal factors related to the business - called business specific determinants – such as business size, age, etc. Moreover, the external environment could affect the firm's financial performance, such as the economy, industry type…. etc. Ali, Yassin & AbuRaya (2020). This study considers the internal factors only, specifically the business characteristics. A number of studies were conducted to explore the relationship between business characteristics and financial performance, in both developing and developed countries such as (Egbunike & Okerekeoti 2018; Mater & Eneizan 2018; Mafumbate et al.2017 and Lazar 2016). The analysis of previous studies shows deficiency in the factors affecting business financial performance. Little or very limited research has been undertaken in Myanmar to provide evidence on the influence of business characteristics on financial performance and the role of business size, business age, and business ownership forms in improving financial performance.

The purpose of the study is to empirically examine the relationship between business characteristics and business financial performance of Purified Drinking Water Manufacturing Businesses in Yangon. Consequently, the study attempts to fill the gap existing in prior research.

In purified drinking water market in Myanmar, the hidden issue is that which element of business characteristics is influencing on financial performance (sales and profit). The study adds to the literature on the following points: providing empirical evidence on the impact of business characteristics on business financial performance of Purified Drinking

Water Manufacturing Businesses in Yangon context; presenting the potential implications of the empirical findings that could be beneficial to management and investors; finally, helping to study other industries in Myanmar. These contributions give this research a special consequence since the results could be applied to several countries.

2. Objective of the Study

The purpose of this research is to investigate whether the characteristics of purified drinking water manufacturing businesses can support them to increase their performance. The objective of the paper is:

- To analyze the effect of characteristics of businesses on financial performance of purified drinking water manufacturing businesses in Yangon.

3. Method of the Study

In this research, descriptive research and empirical research are employed. Descriptive research is utilized to specify the current condition of the business characteristics. Empirical research is appropriate when proof is sought the impact of business characteristics on sales revenues and profits in some way. In this analysis, dummy variable regression analysis is conducted. A dummy variable is a numerical variable used in regression analysis to represent subgroups of the sample in the study. ... Dummy variables are useful because they enable the researcher to use a single regression equation to represent multiple groups. (https://conjointly.com/kb/dummy-variables/)

In this paper, both primary and secondary sources of data are utilized to collect the required information. The primary data are compiled from manufacturers or managers of purified drinking water manufacturing businesses in Yangon by conducting interviews with structured questionnaires. The questionnaire items in the business characteristics were based on Erdil & Ozdemir (2016). Secondary data are obtained from profile and records of available purified drinking water manufacturing businesses, relevant text books, theses and previous research papers and journals from internet websites.

The composition of the paper is mainly quantitative with some qualitative data to support and expand upon results of research the research findings. The sum total of purified drinking water manufacturing businesses in Myanmar is about “974”. “344” out of “974” (35%) are located in Yangon (FDA, 2016). In this research, by using the formula developed by Yamane (1973) with 90% level of precision, the sample size is “78”. In this paper, simple random sampling method is applied. Although sample size is “78”, “84” businesses are randomly selected.

4. Conceptual Framework of the Study

Theoretical framework for examining the impact of business characteristics on financial performance is fastened mainly on the resources-based view (RBV) that postulates the link between businesss’ internal resources and performa nce (Ozdemir & Denizel,2006). Based on RBV theory, there is no business that can achieve c ompetitive advantage without proper resources (Bharadwajet al.,1993;Hunt,1999).

Business characteristics can be predicted from several indicators. The first is business size. For example, larger company has greater amount of assets and can access to provide funding. Second, business complexity is associated with business segments. Companies have production lines, departments and marketing strategies. Therefore, if company is large, complexity increases. (Badriyah et al, 2015).

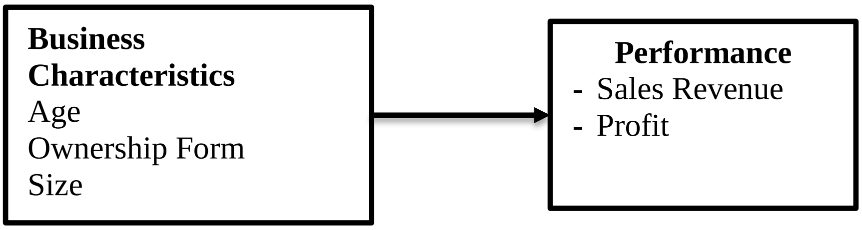
Business age measures the number of years a business has been in operation which reflects the business experience. Theoretically, two streams of research explain the relationship between business age and financial performance. The first stream suggests that older businesses because of its experience would have a better financial performance (Coad et al.,2013; Vassilakiset al.,2008).While, the second stream mentioned that age of the business can have a negative effect on financial performance because of some difficulties in adapting with the rapid changes in its business environment (Barron et al.,1994).

