

# Determining Applicability of Feminist Theories by Examining the Mediation and Moderation Effects on Economic Performance in Lao Micro, Small, and Medium Size Enterprises

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## Abstract

This study aimed to establish the applicability of social feminist theory and liberal feminist theory to micro, small, and medium sized enterprises (MSMEs) in Lao People's Democratic Republic (PDR) by examining the results of the mediation effects and moderation effects of the gender of entrepreneurs. Data was collected in 2005, 2007, and 2009 by the Enterprises Baseline Survey (EBS) from the German Agency for Technical Cooperation (GTZ). The findings showed that social feminist theory is more applicable than liberal feminist theory. This paper suggests implications for both practitioners and policymakers for improvements and ways to utilize some firm resources and networks and reduce the gender gap.

**KEY WORDS:** gender, mediation, moderation, social feminist theory, liberal feminist theory, firm performance

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## Introduction

This study investigated the application of two feminist theories, liberal feminist theory and social feminist theory, as the base theory. These were supported by resource-based view (RBV) and network theory as sub-theories. There is consensus between the two feminist theories regarding mediation effects of firm resources, networks, and operation factors and firm performance, but liberal feminist theory suggests that there are no moderation effects of firm resources, networks, and operation factors while the social feminist theory believes effects exist.

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This study hypothesized consistent with social feminist theory considering that significant effects of social and cultural structures appear to exist in micro, small, and medium sized enterprises (MSMEs) in Lao People's Democratic Republic (PDR). These theories were applied in a complementary way.

The main objective of this study was to establish the validity of liberal feminist theory and/or social feminist theory in their application to Lao MSMEs by examining mediation and moderation effects. In doing so, it firstly investigated whether firm resources, networks and operation factors mediated the relationship between the gender of entrepreneurs or top managers and firm performance, and secondly examined whether the gender of entrepreneurs moderated the relationship between its antecedents and firm performance.

## **Literature Review and Hypothesis Development**

Firm resources, networks, and operation factors mediate the relationship between the gender of entrepreneurs and firm performance. This means that gender can improve firm performance through firm resources, networks, and operation factors and/or differences in firm performance of male-headed firms (MHFs) and female-headed firms (FHF) can be observed through firms' different levels of these factors. Liberal feminist theory and social feminist theory are in consensus regarding this relationship. The gender of entrepreneurs moderates the relationship between firm resources, networks, and operation factors and firm performance, reflecting the different approaches and strategies adopted by different genders in their use and implementation. This may result in differences in firm performances. This is in line with social feminist theory.

### **Firm Resources as a Factor Mediating the Relationship between Gender and Firm Performance**

The gender of entrepreneurs is related to firm resources. Applying the concept of firm resources from the RBV perspective, different levels of firm resources by MHFs and FHF can result in differences in their firms' performances. Firm resources include firms' possessions such as assets, liabilities, capital, education, and experience. Females tend to have fewer tools, assets, and chances compared to males in small business (Teoh & Chong, 2008) implying that FHF may have fewer resources such as physical technology and business finance. In this connection, firm resources can be used as mediator to observe the effect of gender differences and firm performance. Therefore:

*Hypothesis 1: Firm resources mediate the relationship between the gender of entrepreneurs and firm performance.*

### **Gender as a Moderator between Firm Resources and Firm Performance**

Kantor (2002) reported that many females are reluctant to transform their economic resources into empowering outcomes within the family because of the threat of social isolation if their husbands should leave them. This reluctance by females can result in differences in firm performances. Thus, gender is adopted as a moderator of the relationship between firm resources and firm performance.

*Hypothesis 2: The gender of entrepreneurs moderates the relationship between firm resources and firm performance.*

## **Networks as a Factor Mediating the Relationship between Gender and Firm Performance**

The level of network participation by MHFs and FHFfs is important because different kinds of conditions produce different performances between the firms. Networks can be useful links for entrepreneurs in MSMEs, for example, to boost the selling and supplying functions through personal contacts with suppliers and customers leading to better performance. Differences in participation in networks can be considered a mediator for the gender of entrepreneurs and firm performance since MHFs and FHFfs can improve their performance through key networks with important external parties such as suppliers, customers, and financial institutions.

