

A Causal Model On Systems Thinking Of Women Entrepreneurs In Region Xi

Charlo Bianci M. Guray, Gloria P. Gempes

Abstract : The study was conducted with the aim of determining the best fit model for systems thinking of women entrepreneurs in Region XI, Philippines, in the context of work culture, relational assessment and organizational learning. Four hundred twelve women entrepreneurs participated in the study. Five hypothesized models were tested to find out the best model, employing structural equation modeling. Results showed that all the exogenous variables: work culture, relational assessment and organizational learning have significant relationships with the endogenous variable systems thinking. However in the final analysis, only relational assessment came out to have direct effect on systems thinking while work culture exhibited significant relationship with relational assessment although it has no direct effect on systems thinking. The combination of the three variables, which eliminated organizational learning along the process, made up the best fit model. This implies that women entrepreneurs in the region are maintaining positive relationships within their organization as part and parcel of their systems thinking in understanding the complexity of sustainable development for their own business.

Keywords: structural equation model, systems thinking, relational assessment, organizational learning, entrepreneurs

1 INTRODUCTION

In the study conducted by one author [29], it was found that systems thinking in organizations is becoming more complex and changes more often and suddenly. Managers try to manage socio - cultural systems in a target-oriented manner, but due to the complexity of global systems, it is difficult to predict the results of their influence. Undoubtedly, complex systems are constantly emerging in the world as nations are increasingly interconnected. Globalization grows the social systems in complex new ways. Furthermore, when systems become more complex due to more parts, actors, interactions and communication, the origin of problems becomes more difficult to identify and all these systems feed into one another can have extremely complex and unpredictable consequences [1]. It is believed that systems thinking is important in leading the structures that affect behavior and aims to change and influence these structures of behavior. In the past, fire-cracker injuries were the problems throughout the city of Davao during the holiday season. No matter how many publicity and advertising campaigns the government releases show mutilated and bloody parts of the body. The government of Davao showed that they understood the system when they adopted a local order prohibiting firecrackers in the city. The result is evident because Davao just celebrated fifteen years of zero firecracker injuries. In addition, systems thinking shows that if a person wants to make lasting changes, then there is a reason to adjust and omit the system, if there will be no changes in the system, persisting in its old behaviour does not bring the rewards it receives [39]. Indeed, the application and adaptation of the systems thinking principles in the organization can therefore be very beneficial. In view of the importance of systems thinking, the researcher conducted a comprehensive literature review of possible variables that might affect systems thinking. Variables such as work culture, relational evaluation and organizational learning have been carried out by different authors to be linked to systems thinking. Work culture [27] plays an important role in extracting the best from employees and ensuring retention in the organization for a longer period of time.

The organization must provide its work force with a working environment where they can focus on their respective tasks rather than having conflicts because of overlaps [5]. Relational Assessment [11] plays an important role in human life in his work on system theory and interpersonal relationships; people are routinely changed by relationships and often act differently depending on the group environment around them. People who adopt systems designed to identify personal values in organizations, finding leverage solutions to organizational problems, develop strategic plans for organizational sustainability and so on, may improve their learning skills in the organization [21]. In addition, in one study [24], results revealed that 34 out of 43 respondents or 79.1 per cent believe that leaders are important in the implementation of systems designed to improve organizational learning. This study is anchored on Bertalanffy' Systems Theory [6]. Systems theory is less of a management methodology as it is a way of analyzing and thinking about organizations. It puts forth the premise that organizations, like living organisms, are made up of numerous component subsystems that must work together in harmony for the larger system to succeed [20]. The systems theory stipulates that organizations are composed of numerous component subsystems, which must work together in harmony in order to succeed in the larger systems. The theory of the system states that success in the organization depends on synergies, interrelations and interdependence between different subsystems [3]. These subsystems may be in the form of variables, as presented in this study, being linked to the system itself. It is on the premise that the researcher investigated and explored the level of system thinking of women entrepreneurs, to understand its strongest predictors and generate the best fit model to aid the enigma on systems thinking. Emphatically, systems thinking is deemed necessary to be able to understand the dynamic complexity of social systems as systems thinking is a discipline for seeing the structure that underlie complex situations, and for discerning high from low leverage change. Furthermore, this study will serve as basis in formulating and enhancing the (DTI) Department of Trade and Industry and (LGU) Local Government Units' policy and regulation to improve its performance for efficient and effective business management most especially to the women entrepreneurs in Region XI. On the same note, this may provide insights on what