This study’s conceptual model is adapted to three previous researchers’ models which are closely related to basic assumptions of the paper. The first model adapted by this research is developed by Isik, Unal, &Unal (2017). This model presents the impact of business size on profit of Turkish manufacturing businesses. The second model considered in this paper is the model developed by Worlu, Evioghenesi, Ajagbe, &Okoye, (2015). This study analyzed the correlation between the ownership types and business achievement. In the third model, Pervan, Pervan, &Curak, (2017) pointed out the impact of age business achievement.

Conceptual Model of the Study

Conceptual model of this research is developed by concerning the factors mentioned above with theoretical aspects, and previous researchers’ findings. The conceptual model is depicted in Figure (1).

Figure (1) Conceptual Model of the Study



Source: Own Compilation

In this paper, the major assumption is developed: the effect of the business's characteristics on performance in purified drinking water manufacturing businesses in Yangon. Figure 1 above shows the conceptual framework which involves the business characteristics having a relationship with financial performance.

5. Analysis and Results

The main purpose of the research is to analyze the effect of business characteristics on sales revenue and profit of purified drinking water manufacturing businesses in Yangon. To explore this relationship, the study also intends to pinpoint the business characteristics of purified drinking water manufacturing businesses in Yangon. Descriptive research is utilized to discuss the financial condition of businesses based on different characteristics. The dummy variable regression analysis is conducted to analyze the influence of business characteristics on sales revenue and profit condition of purified drinking water manufacturing businesses in Yangon.

Profile of Purified Drinking Water Manufacturing Businesses

The profile of purified drinking water manufacturing businesses consists of ownership form of businesses, business's age and number of workers. In the analysis of ownership form of business, (83%) are sole proprietorships, (12%) are partnerships and (5%) are private companies.

In the analysis of business's age, 45 % of all the businesses have less than five years of businesses' age, 26% of all the businesses have five to ten years of businesses' age and 29% of all the businesses have more than ten years of business's age.

In this research paper, the small business is the highest percentage. This situation is related with being 83 % of the businesses are sole proprietorship. Almost all of these businesses have only 10-50 employees because most of the businesses are only family businesses. Table (1) prescribed the profile of the purified drinking water manufacturing businesses in Yangon in terms of the ownership form of businesses, business's age and size of businesses.

Table (1) Profile of PDWM Businesses

Sr. No.	Demographic Factors	Number of Businesses	Percent (%)
1	**Total Number of Businesses**	84	100
2	**Ownership Form of Business**		
	Sole Proprietorship	70	83.33
	Partnership	10	11.91
	Private Company	4	4.76
3	**Business's Age (Year)**		
	< 5	38	45.24
	5-10	22	26.19
	>10	24	28.57
4	**Size of Business by No. of Employees (**Revised Private Industrial Enterprise Law,2011)		
	Small (10-50)	68	81.00
	Medium (50-100)	8	9.50
	Large (>100)	8	9.50

Source: Survey Data (2017-2018)

Descriptive Analysis on Characteristics of Businesses and Financial Performance

According to the interview data, among the characteristics of purified drinking water manufacturing businesses, three types of characteristics are recommended. This is because these characteristics are suitable in analyzing the influence on financial performance. Three business characteristics are specialized and studied. These are (1) sizes of businesses, (2) ownership forms of businesses, and (3) business's age.

Size of Businesses and Financial Performance

In the cases of size of business, three types of businesses are categorized and studied. They are small size, medium size and large size businesses. To compare the overall mean values of small, medium and large businesses, mean values of each size of businesses are shown in the following tables. Mean values differences in financial performance of each size of businesses are mentioned in Table (2).

Table (2) Business Size and Financial Performance

Sr. No	Size of Businesses	Mean
1	Small	2.566
2	Medium	3.937
3	Large	4.375

Source: Survey Data (2017-2018)

As indicated in the table, the overall mean value for large business is the highest mean value among mean values for small, medium and large businesses. It can be assumed that small-sized businesses are normally focused on target markets that are proximity to their plant. It can also be said that large and medium sized businesses are normally focused on numerous target markets which are both of near and far away from their plants. It can be stated that large and medium sized businesses can handle numerous target markets thanks to power in networking and supporting required finance while small businesses can handle a few target markets.

Large -sized businesses have significant size advantages compared to small-sized businesses. All of these results support the perception that as the business grows, their financial performance improves. Larger companies increase their profits by means of their production efficiency. In addition, Large companies that take advantage of their size can access the public debt market in an easier and cheaper way to meet their financial needs. Because large companies are known to be less bankrupt, borrowing more at a lower cost may benefit from tax protection. In addition, large companies using high market power and better technology can positively contribute to solid profits.