*Hypothesis 3: Networks mediate the relationship between the gender of entrepreneurs and firm performance.*

## **Gender as a Moderator between Networks and Firm Performance**

Based on the related network literature in the previous section, differences in the use and implementation of strategic choices in terms of networks by different genders of entrepreneurs can lead to different performances by MHFs and FHFfs even with similar levels of network availability. The decision-makers regarding the use of networks are entrepreneurs and therefore gender of entrepreneurs is used as a moderator of the relationship between networks and firm performance. Therefore:

*Hypothesis 4: The gender of entrepreneurs moderates the relationship between networks and firm performance.*

## **Operation as a Factor Mediating the Relationship between Gender and Firm Performance**

FHFfs and MHFs differ in operation approaches/factors in their businesses. Different levels of operation factors by MHFs and FHFfs can be one of the reasons. In this connection, operation factors of MHFs and FHFfs can be treated as a mediator between the gender of entrepreneurs and firm performance because firms can achieve better firm performance through implementing better operation approaches. The operation factors include premises for businesses, operation months, and presence of competitiveness. Therefore:

*Hypothesis 5: Operation factors mediate the relationship between the gender of entrepreneurs and firm performance.*

## **Gender as a Moderator between Operation Factors and Firm Performance**

Even under the same types of operations, different implementation of operation factors can result in different firm performances by MHFs and FHF. This is in accordance with social theory that states that social, cultural, and institutional factors may differently affect males and females (Kantor, 2002b). This author explained that national culture influences how institutions operate according to the norms defining females' opportunities and constraints that vary by race, class, and other factors defining one's identity. Therefore:

*Hypothesis 6: The gender of entrepreneurs moderates the relationship between operation factors and firm performance.*

## **Liberal Feminist Theory and Social Feminist Theory**

There are a number of feminist theories. This paper focuses on liberal feminism and social feminism as these two theories can be applied in MSME practice as the former is concerned with different levels of controlling resource endowments and the latter is involved with different levels of resource endowments and different motivation in terms of implementing these endowments to achieve better performance (Black, 1989; Fischer et al., 1993). Social feminism argues that it is not usually the case that when male and female entrepreneurs control similar levels of endowments and they can achieve similar firm performances. Therefore:

*Hypothesis 7: Social feminist theory is more applicable to the Lao MSMEs context than liberal feminist theory.*

## **Firm Performance**

This study used data related to annual sales turnover as an indicator of financial performance collected by a questionnaire, a method widely used in the literature (Anna et al., 1999; Du Rietz, Henrekson, 2000; Rosa et al., 1996).

*Control Variables*, the study adopted the control variables of firm size, firm age and industry sectors to justify factors other than theoretical variables which can explain the variance in dependent variable.

## **Research Methodology**

### **Sample and Data Collection**

This research used unbalanced panel data collected in 2005, 2007, and 2009 by the Enterprises Baseline Survey (EBS) from the German Agency for Technical Cooperation

(GTZ). The study selected only enterprises that were formally registered. A questionnaire sought responses from 370 companies in 2005 from four Lao provinces, Vientiane capital, Champasack, Luang Prabang, and Luang Namtha. For the 2007 survey, the sample size was 470 Lao MSMEs from the same Lao provinces, plus Savanakheth. For the 2009 survey, the sample size was 694 Lao MSMEs from the same five provinces. The total sample consisted of 1,534 companies, 896 MHFs and 638 FHF, with 1 to 99 employees.

## Measurement

Table 1 shows the measurements and descriptions of variables from the questionnaires developed from the literature.