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programs/activities are needed to prioritize and to be implemented to stimulate the women entrepreneurs' systems thinking towards work culture, relational assessment and organizational learning. This study focused on the investigation of the structural model on systems thinking in the context of work culture, relational assessment and organizational learning. The following hypotheses were tested at 0.05 level of significance: first, that there is no significant relationship between systems thinking and the three variables: work culture, relational assessment and organizational learning; and second, that there is no best fit model for systems thinking among women entrepreneurs in Region XI.

2. REVIEW OF RELATED LITERATURE

Systems Thinking. Researchers have studied the effects of systems thinking, which has largely developed in the 20th century as a field of research and practice, and has many origins in disciplines as diverse as biology, anthropology, physics, psychology, mathematics, management and computer science [31]. In a similar way, the majority of the literature conceptualizes systems thinking as a system philosophy and states that every human activity is an open environmentally affected system. In addition, systems thinking [29] is a way of understanding reality that emphasizes the relationships between the parts of a system and not the parts themselves. Moreover, a system is a combination of two or more elements from the classical point of view, when each element of the whole influences the behavior of other elements and the behavior of each element influences the behavior of the whole. Consequently, most literature conceptualize systems thinking as a complex concept, including ecological, economic and social dimensions, which in turn involve a number of complex interrelated aspects, such as cultural, health and political aspects. Consequently, systems thinking that focuses on the interrelated parts of a system could help people to understand the complexity of sustainable development. Furthermore, the low level of systems thinking could be explained by two main factors: systems thinking was not used as an educational method to develop an understanding of sustainability of programs; and systems thinking is also a result of life experiences; older systems show more system thinking than younger systems. Therefore, elementary forms of systems thinking should be an educational method to be integrated in primary education [30].

Work Culture. Undeniably, organizations are two or more people who interact with one another in order to achieve something they cannot do on their own. Organizations are constantly developing and declining; some are more permanent than others. Sometimes the controller is a host, for example at a dinner party. Controllers are called managers in other types of organizations. Their task is to control, coordinate and direct. Organizations are communities that are controlled. Therefore, they have behavioral requirements based on a culture. Culture is often open in a workplace. Employees tend to act stereotypically in the type of organization that is expected [26]. Work culture or organizational culture is the set of shared values, beliefs, and standards that influences the systems thinking, emotional state, and deeds in the workplace [33]. Added by Kotter [23], work culture has given importance to potentially improve systems thinking towards organizational performance, the satisfaction of employees and the sense of certainty about problem solving within the systems. This, therefore strongly

affects organizational goals, systems thinking, systems performance and many other aspects of the organization [36]. Organizational culture is an antecedent linked to systems thinking and the competence and leadership skills are deeply rooted in these disciplines [9]. Relational Assessment. Many researchers argued that, above all, a relationship is a partnership. It is something that have to work on, and it is absolutely essential to be supportive of all the efforts of the partner in a successful relationship. If an employee cannot be there to celebrate partner's successes or hold a hand when things are rocky, then re - evaluation of relationship must be done, because the relationship towards a partner is directly affected by the employees' actions, personalities and systems thinking [10]. Relational assessment or intimacy in the workplace is part of the interface of social psychology, communication studies, family studies, sociology, clinical psychology and neuroscience [25]. Relational assessment as close relationships includes erotic and sexual passion experiences, feelings of depression towards love and intimacy that somehow can be expressed and shared, which then gives a substantially significant effects on the systems thinking within the workplace of an organization and undeniably considered as part of the fundamental characteristics of human beings [8]. Generally, relational assessment has been found to be integral piece of systems thinking that desires to maintain one's intimate relationship for a strong and positive relationship satisfaction to the organization [13].