Ownership Form of Businesses and Financial Performance

In the cases of ownership form of business, three types of businesses are categorized and studied. They are sole proprietorship, partnership and private company businesses. To compare the overall mean values of sole proprietorship, partnership and company businesses, mean values of each ownership form of businesses are shown in the following tables. Mean values of each form of businesses point out the mean differences between them. Table (3) summarizes the mean values of financial performance for sole proprietorship, partnership and company.

Table (3) Ownership Form and Financial Performance

Sr. No	Ownership Form of Businesses	Mean
1	Sole Proprietorship	2.829
2	Partnership	2.8
3	Company	3.75

Source: Survey Data (2017-2018)

As shown in table, the overall mean value for company business is the highest mean value among mean values for sole proprietorship, partnership and company businesses. The overall mean values for sole proprietorship and partnership businesses are nearly the same. Initiatives and capability enhance the survival of their ventures for improved performance. Management in corporate business is in the hands of experienced owners. Salaried managers are hired to manage day-to-day operations. Therefore, the company provides professional management.

Performance of sole proprietorship and partnership is dominated by the intellectual capital of the owners or managers of these businesses in areas such as dynamics of family centeredness, non-exposure to formal or managerial training of the owner or manager of such venture, influences of informal relationship between owners and probably the inherent weakness and vulnerability of these businesses by their nature. In the partnership business, there is a risk of disagreements and friction among partners and management. Disagreements and disputes not only hurt the business but also the relationships between the parties. Although partnerships provide more capital than a single trader, partnerships often find it difficult to finance. Sole proprietorship businesses are difficulty in getting loan.

Age of Businesses and Financial Performance

In the cases of age of business, three terms of operating years are categorized and studied. These terms are short-term (less than five operating years), medium-term (between five and ten operating years) and long-term (more than ten years). Mean values of each term of businesses point out the mean differences between them. These values can be seen in Table (4).

Table (4) Business Age and Financial Performance

Sr. No	Age of Businesses	Mean
1	Younger Group	2.803
2	Medium-Aged Group	2.955
3	Older Group	2.896

Source: Survey Data (2017-2018)

According to the table, the overall mean values for medium-aged business, younger and older businesses are nearly the same. Older business outperforms younger business since they have more experience in the industry. However, older businesses do not have the flexibility to adopt new changes as they get older so that they perform worse than younger businesses. They show that until a certain age the younger businesses earn a higher profit than older businesses; however, after a business reaches a certain age then older businesses begin earning more profit than younger competitors.

Effect of Businesses Characteristics on Financial Performance

In regression analysis, dependent variables are often influenced by nominal variables. Since such variables usually indicate the presence or absence of a 'quality' or an attribute, they are essentially nominal scale variables.

To include a categorical independent variable in a regression model, dummy Variable is used. A dummy variable recodes the categories of a categorical variable using the numeric values 0 and 1. Where appropriate, the value of 0 is assigned to the absence of a characteristic and the value 1 is assigned to the presence of the characteristic. Dummy variables are essentially a device to classify data into mutually exclusive categories.

Dummy variables can be incorporated in regression models just as easily as quantitative variables. As a matter of facts, a regression model may contain repressors that are all exclusively dummy, or qualitative, in nature. To identify the effect of nominal scales variable on business's performance, dummy variables regression method is used. Nominal scale variables consist of size of businesses, ownership form of businesses, and age or operation years of businesses.

The following equation shows the impact of size of businesses on financial performance of businesses. The size is classified by the number of employee as stated by SME law (2011 Revised Private Industrial Enterprise Law). The following shows the influence of business characteristics on the financial performance of purified drinking water businesses in Yangon.

Effect of Size of businesses on Financial Performance

Financial Performance	= 2.566	+1.809	+ 1.371
		(large size)	(medium size)
Se	= 0.056	0.174	0.174
t	= 45.467***	10.398***	7.883***

Source: Survey Data (2017-2018)

*,**,***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the mean value of small size businesses is 2.566, that of large size businesses is higher by 1.809, and that of medium size businesses is higher by 1.371. The mean value of large and medium size businesses can be easily obtained by adding these differential values to the means value of small sized businesses. The mean values of the latter two businesses are 4.375 (2.566+1.809) and 3.937 (2.566+1.371).The coefficients of large and medium size businesses are significant at 1% level. Therefore, the overall conclusion is that statistically the financial performance of small, medium and large size businesses are not about the same. Thus, there is significant effect of sizes of businesses on financial performance.