*Table 1: Measurements of Variables*

<b>Variables</b>	<b>Measurements/descriptions</b>
<b><i>Control Variables</i></b>	Firm size, firm age and industry sectors
Firm Size	This was measured by the total number of current full-time employees.
Firm age	The number of years the MSMEs had been established/incorporated
Industry sectors	coded as three industry dummy variables by controlling manufacturing, trading, and service.
<b><i>Dependent Variable</i></b>	Firm performance
Performance	This was measured by ordinal numbers from 1 to 5 corresponding to the level of annual sales turnover (as reported to the national tax office). From the lowest to the highest level these were: less than 200 Million Kip; 200-400 Million Kip; 401-700 Million Kip; 701-1,000 Million Kip; and more than 1,000 Million Kip (in late 2010, 1 US dollar equaled approximately 8,041 Lao Kip).
<b><i>Independent Variables</i></b>	
Gender	Male entrepreneur: 1 while female entrepreneur: 0.
<b>Firm Resources</b>	Firm resources were classified into three categories, human, intangible, and tangible resources.
<b><i>Human Resource Variables</i></b>	
Education of entrepreneurs	This was measured by ordinal numbers from 1 to 11, corresponding to the level of education of owners/managers.
Training of entrepreneurs	This was whether or not any training was received since the business started. This variable was measured as a dummy variable.
Training of employees	This question was whether or not the employees received any training. This variable was measured as a dummy variable.
Work experience	This was measured by the age of owners/managers, after subtracting the total years spent in education.
<b><i>Intangible resource variable</i></b>	
Reputation	The question was whether the firm had some investment in marketing and advertising for the last year or not. This variable was measured as a dummy variable.
<b><i>Tangible resource variables</i></b>	
Physical technology	This was measured by ordinal numbers from 1 to 5 corresponding to the level of technology in the business from the lowest through the highest level: hand tools/utensils; portable power tools and electric appliances; small fixed motorized equipment; large machinery; and motorized vehicles.
Business Finance	The question was whether the firm received loans or not. This variable was measured as a dummy variable.

<i>Network Variables</i>	
Network participation	The question asked whether the firm was a member of any specified organization or not. Thus, being a member in any of the mentioned organizations was a proxy for networks. This variable was measured as a dummy variable.
Information communication technology (ICT)	The question was whether the firm used some type of equipment for communication.
Business development services (BDS)	This question was whether or not the owners/managers of a firm received any advice for the development of his/her business. This variable was measured as a dummy variable.
<i>Operation Factor Variables</i>	
Premises for businesses	This question was whether the place of business was home-based or in outside premises. If the business used places outside the home as an office, it was given 1. If the business used the home as the office, it was given 0.
Operation months	This question indicated the amount of time that the entrepreneurs had put into the business (part-time/full-time).
Presence of competitiveness	This question was whether or not the owner/managers had any problems with competitiveness. This variable was measured as a dummy variable.

## Mediation and Moderation Models

Based on Baron and Kenny (1986), Newbert (2008) and Tuan and Takahashi (2010), in analytical considerations for mediation four conditions must be met to conclude support for H-1, H-3, and H-5. These were:

- MHFs (gender) must be positively related to firm resources, networks, and operation factors
- firm resources must be positively related to firm performance
- MHFs (gender) must be positively related to firm performance by excluding firm resources, networks, and operation factors
- the effects of MHFs (gender) on firm performance must be reduced or eliminated by including firm resources, networks, and operation factors.

To test mediating effects, ordered probit, binary logistic, and multiple linear regression models were adopted depending on the dependent variable of each model (Long, 1997). To test the moderation effects of gender of entrepreneurs between firm resource, networks, and operation factors, and firm performance for H-2, H-4 and H-6 ordered probit models were adopted because dependent variable was measured by using ordinal measures from 1 to 5 (Long, 1997). The firm performance or dependent variable was the ordinal numbers from 1 to 5 corresponding to the level of annual sales.