Organizational Learning. Researchers have studied the effect of organizational learning, which can best be understood as the process inherent in the formation of organizational knowledge embedded in the political, normative and semiconductor dynamics of organizations and transmitted by their members collectively shared social practices. This perspective gives new insights into how to create common grounds for discussion to link the plurality of theoretical approaches in the theory of organizational learning [2] [15]. Organizational learning in organization is the ability to process systems and knowledge into the workplace within the specified system and this helps create, acquire, transfer and integrate thinking to the group and change its systems behaviour in order to reflect the new cognitive situation for improved performances [16]. As this knowledge is captured, it becomes now part of a systems thinking in the organization and code the influences of what and how groups, communities and individuals learn. The code keeps evolving as it consumes the knowledge of individuals and groups [34].

2.1 Conceptual Framework

The exogenous and endogenous variables or latent variables are represented with oval shape as shown in the basic model, they are also known as the unobserved or unmeasured variables. On the other hand observed or measured variables are represented with rectangular shape. With SEM, the linking of observed or the indicator variables with latent or the unobserved variables is the first step in formal statistically valid procedure. However, apart from the latent and observed variables, there are residual errors terms associated with each of these which also form a key part of the overall model and it is represented with e shape or error. The double headed arrow represents the interrelationship or correlation between variables, while the single headed arrow represents causal or direct relationship of latent endogenous variables, latent exogenous variable and measured variables. The exogenous

variables of this study are work culture, relational assessment and organizational learning. On the other hand, the endogenous variable is the systems thinking. Because latent variables are not observed directly, it follows that they cannot be measured directly. With this, each latent of the regression paths from the latent variable to the observed variables is one of the primary interests of this study. The latent variable systems thinking has four observed variables namely: interconnectedness, partnership and leverage, personal mastery, and discussion and dialogue. In this study, interconnectedness explains that a system is a group of interacting and interdependent components that form a unified and more effective whole. Systems thinking emphasizes the relationships among a system's parts, rather than the parts themselves. Partnership and leverage involves how partnership respects those with whom a person work and encouraging them to believe that they can contribute to solutions. Personal mastery refers to individual learning. It involves defining a clear vision of what one wish to achieve and then setting a goal to accomplish that. Discussion and dialogue pertains to inquiry, conversation, listening and understanding in an atmosphere of trust and respect which need to be orchestrated through conscious efforts to build an opportunity and personally prepare for this level of exchange [38]. Meanwhile, the latent work culture has five observed variables namely: organizational decisions, teamwork, role clarity, physical work conditions and compensation. In this study, Organizational decisions relates to choosing one course of action in preference to others as it is expending some amount of organizational or individual resources to implement the organization decision making. Teamwork means how people cooperate using their individual skills and providing constructive feedback, despite any personal conflict between individuals. Role Clarity refers to a clear understanding of an employee to what they need to do, know, methods used, applied priorities and what is expected of them. Physical work conditions is a condition in which an individual works including but not limited to amenities, physical environment, stress and noise levels, degree of safety or danger, and the like. Compensation is the total cash and non-cash received by an employee in exchange for the work they do for the business [40]. The latent variable relational assessment has three observed variables namely: relational esteem, relational depression and relational pre-occupation. In this study relational esteem concerns a generalized tendency to positively evaluate one's capacity to relate intimately to another employee. Relational depression defines as a tendency to evaluate one's relationship potential in a negative fashion and to feel depressed about one's capability to relate in an intimate way to a close employee. Relational pre-occupation describes the tendency to become absorbed in, obsessed with, and engrossed with relationship, to the extent that one virtually excludes from one's mind thoughts of other matters [37]. The latent variable organization learning has three observed variables namely leadership, systems and structures and communication of information. Leadership refers to the ability and capacity of the women entrepreneurs to manage deliberately, systematically and sustainably the complex activities or job functions involving cognitive, technical and interpersonal skills. Communication of information pertains on how women entrepreneurs will be able to communicate effectively the given information. Systems and structures relates on how women entrepreneurs work