In this research, the influence of ownership form of businesses on financial performance is also examined. Ownership form of businesses consists of sole proprietorship, partnership and company.

Effect of Ownership Form of Businesses on Financial Performance

Financial Performance	= 2.829	+0.921	- 0.29
		(company)	(partnership)
Se	= 0.092	0.395	0.260
t	= 30.809***	2.333**	-110

Source: Survey Data (2017-2018)

*,**,***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the mean value of sole proprietorship is 2.829, that of company is higher by 0.921, and that of partnership is lower by 0.29. The mean value for the company and partnership can be easily obtained by adding these differential values to the means of sole proprietorship. The mean values of the latter two kinds of businesses are 3.75 (2.829 +0.921) and 2.539 (2.829 - 0.29).

The coefficient of company businesses is significant at 5% level and it can be said that there is effect of type of company on the financial performance. The coefficient of partnership businesses is not significant. It can be said that there is no effect of type of partnership on the financial performance. Thus, there is significant effect of one ownership form of businesses (company) on business's financial performance.

In this study, the effect of business's age on financial performance is also examined. In the study, three terms of operation years are classified. They are long term (more than ten years), medium term (five to ten years) and short term (less than five years)

Financial performance is the dependent variable and the business's age is independent variable. The effect of business's age on the financial performance of purified drinking water manufacturing businesses in Yangon by using approach of measuring their practices with mean values can be seen as;

Effect of Business's Age (Operation Years) on Financial Performance

Financial Performance	= 2.803	+0.093	+ 0.152
		(long term)	(medium term)
Se	= 0.128	0.206	0.212
t	= 21.834***	0.452	0.717

Source: Survey Data (2017-2018)

*,**,***: Indicate statistical significance at the 10% level, 5% level and 1% level

Depending on these regression results shown, the financial performance mean value of businesses (less than five operating years) is 2.803 that of financial performance mean value of businesses (more than ten operating years) is higher by 0.093, and that of financial performance mean value of businesses (five to ten operating years) is higher by 0.152. The coefficients of businesses which have long term and medium term business's age are not significant. Since it is found that statistically the financial performance mean value of businesses which have long term and medium term business's age are nearly the same, it can be concluded that there is no significant effect of business's age on business's financial performance.

In summary, among the characteristics of businesses (sizes, ownership forms and business's age), the size and ownership form of business (company) have a significant impact on financial performance. However, the age of the business does not have a significant impact on the financial performance of the drinking water industry in Yangon.

6. Conclusion

The research paper explored significant research findings that have emerged from the analysis of research data on businesses' characteristics, and financial performance (sales revenue and profit) of purified drinking water manufacturing businesses in Yangon. As the findings from dummy variable regression analysis, size of businesses has significant influence on financial performance. The larger the size of businesses the higher the financial performance is achieved. Setting-up a small-scale purification factory is fairly simple and can even be done in a residential house or a compound, and their production capacity is low: they can produce about fifty to a hundred 20 liter bottlers per day. These businesses rarely get economy of scale in compare with the larger businesses. On the other hand, large businesses are easier to raise finance and better managed. In addition, these businesses have high market powers and many opportunities for economies of scale.

The result of the analysis also pointed out that there is an effect of company business on the financial performance. Partnership and sole proprietorship businesses have no significant effect. This is because company businesses suffer more economic pressures from shareholders towards higher profitability levels. Moreover, company form of ownership has some other advantages more than partnership and sole proprietorship such as professional management and expansion potential.

The research also showed that age has no affects business's financial performance. Whereas several researches suggests that the business's financial performance declines with age, it still shows that older businesses outperform younger ones in specific sectors of the economy. Young and adolescent enterprises fail mainly due to internal shortcomings, whereas mature businesses struggle more with economic slowdowns and increased competition. Nevertheless, not all researchers establish the predominant relationship between age and business performance.

Suggestions and Recommendations

In view of the above findings, this study recommends small and medium business owners should also consider mergers or become subsidiaries to larger organizations as an option to ensure survival, good performance, and business profitability. In concerning ownership form of businesses, sole proprietorship and partnership businesses should search solutions to overcome their internal shortcoming. After mature aged, sole proprietorships and partnership businesses should be transformed into company businesses. In relating business age, there is no correlation between business age and financial performance. Therefore, businesses should not take into account their age or their operating years to increase their financial performance.

Needs for Further Studies

This study only emphasizes business size, ownership form and age and excludes the other characteristics. Thus, further researchers can extend this research by counting the other characteristics such as the capital structure, innovativeness etc. This research paper is limited to focus only on Yangon area. Since further studies can be done to include other areas. To provide more new knowledge, competitive performance and strategic performance should also be considered.

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