## Analysis and Discussion

Hypothesis 1: Firm resources mediate the relationship between the gender of entrepreneurs and firm performance. To prove H-1, four conditions must be met (see Table 4). The results are displayed in Tables 2 and 3 and summarized in Table 4. Overall, the findings were consistent with liberal and social feminist theories because male entrepreneurs may have controlled different levels of human and tangible resources and therefore male entrepreneurs out-performed female entrepreneurs through these resources. Therefore, H-1 was partly supported.



Table 3: Effects of Firm Resources and Firm Performance

	Firm Performance			
	Model 1	(Condition 2) Model 2	(Condition 3) Model 3	(Condition 4) Model 4
Firm size	0.045***	0.036***	0.044***	0.035***
Firm age	0.006	-0.005	0.004	-0.005
Manufacturing	-	-0.237**	-	-0.263
Trading	0.207**	-	0.263	-
Service	0.043	-0.395***	0.036	-0.419***
Gender		-	0.355***	0.208***
<u>Firm Resources</u>				
<i>Human Resources</i>				
Education		0.135***		0.123***
Training for entrepreneurs		0.362***		0.363***
Training for employees		0.418***		0.431***
Work experience		0.017***		0.015***
<i>Intangible Resource</i>				
Reputation		-0.459***		-0.458***
<i>Tangible Resources</i>				
Physical technology		0.120***		0.115***
Business finance		0.316***		0.300***
Pseudo $R^2$	0.122	0.178	0.1298	0.1801
LR Statistics	399.23***	581.07***	424.13***	588.61***
Log likelihood	-1434.111	-1343.193	-1421.66	-1339.42
N	1434	1434	1434	1434

\*\*\* Significant at 1%≤; \*\*5%≤



Table 4: Summary of Results to Support H-1

No	Four conditions must be met:	Firm Resources						
		Human Resources				Intangible Resource	Tangible Resources	
		EDU	TRENT	TREMP	WEXP	REP	PTEC	BF
1	MHFs (gender) must be positively related to firm resources in Table 2	0.69*** Supported	0.29** Supported	-0.18 Not Supported	1.82*** Supported	0.10 Not Supported	0.22** Supported	0.41*** Supported
2	Firm resources must be positively related to firm performance in Table 3(Model 2)	0.135** Supported	0.362*** Supported	0.418*** Supported	0.017*** Supported	-0.459*** Not Supported	0.12*** Supported	0.316*** Supported
3	MHFs (gender) must be positively related to firm performance by excluding firm resources in Table 3 (Model 3). The gender variable is positively statistically significant (0.355***), indicating that MHFs outperform FHF's. Hence, it is supported.							
4	The effects of MHFs (gender) on firm performance must be reduced or eliminated by including firm resources in the Model 4 in Table 3. [By comparing the size of the coefficient of gender variable in condition 3 and gender variable in condition 4, the size of the coefficient for gender variable in condition 4 must be either reduced or insignificant]. The finding shows that the size of the coefficient of the gender variable in Model 3 reduced from 0.355*** to 0.208*** (see Table 3). Therefore, it is supported.							
	<i>Conclusion of four conditions:</i>	Supported	Supported	Not Supported	Supported	Not Supported	Supported	Supported
	Five of seven resource variables met the four conditions and therefore H-1 is partly supported							

\*\*\* Significant at 1%≤; \*\*5%≤; EDU=Education; TRENT=Training for entrepreneurs; TREMP=Training for employees; WEXP= Work experience; REP=Reputation; PTEC=Physical technology; BF=Business finance.

Hypothesis 2: the findings showed that gender of entrepreneurs moderated the relationship between some firm resources (human resources and tangible resources, but not intangible resource) and firm performance, as displayed in Model 3 in Table 5. Therefore, H-2 was partly supported.