within the set organizational structure. This includes ability to see a problem or situations from different points of view and solve complex problems by making decisions in the most effective way [32]. There are five hypothesized structural models of the study but what is presented here is only the basic model as presented in Figure 1 to show the indicators of each variable. The five models were explored to come up with the best inter-linkages among the variables namely: work culture, relational assessment, organizational learning and systems thinking, which would serve as basis of designing and improving programs and policies for system thinking of teachers. Hypothesized Structural Model 1 is the conceptual model showing the direct relationship of the latent exogenous variables towards the latent endogenous variable. Hypothesized Structural Model 2 is a model showing the interrelationship between the exogenous variables and its causal relationship to systems thinking. Hypothesized Structural Model 3 is a model showing direct relationship of the exogenous variables: work culture and organizational learning to systems thinking. Hypothesized Structural Model 4 is a model showing direct causal relationship of relational assessment and organizational learning to systems thinking. Hypothesized Structural Model 5 is a model showing direct causal relationship of relational assessment to systems thinking and the relationship between relational assessment and work culture.

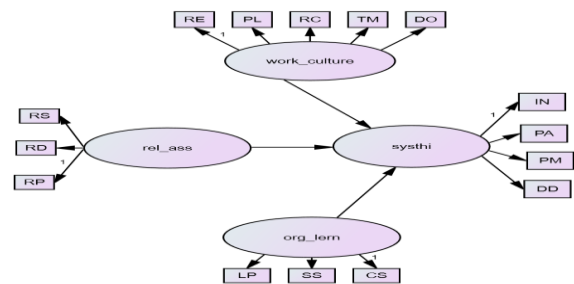


Figure 1. Hypothesized Model 1 as basic model among the Five Models

Legend:

Systhi- System thinking	RC-Role Clarity
IN-Interconnectedness	PL- Physical Work Condition
PA-Partnership & Leverage	RE- Recognition Assessment
DD-Discussion and Dialogue	Rel_ass- Relational Assessment
PM-Personal Mastery	RP- Relational Preoccupation
Work culture- Work Culture	DO-Organizational Learning
RS- Relational Esteem	Org_lern- Organizational Learning
RD-Relational Depression	SS-Systems and Structures
TM- Team Work	
LP-Leadership	

3. METHOD

Research Design. This study utilized a quantitative research design. This was used to develop and employ mathematical models, theories and/or hypothesis pertaining to phenomena. An author, [19] identified the advantages of SEM to include its abilities to model latent variables, correct for

measurement error, specify errors and their covariance's structures and estimates entire theories simultaneously. SEM allows the researcher to predict relationships between construct variables in the hypothesized manner. Structural equation model is employed since the study deals not only with a single simple or multiple linear regression but with a system of regression equations. According to Gray and Gray [17], its origin can be traced back to Psychologist Charles Spearman at the turn of the 20th century and Geneticist Sewall Wright in the immediate aftermath of WWI. The structural model focuses primarily on the interrelationships between the latent variables. In particular, the structural model tests to what extent the hypothesized or theorized relationships between the latent variables in the current sample under investigation are supported [35].

Research Locale. The study was conducted in the Davao Region, designated as Region XI, one of the regions situated in the Philippines on the southern portion of Mindanao. The region encloses the Davao Gulf and its regional center is the Davao city a hispanicized pronunciation of "daba-daba", the Bagobo word for Fire. The Davao region consisted of five provinces, namely: Davao Oriental, Davao del Sur, Davao Occidental, Compostela Valley, and Davao del Norte. Davao region is known for its resiliency and infrastructure-driven economy to accommodate and open small, medium and big future investments in the region. Moreover, the region is rich in innovative business and management ideas leading the women entrepreneurs to flourish to a new and promising new decade in the field of management. This is explains why Davao region is the best choice of locale for this study.