Table 5: Moderation Effect of Gender for Resource Model H-2

	Firm Performance		
	Model 1	Model 2	Model 3
Firm size	0.045***	0.044***	0.036***
Firm age	0.006	0.004	-0.004
Manufacturing	-	-	-0.245
Trading	0.207**	0.263***	-
Service	0.043	0.036	-0.380***
Gender		0.355***	0.24***
Firm Resources			
Human Resources			
Education x Gender			0.177***
Work experience x Gender			0.023***
Training for entrepreneurs x Gender			0.387***
Training for employees x Gender			0.412***
Intangible Resource			

Reputation x Gender			-0.460***
Tangible Resources			
Physical technology x Gender			0.153***
Business finance x Gender			0.299***
Pseudo R2	0.1222	0.1298	0.1777
LR Statistics	399.23***	424.13***	580.53***
Log likelihood	-1434.11	-1421.66	-1343.46
N	1434	1434	1434

\*\*\* Significant at 1%≤; \*\*5%≤

Hypothesis 3: Networks mediate the relationship between the gender of entrepreneurs and firm performance. To prove H-3, four conditions had to be met (see Table 8). The results are shown in Tables 6 and 7 and summarized in Table 8. In general, the findings were in line with liberal and social feminist theories because male and female entrepreneurs did not hold similar networks and consequently performed differently. Therefore, H-3 was partly supported.

Table 6: Effects of Networks (Condition1)

	NWP		ICT		BDS	
	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
(Constant)	-0.999***	-1.282***	1.639***	1.576***	1.540***	1.694***
Firm size	0.021***	0.020***	0.015***	0.014***	0.002	0.003
Firm age	-0.006	-0.008	0.006	0.005	-0.003	-0.002
Manufacturing	-	-	0.303***	0.276***	-	-
Trading	-0.271	-0.196	-	-	-0.014	-0.059
Service	0.700***	0.704***	0.246***	0.217***	0.005	0.007
Gender		0.468***		0.157***		-0.258**
Pseudo R <sup>2</sup>	0.056	0.064			0.000	0.003
LR Statistics	104.92***	119.92***			0.300	3.38
Log likelihood	-889.465	-881.96			-671.075	-669.532
R <sup>2</sup>			0.070	0.075		
Adjusted R <sup>2</sup>			0.068	0.072		
F-Statistics			27.04***	23.19***		
N	1434	1434	1434	1434	1434	1434

\*\*\* Significant at 1%≤; \*\*5%≤; NWP= Network participation; ICT=Information communication technology; BDS= Business development services.

Table 7: Effects of Networks and Firm Performance

	Firm Performance			
	Model 1	(Condition 2) Model 2	(Condition 3) Model 3	(Condition 4) Model 4
Firm size	0.045***	0.042***	0.044***	0.041***
Firm age	0.006	0.005	0.004	0.003
Manufacturing	-	-0.286***	-	-0.330***
Trading	0.207**	-	0.263	-
Service	0.043	-0.284***	0.036	-0.333***
Gender		-	0.355***	0.306***
<u>Networks</u>				
Network participation		0.355***		0.331***
ICT adoption		0.174***		0.169***
Business development services		-0.055		-0.039
Pseudo $R^2$	0.1222	0.142	0.1298	0.1476
LR Statistics	399.23***	464.54***	424.13***	482.41***
Log likelihood	-1434.1105	-1401.455	-1421.66	-1392.52
N	1434	1434	1434	1434

\*\*\* Significant at 1%≤; \*\*5%≤.

Table 8: Summary of Results to Support H-3

No	Four conditions must be met:	Networks		
		NWP	ICT	BDS
1	MHFs (gender) must be positively related to network in Table 6	0.468*** Supported	0.157*** Supported	-0.258*** Not Supported
2	Network must be positively related to firm performance in Table 7(Model 2)	0.355*** Supported	0.174*** Supported	-0.055 Not Supported
3	MHFs (gender) must be positively related to firm performance by excluding networks in Table 7 (Model 3). The gender variable was positively statistically significant (0.355***), indicating that MHFs outperformed FHFfs. Therefore, it was supported.			
4	The effects of MHFs (gender) on firm performance must be reduced or eliminated by including networks in the Model 4 in Table 7. The finding showed that the size of the coefficient of the gender variable in Model 3 reduced from 0.355*** to 0.306*** (see Table 7). Hence, it was supported.			
	<i>Conclusion of four conditions:</i>	Supported	Supported	Nor Supported
	Network participation and ICT adoption met four conditions but not BDS and thus H-3 was partly supported.			

\*\*\* Significant at 1%≤; NWP= Network participation; ICT=Information communication technology; BDS= Business development services.

Hypothesis 4: the results showed that gender of entrepreneurs partly moderated the relationship with some network factors (network participation and ICT adoption) on firm performance but not BDS, as shown in Model 3 in Table 9. Thus, H-4 was partly supported.

Table 9: Moderation Results of Network Model H-4

	Firm Performance		
	Model 1	Model 2	Model 3
Firm size	0.045***	0.044***	0.041***
Firm age	0.006	0.004	0.003
Manufacturing	-	-	-
Trading	0.207**	0.263***	0.299***
Service	0.043	0.036	-0.010
Gender		0.355***	0.291***
<u>Networks</u>			
Network participation x Gender			0.338***
ICT adoption x Gender			0.388***
Business development services x Gender			-0.038
Pseudo $R^2$	0.1222	0.1298	0.1485
LR Statistics	399.23***	424.13***	485.22***
Log likelihood	-1434.11	-1421.66	-1391.12
N	1434	1434	1434

\*\*\* Significant at 1%≤; \*\*5%≤

Hypothesis 5: Operation factors mediated the relationship between the gender of entrepreneurs and firm performance. To prove H-5, the four conditions had to be met (see Table 12). The results are shown in Tables 10 and 11 and summarized in Table 12. For operation factors, it was found that all three factors, premises for business, operation months, and presence of competitiveness did not mediate the relationship between gender and firm performance because these operation factors met only some conditions. Operation factors also failed to confirm liberal and social feminist theories Thus, H-5 was not supported.

Table 10: Effects of Operation Factors (Condition 1)

	PB		OPM		PC	
	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
(Constant)	-0.400**	0.384**	11.993***	12.063***	0.576***	0.419**
Firm size	0.033***	0.033***	-0.004	-0.003	0.006	0.005
Firm age	-0.038***	-0.038***	-0.003	-0.002	0.002	0.001
Manufacturing	-	-	-0.424***	-0.394***	-	-
Trading	0.413***	0.408**	-	-	-0.050	-0.001
Service	0.458***	0.459***	-0.334***	-0.303***	-0.116	-0.118
Gender		-0.029		-0.173**		0.276**
Pseudo $R^2$	0.042	0.042			0.002	0.005
LR Statistics	82.56***	82.63***			3.430	9.130

Log likelihood	-952.69	-952.66			-932.230	-929.381
$R^2$			0.024	0.028		
Adjusted $R^2$			0.209	0.024		
F-Statistics			8.65***	8.12***		
N	1434	1434	1434	1434	1434	1434

\*\*\* Significant at 1% $\leq$ ; \*\*5% $\leq$ ; PB=Premises for businesses; OPM=Operation months; PC=Presence of competitiveness

Table 11: Effects of Operation Factors and Firm Performance

	Firm Performance			
	Model 1	(Condition 2) Model 2	(Condition 3) Model 3	(Condition 4) Model 4
Firm size	0.045***	0.044***	0.044***	0.043***
Firm age	0.006	0.008	0.004	0.006
Manufacturing	-	-0.216**	-	-0.267***
Trading	0.207**	-	0.263	-
Service	0.043	-0.190**	0.036	-0.249***
Gender		-	0.355***	0.344***
<u>Operation Factors</u>				
Premises for businesses		0.224***		0.218***
Operation months		-0.048		-0.041
Presence of competitiveness		0.033		0.021
Pseudo $R^2$	0.1222	0.1265	0.1298	0.1336
LR Statistics	399.23***	413.28***	424.13***	436.43***
Log likelihood	-1434.11	-1427.09	-1421.66	-1415.51
N	1434	1434	1434	1434