Population and Sample. The respondents of the study were 400 women entrepreneurs in Region XI. These selected respondents were appropriate for the conduct of the study since the study measures and finds best fit model for systems thinking of women entrepreneurs in Region XI, Furthermore, this study applied a purposive sampling, a non-probability sampling technique that is selected based on characteristics of a population and the objective of the study. It is also known as judgmental, selective or subjective sampling [12]. Certain qualifications were set by the researchers in order to qualify for the conduct of the study. The respondents of this study possessed the following characteristics: a woman with a legal age who operated her business legally and was then considered physically and mentally sound. Failure in meeting the set characteristics had disqualified the respondents to participate in the study. The rule of thumb for the number of respondents appropriate for structural equation modeling according to an author [42] should be between 300 to 400 respondents. Research Instrument. There were four primary data that were used in this study namely; work culture, relational assessment, organizational learning and systems thinking. The survey questionnaires were utilized in the conduct of the study and obtained a Cronbach's Alpha of .90. As a rule of thumb, the higher the reliability value, the more reliable the measure. The general convention in research has been prescribed by [28] which states that one should strive for reliability values of 0.70 or higher. It is worthy of note that reliability values increase as test length increases. That is, the more items in the scale to measure the construct of interest, the more reliable the scale will become [7]. The survey on work culture was adapted from Venkata [40], while relational assessment was adapted from Snell [37]. The raw scores gathered from the accomplished survey questionnaires were

translated into a 5-point scale with interpretations patterned after the scale of a study [4]. The lowest range in the scale is 1.00-1.79 and the fifth highest is 4.20-5.00 interpreted as never manifested and always manifested, respectively, while referring to each item in the survey questionnaire. Data Collection. The needed permissions were sought by the researchers from appropriate agencies. Administration of survey questionnaires were done personally by the researchers. The explanations about the study and instructions for the tests were incorporated in the questionnaires. After retrieving all the questionnaires, data screening was performed to minimize the possible outliers during the analysis. After which, encoding, tabulating and analyzing were applied. Interpretation of data was done based on the purpose of the study utilizing descriptive statistics, pearson r, multiple regression and structural equation modelling.

4. RESULTS

Level of Work Culture, Relational Assessment, Organizational Learning and Systems Thinking of Women Entrepreneurs in Region XI is shown in Table 1 with the following mean ratings: 3.80 for work culture, 3.78 for relational assessment, 3.70 for organizational learning and 3.42 for systems thinking, all described as high which means that all these variables are oftentimes manifested among women entrepreneurs. The standard deviation of less than 1.0 signifies consistency of responses.

Table 1
Level of the Identified Variables of the Study

Variable	SD	Mean	Descriptive Level
Work Culture	0.78	3.80	High
Relational Assessment	0.79	3.78	High
Organizational Learning	0.79	3.70	High
Systems Thinking	0.90	3.42	High

Significance on the Relationship between the Exogenous Variables and Systems Thinking. Exhibited in Table 2 is the significance on the relationship between work culture, relational assessment and organizational control with systems thinking of women entrepreneurs in region XI. The correlation coefficients of .545, .567 and .636 of the three variables with systems thinking, all with $p < 0.05$ signify the rejection of the null hypothesis that there is no significant relationship between the exogenous and the endogenous variables. It can be stated, therefore that work culture, relational assessment and organizational learning are significantly associated with systems thinking; that the higher is the level of each variable, the higher is the level of systems thinking among women entrepreneurs in Region X1.

Table 2
Significance on the relationship among the Exogenous and Endogenous Variables

Endogenous Variable	r-value	p-value

Work Culture	Systems Thinking	.545	.000***
Relational Assessment		.567	.000***
Organizational Learning		.636	.000***

***Significant @ $p < 0.001$

Best Fit Model of Systems Thinking. There were five alternative models tested to achieve the best fit model of systems thinking. Each model developed a framework that could be decomposed into two sub models which are measurement model and structural model. The measurement model represents the measure loads on each factor to their latent constructs while the structural model defines relations among the latent variables. Moreover, the assessment of fit was used as baseline for accepting and rejecting the model. As a rule, the researcher established the relationship of the causality relationship of the latent variable toward the other latent variables. Furthermore, it institutes the relationship between endogenous and exogenous variables. The moment that structured model exhibits with suitable fit, it underscores that there is consistency of the empirical relationships among variables inferred by the model. The model parameter estimates entail the magnitude and direction of the relationship among variables. Screening of variables was critically observed to give premium on the normality of the data. Variables with interval or ratio data were counted in the formulation of models. As mentioned in the earlier section of this study, the direct effects are represented by arrows from a predictor variable to the endogenous variables without passing through another variable. The indirect effects are the relationships between predictor variables and endogenous variable which are mediated by passing through one or more variables in between. The magnitude of the indirect effects is determined by cross multiplying the coefficients for any path combinations which connects the predictor variable on the left side with an endogenous variable on the right side. Of the five hypothesized models, the generated structural model 5 in standardized solution is presented in Figure 2. Results showed that relational assessment represented by the measured variables in terms of relational depression and relational preoccupation had significant contribution to systems thinking.

therefore, to systems thinking is indirect, passing through relational assessment. But its presence in the model being associated to relational assessment is needed to satisfy the criteria for the best fit model. It could be gathered from the model that out of five indicators of work culture, only three remained as its significant observed variables, to wit: recognition, physical work condition and organizational decisions. For relational assessment, two out of three indicators were found to be significant: relational depression and relational preoccupation. On the part of systems thinking, only two out of four indicators remained to be significant, these are interconnectedness and discussion and dialogue. Thus, the findings suggest that systems thinking of women entrepreneurs were best anchored on: relational assessment which was measured in terms of relational preoccupation and relational depression which in turn is significantly related to work culture measured in terms of recognition, physical work condition and organizational decision. Displayed in Table 3 is the summary of goodness of fit of the five hypothesized models using goodness of fit indices. Among the five models it could be seen that the indices of model 5 satisfy the model standard: Chi-Square divided by the degrees of freedom (CMIN/DF) is 1.767; Normed Fit Index (NFI) is .994; Tucker-Lewis Index (TLI) is .995; Comparative Fit Index (CFI) is .997; Goodness of Fit Index (GFI) is .986; Root Means Square of Error Approximation (RM SEA) is .044 and P of Close Fit (Pclose) is .584. The result of the goodness of fit of the model 5 is highly acceptable since all indices had met the set criterion against the obtained model fit value. These indices satisfied the requirement of the goodness of fit measures. Moreover, this is an indication that generated model 5 is a very good fit model. In identifying the best fit model, all indices included must consistently fall within the acceptable ranges. Chi-square/degrees of freedom value should be less than two with its corresponding p-value greater than 0.05. Root mean square error approximation value must be less than 0.05 and its corresponding P- close value must be greater than 0.05. the other indices such as normed fit index, Tuler-Lewis index, comparative fit index and the goodness of fit index must all be greater than 0.95. The research question related to the model that best represents the variables as predictor of systems thinking of the women entrepreneurs, the proposed model sketched in Figure 1 needs to be modified to meet the requirements of the goodness of fit measures. The five models generated in the study are encapsulated in Table 3.

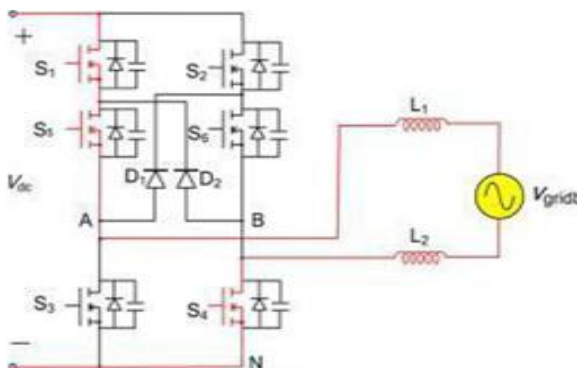


Figure 2 . Best Fit Model 5

On the other hand, work culture representing the measured variables recognition, physical work conditions and organizational decisions has no direct link to systems thinking, but significantly associated with relational assessment. Its link,

Criteria	Models				
	1	2	3	4	5
CMIN/DF 0>value<2	11.690	12.151	21.051	29.127	1.767
P-Value	.000	.000	.000	.000	.054
NFI(>0.95)	.917	.910	.826	.753	.994
TLI(>0.95)	.900	.892	.793	.710	.995
CFI(>0.95)	.923	.961	.832	.760	.997
GF(I>0.95)	.794	.789	.718	.658	.986
RMSEA(<0.05)	.164	.167	.224	.266	.044
P-close(>0.05)	.000	.000	.000	.000	.584