\*\*\* Significant at 1% $\leq$ ; \*\*5% $\leq$

Table 12: Summary of Results to Support H-5

No	Four conditions must be met:	Operation Factors		
		PB	OPM	PC
1	MHF's (gender) must be positively related to operation factors in Table 10	-0.029 Not supported	-0.173*** Not supported	0.276*** Supported
2	Operation factors must be positively related to firm performance in Table 11 (Model 2)	0.224*** Supported	-0.048 Not supported	0.033 Not Supported
3	MHF's (gender) must be related to firm performance by excluding operation factors in Table 11 (Model 3). The gender variable was statistically significant (0.355***), meaning that MHFs outperformed FHF's. Thus, it was supported.			
4	The effects of MHFs (gender) on firm performance must be reduced or eliminated by including operation factors in the Model 4 in Table 11. The finding showed that the size of the coefficient of the gender variable in Model 3 reduced from 0.355*** to 0.344*** (see Table 11). Therefore, it was supported.			
	<i>Conclusion of four conditions:</i>	<i>Not supported</i>	<i>Not supported</i>	<i>Not supported</i>
	Premises for businesses, operation months and presence of competitiveness did not meet four conditions and therefore H-5 was not supported.			

\*\*\* Significant at 1% $\leq$ ; \*\*5% $\leq$ ; PB=Premises for businesses; OPM=Operation months; PC=Presence of competitiveness.

Hypothesis 6: the findings indicated that gender of entrepreneurs partly moderated the relationship between operation factors (premises for businesses) on firm performance, but not operation months and presence of competitiveness, as displayed in Model 3 in Table 13. Therefore, H-6 was partly supported.

Table 13: Moderation Effects of Gender for Operation Model H-6

	Firm Performance		
	Model 1	Model 2	Model 3
Firm size	0.045***	0.044***	0.043***
Firm age	0.006	0.004	0.006
Manufacturing	-	-	-0.265***
Trading	0.207**	0.263***	-
Service	0.043	0.036	-0.248***
Gender		0.355***	0.344***
<u>Operation Factors</u>			
Premises for businesses x Gender			0.217***
Operation months x Gender			-0.067
Presence of competitiveness x Gender			0.022
Pseudo $R^2$	0.1222	0.1298	0.1334
LR Statistics	399.23***	424.13***	435.9***
Log likelihood	-1434.11	-1421.66	-1415.78
N	1434	1434	1434

\*\*\* Significant at 1% $\leq$ ; \*\*5% $\leq$

## Proving the Feminist Theories

Analysis of the results of the mediation effects in Tables 4, 8, and 12 and the moderation effects in Tables 5, 9, and 13 allows consideration of the application of social feminist theory (SFT) compared to liberal feminist theory (LFT) in the case of the Lao MSMEs (see Table 15). Proving the feminist theories is based on the matrix displayed in Table 14.

Table 14: Matrix for Determining Applicability of Feminist Theories

Moderation	“Yes” Social Feminist Theory (SFT)	“No” Liberal Feminist Theory (LFT)
“Yes” General Feminist Theories (LFT or SFT)	Fully SFT	Fully LFT
“No” No Feminist Theories are applicable(NFT)	Partly SFT	Partly LFT

The results showed that SFT is predominant but also showed the existence of LFT (see Table 15). Hypothesis 7: the findings proved that SFT was more applicable compared to LFT. Therefore, hypothesis 7 was supported.