Table 3

Summary of Goodness of Fit Measures of the Five Generated Models

Legend:

CMIN/DF – Chi Square/Degrees of Freedom NFI – Normed Fit Index
 Index TLI – Tucker-Lewis Index
 GFI – Goodness of Fit Index CFI-Comparative Fit Index
 RMSEA – Root Mean Square of Error Approximation

5. DISCUSSION

Work Culture of Women Entrepreneurs. The high level of work culture of women entrepreneurs in region XI is an articulation of the pronouncement of Juneja [22] who declared that work culture is the behavior that results when a group reaches a set of rules for working together- generally written or unwritten. Working together means teamwork and organizational decisions and the respondents rated these indicators as high. This explains why work culture obtained a high rating. **Relational Assessment of Women Entrepreneurs.** The high level of relational assessment of women entrepreneurs in Region XI is primarily due to the relational depression received by the women entrepreneurs. The feeling of being unfortunate in their ability to sustain an intimate relationship, the feeling of being depressed about the relationship aspects of their life, the feeling of having doubts about their relationship competence and the feeling of being sad whenever they think about their intimate experiences. These emerging feelings are expected to increase the relational assessment since it is congruent to one study [14] that relationship quality is not only about behaviours and interactions but also how the person rate his/her feelings with the relationship and therefore it involves a subjective evaluation of the relationship. **Organizational Learning of Women Entrepreneurs.** The high level of organizational learning of women entrepreneurs in Region XI is primarily due to the systems and structures of the women entrepreneurs' organization. Recognizing them for learning new knowledge and skills at the same time letting them help the organization to achieve its goals and missions will make the systems and structures strong. Moreover, ensuring employees' availability to participate and allowing them help solve business and organizational problems become part of aligning the employees performance and organization's strategic goals. These activities are the articulation of one pronouncement [41] in which organizational learning should positively increase their organizational commitment. Employees who are aware of organizational learning activities and practices in the company feel more appreciated and committed to their company. **Systems Thinking of Women Entrepreneurs.** The high level of systems thinking of women entrepreneurs in Region XI is primarily due to the partnership and leverage of women entrepreneurs towards external forces. Building partnership and resource connections outside of the department while identifying key stakeholders within the organization and communicating with them frequently to assess how organization's products and services support creative thinking and innovation had helped women entrepreneurs understand the need for developing good systems thinking. These actions therefore are likely to increase the systems thinking of women

entrepreneurs. This is congruent to the views of Palaima and Skarzauskiene [29] that systems thinking includes seeing interrelations, understanding changing system forces, identifying resistance sources, creating a perspective, influencing and changing. Looking at the organization from a broader perspective and analyze one object and then move to the other. Engaging beyond own's organization means partnership and leverage and respondents rated these indicators as high. This explains why systems thinking obtained a high rating. Significance on the Relationship between Work Culture and Systems Thinking. There is a significant positive relationship between work culture and systems thinking of women entrepreneurs in Region XI. The result is aligned to the findings of Schein [33] that work culture or organizational culture as a set of shared values, beliefs, and standards influences systems thinking, emotional state, and deeds in the workplace. This claim is aligned with the study of Kotter [23] that explains that work culture has potentially improve systems thinking towards organizational performance, the satisfaction of employees and the sense of certainty about problem solving within the systems. Therefore, it strongly affects organizational goals, systems thinking, systems performance and many other aspects of the organization [36]. The significant positive relationship between relational assessment and systems thinking of women entrepreneurs in region XI is congruent to the pronouncement of an author [25] that relational assessment or intimacy in the workplace is part of the interface of social psychology, communication studies, family studies, sociology, clinical psychology and neuroscience. The significant relationship is also a reinforcement of the statement of Bradbury and Karney [8] that relational assessment which includes erotic and sexual passion experiences, feelings of depression towards love and intimacy that somehow can be expressed and shared, gives a substantially significant effect on the systems thinking within the workplace. The significant positive relationship between organizational learning and systems thinking of women entrepreneurs in region XI is congruent with one research work [18] that organizational learning creates, retains and transfers systems thinking in the organization. An organization improves over time as it gains experience that enables to create systems. Best Structural Equation Model for Systems Thinking. The five hypothesized models were tested to achieve the best fit model of systems thinking. Each model has a framework that could be decomposed into two sub models which are measurement model and structural model. The measurement model represents the measure loads on each factor to their latent constructs while the structural model defines relations among the latent variables. Moreover, the assessment of fit was used as baseline for accepting and rejecting the model. Based on the findings, the model evidently illuminates the essentials of work culture and relational assessment as predictors of systems thinking. Work culture and relational assessment are important components of systems thinking of women entrepreneurs to appropriately manage the organizational resources and the business as a whole. Hypothesized model 5 satisfied the criteria for the best fit model, the model apparently showed the importance that three out of five factors of work culture and two out of three factors of relational assessment have strong interconnectedness with each other. Relational assessment has a direct association with work culture and systems thinking while work culture only showed direct association to