Table 15: Determining Applicability of Liberal Feminist Theory or Social Feminist Theory H-7

	Tables 4, 8 and 12 Mediation Yes/No	Tables 5, 9 and 13 Moderation Yes/No	Table 15 Fully Liberal Feminist Theory (FLFT) Fully Social Feminist Theory (FSFT) Partly LFT (PLFT) & Partly SFT (PSFT)
<u>Firm Resources</u>			
<i>Human Resources</i>			
Education	Yes	Yes	FSFT
Training for entrepreneurs	Yes	Yes	FSFT
Training for employees	No	Yes	PSFT
Work experience	Yes	Yes	FSFT
<i>Intangible Resource</i>			
Reputation	No	No	PLFT
<i>Tangible Resources</i>			
Physical technology	Yes	Yes	FSFT
Business finance	Yes	Yes	FSFT
<u>Networks</u>			
Network participation	Yes	Yes	FSFT
ICT adoption	Yes	Yes	FSFT
Business development services	No	No	PLFT
<u>Operation Factors</u>			
Premises for businesses	No	Yes	PSFT
Operation months	No	No	PLFT
Presence of competitiveness	No	No	PLFT

This is a reasonable explanation in the case of Lao PDR as there are differences between males' and females' experiences from the earliest moments of their lives due to the caregivers' reactions and other persons' attitudes throughout their lives. Traditionally, Lao society has segregated the duties between females and males and it is often being said that females are the back feet of the elephant while males are the front feet. This expression implies that males lead by nature and females take the backseat at all times. Social feminist theory can explain the reasons behind the differences between male and female entrepreneurs. The environmental and deep cultural effects on males and females influence their decision-making, strategic choices, and business approaches adopted in the business.

## Findings and Conclusions

The main objective of this study was to investigate whether liberal feminist theory or social feminist theory was more applicable to Lao MSMEs by examining mediation and moderation effects. Seven hypotheses were empirically tested from a sample of 1,534 Lao MSMEs from different industries. The results fully supported hypothesis 7, partly supported hypotheses 1 to 4, and 6, but hypothesis 5 was rejected.

## Policy Implications

### Implementers

Measures suggested by social feminist theory to overcome these problems are not easy to implement at individual levels but this study provides useful information for female entrepreneurs. It is necessary that they maximize their full potential through education and accumulate work experience to change their way of seeing the world in the long-term and increase their confidence in the workplace.

Implementers are required to overcome FHF's restricted access to productive and economic resources such as land, credits and loans, equipment and tools, and technical know-how. To reduce or eliminate the gap between MHFs and FHF's in economic performance, firstly, FHF's need to improve important firm resources such as human resources and tangible resources and emphasize how to utilize accumulated firm resources strategically. Human resource development (HRD) should be included in strategic plans of FHF's. Secondly, FHF's should not only participate but also utilize key networks through membership of various related business associations such as Lao Young Entrepreneurs Associations, Associations of Women Entrepreneurs, and the Vientiane and Business Women Association. Finally, FHF's should adopt advanced ICT tools to be competitive and to fully exploit their potential benefits. This means that FHF's should not only utilize soft infrastructure through membership of appropriate businesses organizations but also utilize hard infrastructure networks through implementing ICT to fully enjoy the potential benefits from these networks.

### Policymakers

This study suggests that policymakers should try to mitigate the gender gap at the macro level through minimizing gender discrimination in Lao society, such as non-discrimination in education, banking practice, and workplaces, to increase the confidence of females in the long-run. Such action aims to provide essential opportunities for females to gain higher education and experiences.

Governments can reduce the gender gap in terms of economic performance by providing incentives and good conditions for FHF's to access and utilize firm resources (human resources and tangible resources) and networks. Most importantly, the government should eliminate the gender gap by enhancing the competitiveness of FHF's by providing incentives for them to access and effectively utilize human resources, tangible resources, and networks. More generally, the government should improve formal education and



integrate vocational education and related training systems with a focus on the needs of the labor market, in particular the needs of MSMEs.

## Limitations and Further Research

Because of limitations regarding secondary data, this study measured firm performance through the use of annual sales turnover. Further research should include comprehensive performance indicators such as return on assets (ROA), return on sales (ROS), and sale growth. In addition, this study included reputation as a proxy for the intangible resource variable. Further research should include different intangible resource variables. Lastly, this study did not consider non-economic performance indicators. The inclusion of these in future research could provide more meaningful empirical studies particularly for FHFfs.

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