relational assessment. The best fit model showed that of the three tested variables, organizational learning was eliminated. Though in the appended level of organizational learning resulted to a high level, it did not guarantee its influence to systems thinking as the model was generated. The model further showed residuals as represented by the error. The residuals observed in relational assessment and systems thinking can also be considered as explorable factors to investigate wherein these are considered as a manifestation that there are really other indicators which may significantly affect relational assessment and systems thinking of women entrepreneurs in region XI. The best fit model on systems thinking suggests that systems thinking of women entrepreneurs is best anchored on relational assessment which was measured in terms of relational preoccupation and relational depression and was then linked and supported by work culture which was measured in terms of recognition, physical work condition and organizational decision. The results of this study is in conformance with the work of Chatel [10] that described relationship as a partnership. It is something that have to work on, and it is absolutely essential to be supportive of all the efforts of the partner in a successful relationship. The generated best fit model on systems thinking as shown in figure 2 conforms with the idea in one study [13] concluding that generally, relational assessment has been found to be integral piece of systems thinking that desires to maintain one's intimate relationship for a strong and positive relationship satisfaction to the organization. This justifies why relational assessment is the best predictor, among other exogenous variables, to systems thinking.

5.1 Conclusion

The use of structural equation model strengthened the rigor of the study because the analysis goes through the steps of model specification, model estimation and model evaluation. Results revealed that the level of work culture, relational assessment and systems thinking are high indicating that these variables are oftentimes observed by women entrepreneurs. There are significant relationships of the following variables: work culture, relational assessment and organizational learning with systems thinking congruent with the literature underscored in in this study. Of the five explored structural models, only model 5 has the indices that consistently indicated an outstanding fit to the data; therefore, it is identified as the best fitting structural model. The study result supports the Systems Theory [6] which emphasized that organizational success relies on synergy, interrelations and interdependence between different subsystems.

5.2 Recommendations.

The high level rating of work culture, relational assessment, organizational learning and systems thinking of women entrepreneurs suggest that there is still room for improvement by raising it to very high level. This can be done by building a more good teamwork in making wise decision for every complex situation within the organization, this will help women entrepreneurs build a smooth relationship inside and outside the organization and develop a more competitive entrepreneurial leadership for a systematic and long term developments. The significant relationship of the three variables: work culture, relational assessment and organizational learning with systems thinking indicates that these variables may be given focus by women entrepreneurs

because the higher the level of these variables the high level of systems thinking will follow. This can be done by women entrepreneurs by continuing to set a good atmosphere in the workplace driven to uphold a better work culture while developing a good relationship may it be intimate or not among the members of the organization and continuously develop a strong leadership to any systems and structures. The best fit model showing relational assessment as the strong predictor of systems thinking implies that relational assessment can be of prime focus compared to other variables as mentioned above. This can be done by building a strong and good relationship to all people involved in the organization and keep women entrepreneurs' intimate relationship towards family, partner, or to any special someone a more exciting and happier one.

6 REFERENCES

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